

**CRANFIELD UNIVERSITY**

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**GLOBAL SOURCING PRACTICES: A FRAMEWORK  
TO IMPROVE SOURCING STRATEGY  
IMPLEMENTATION**

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**GLOBAL SOURCING PRACTICES: A FRAMEWORK TO  
IMPROVE SOURCING STRATEGY IMPLEMENTATION**

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# ABSTRACT

The aim of the research reported in this thesis is to gain understanding of global sourcing practices of companies in the UK and to develop a framework to improve sourcing strategy implementation. This research was conducted by carrying out literature review, analysis of case studies through semi-structured interviews, analysis of an online-based survey, development of a global sourcing framework, feedback process and finally the refinement of the framework.

The global sourcing practices, in terms of eight critical success factors, which were identified through literature, was investigated through case studies. This research also provides insights into how critical certain factors are to the effectiveness of the company's sourcing strategy and how broadly were those factors actually implemented. The gaps between the perceived importance of global sourcing practices and the actual implementation were explored through survey. The information gathered from the literature, case studies and survey provided the input to develop a global sourcing framework.

As more and more studies create awareness of the critical success factors that are important for implementing a global sourcing strategy, there is a need for a framework to be developed to help a company identify areas where they can improve in terms of implementation of the sourcing strategy. The global sourcing framework was developed to assess the current sourcing level of companies, providing guidance for companies to identify the areas for improvement in their approach to global sourcing and helping companies determine where they need to be in terms of the global sourcing strategy and having it aligned with their corporate strategy. The framework has been validated and found to be feasible, usable and useful to improve a company's sourcing strategy.

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# LIST OF PUBLICATIONS

## **Journal**

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## **Conference**

Mohamad, M.N., Julien, D.J. and Kay, J.M., “Global sourcing: towards a best practices framework”, *The 20<sup>th</sup> International Conference on Computer-Aided Production Engineering (CAPE 2007)*, Glasgow Caledonian University, Glasgow, Scotland, United Kingdom, 6<sup>th</sup>-8<sup>th</sup> June 2007, pp. 33-42, ISBN-10 1-905866-14-3.

Mohamad, M.N., Julien, D.J. and Kay, J.M., “Global sourcing implementation: importance of having qualified personnel”, *5<sup>th</sup> International Conference on Manufacturing Research (ICMR 2007)*, De Montfort University, Leicester, United Kingdom, 11<sup>th</sup>-13<sup>th</sup> September 2007, pp. 219-223, ISBN 978-0-9556714.

Mohamad, M.N., Julien, D.J. and Kay, J.M., “Global sourcing: an empirical investigation of best practices based on UK companies”, *15<sup>th</sup> International Annual EurOMA Conference (EUROMA 2008)*, University of Groningen, The Netherlands, 15<sup>th</sup>-18<sup>th</sup> June 2008.

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# TABLE OF CONTENTS

ABSTRACT.....	i
ACKNOWLEDGEMENTS.....	ii
LIST OF PUBLICATIONS.....	iv
LIST OF FIGURES.....	ix
LIST OF TABLES.....	xi
GLOSSARY OF TERMS.....	xiii
1 Introduction.....	1
1.1 Introduction to the study.....	1
1.2 Research gaps.....	2
1.3 Research aim.....	3
1.4 Research scope.....	3
1.5 Thesis structure.....	5
2 Literature Review.....	7
2.1 Introduction.....	7
2.2 Reasons companies source globally.....	7
2.3 Significance of manufacturing to UK’s economy.....	13
2.4 The definition of global sourcing.....	15
2.5 Global sourcing as a strategy to achieve competitive advantage.....	18
2.6 Role of the purchasing function to achieve competitive advantage.....	19
2.7 Sourcing levels and the characteristics.....	21
2.8 Critical success factors of worldwide sourcing.....	24
2.9 Global sourcing excellence characteristics.....	25
2.10 Importance of having qualified personnel in implementing global sourcing..	29
2.11 Movement of purchasing function from tactical to strategic to support	
global sourcing.....	33
2.12 Existing global sourcing framework or model.....	34
2.13 Studies that have been conducted on global sourcing in firms in the UK ..	40
2.14 Research objectives.....	41
2.15 Research questions.....	41
2.16 Chapter summary.....	43
3 Research Methodology.....	44
3.1 Introduction.....	44
3.2 Research philosophy and methodological choices.....	45
3.2.1 Description of research philosophies.....	45
3.2.2 Chosen philosophical approach.....	47
3.2.3 Rationale for choice of philosophical approach and research methodology	
.....	48
3.3 Research strategy.....	51
3.4 Data collection method: Case studies.....	54
3.4.1 Development of the semi-structured interview questions.....	56
3.4.2 Company selection criteria.....	60
3.4.3 Company selection process.....	61
3.4.4 Pre-interview procedure.....	62
3.4.5 Interview procedure.....	62
3.5 Data collection method: Survey.....	63
3.5.1 Questionnaire development.....	66
3.5.2 Questionnaire design.....	69

3.5.3	The sampling method.....	71
3.6	Data analysis technique: Case studies.....	72
3.6.1	Case studies analysis process .....	72
3.7	Data analysis technique: Survey .....	73
3.7.1	Survey analysis process.....	74
3.8	Chapter summary.....	75
4	Research findings – case studies .....	77
4.1	Introduction .....	77
4.2	Company description .....	77
4.3	Case studies findings.....	79
4.3.1	Factor 1: Executive commitment to global sourcing .....	79
4.3.2	Factor 2: Rigorous and well-defined processes .....	82
4.3.3	Factor 3: Availability of needed resources .....	86
4.3.4	Factor 4: Integration through information technology.....	89
4.3.5	Factor 5: Supportive organisational design .....	92
4.3.6	Factor 6: Structured approaches to communication and relationship building with suppliers .....	94
4.3.7	Factor 7: Methodologies for measuring savings or performance .....	99
4.3.8	Factor 8: Qualified personnel .....	101
4.3.9	Summary of the key insights from the case studies .....	106
4.3.10	Top three factors that were considered important in the implementation of the sourcing strategy .....	107
4.3.11	Additional issues that were considered as important in implementing sourcing strategy successfully .....	109
4.4	Chapter summary.....	110
5	Research findings - survey .....	111
5.1	Introduction .....	111
5.2	The target sample and response rate .....	111
5.3	Overview of the survey findings analysis .....	113
5.4	Distribution of the respondents.....	114
5.4.1	Current sourcing level .....	114
5.4.2	Years in operation .....	115
5.4.3	Number of full-time employees .....	116
5.4.4	Percentage of total purchases (in £) from outside the UK .....	118
5.5	Reliability analysis.....	119
5.6	Gap analysis for responses for each factor.....	120
5.7	Gap analysis between how critical factors are versus the actual practices of companies.....	121
5.7.1	Gap critical versus practices in Level 2 and 3 companies.....	121
5.7.2	Gap critical versus practices in Level 4 and 5 companies.....	122
5.8	Comparison of how critical the two groups have rated the factors .....	123
5.9	Comparison the extent of actual practices of the two groups.....	125
5.10	Identification of specific areas of gaps under each factor for Level 2&3 companies.....	129
5.10.1	Factor 1 – Executive commitment to global sourcing.....	129
5.10.2	Factor 2 – Rigorous and well-defined processes .....	130
5.10.3	Factor 3 – Availability of needed resources .....	131
5.10.4	Factor 4 – Integration through information technology .....	132
5.10.5	Factor 5 – Supportive organisational design .....	133



5.10.6	Factor 6 – Structured approaches to communication and relationship building with suppliers .....	134
5.10.7	Factor 7 – Methodologies for measuring savings or performance.....	135
5.10.8	Factor 8 – Qualified personnel.....	136
5.11	Identification of specific areas of gaps under each factor for Level 4&5 companies.....	137
5.11.1	Factor 1 – Executive commitment to global sourcing.....	137
5.11.2	Factor 2 – Rigorous and well-defined processes .....	138
5.11.3	Factor 3 – Availability of needed resources .....	139
5.11.4	Factor 4 – Integration through information technology .....	140
5.11.5	Factor 5 – Supportive organisational design .....	141
5.11.6	Factor 6 – Structured approaches to communication and relationship building with suppliers .....	142
5.11.7	Factor 7 – Methodologies for measuring savings or performance.....	143
5.11.8	Factor 8 – Qualified personnel.....	144
5.12	Similarities between the two groups from the gap analysis .....	145
5.13	How to define a gap as significant? .....	146
5.14	Chapter summary .....	147
6	Development and description of the framework .....	150
6.1	Introduction .....	150
6.2	The identification of the need to develop a global sourcing framework ...	150
6.3	The purpose of the framework.....	151
6.4	The initial development process of the framework .....	152
6.4.1	The description of the conceptual model .....	154
6.5	Description of Step 1: Need identification .....	155
6.5.1	The process in Step 1 .....	156
6.5.2	Development of tool in Step 1 .....	159
6.6	Description of Step 2: Assessment tool application .....	160
6.6.1	The process in Step 2 .....	161
6.6.2	Development of tool in Step 2.....	167
6.7	Description of Step 3: Data validation .....	170
6.7.1	The process in Step 3 .....	171
6.8	Description of Step 4: Areas for improvement.....	172
6.8.1	The process in Step 4 .....	173
6.8.2	Development of tool in Step 4.....	173
6.9	Chapter summary .....	177
7	Feedback on the framework.....	178
7.1	Introduction .....	178
7.2	The feedback process .....	178
7.3	Feedback questions .....	180
7.4	Feedback findings .....	181
7.4.1	Feasibility in terms of applicability of the framework.....	181
7.4.2	Feasibility in terms of possibility for adoption of the framework in the company .....	182
7.4.3	Usability in terms of ease of use .....	183
7.4.4	Usability in terms of expected difficulty .....	184
7.4.5	Usefulness in terms of benefits .....	186
7.4.6	Usefulness in terms of effectiveness of the framework if implemented	188
7.4.7	Extra issues covered in the interview.....	189
7.5	Overall comments on the framework.....	191

7.6	Discussion on the feedback findings.....	193
7.7	Refinement of the framework.....	194
7.8	Summary of changes to the framework .....	198
7.9	Finalised conceptual model.....	199
7.10	Comparison of the framework developed with existing global sourcing frameworks in literature .....	201
7.11	Chapter summary .....	202
8	Discussion and conclusions .....	203
8.1	Introduction .....	203
8.2	Discussion on key findings from case studies.....	203
8.2.1	Factor 1: Executive commitment to global sourcing .....	203
8.2.2	Factor 2: Rigorous and well-defined processes .....	204
8.2.3	Factor 3: Availability of needed resources.....	206
8.2.4	Factor 4: Integration through information technology.....	207
8.2.5	Factor 5: Supportive organisational design .....	208
8.2.6	Factor 6: Structured approaches to communication and relationship building with suppliers .....	208
8.2.7	Factor 7: Methodologies for measuring savings or performance .....	209
8.2.8	Factor 8: Qualified personnel .....	210
8.3	Discussion on key findings from survey .....	211
8.4	Discussion on key findings from case studies and survey .....	213
8.5	Discussion on the framework.....	215
8.5.1	Strengths of the framework that were identified in the feedback process... .....	215
8.5.2	Weaknesses of the framework that were identified in the feedback process.....	216
8.5.3	Opportunities for the framework .....	217
8.5.4	Threats for the framework.....	218
8.6	Conclusions from the thesis with particular respect to the research objectives.....	219
8.6.1	Objective 1: To critically review substantive literature on the concept of global sourcing, global sourcing critical success factors/best practices/excellence framework.....	219
8.6.2	Objective 2: To investigate the critical success factors of global sourcing of companies in the UK.....	221
8.6.3	Objective 3: To identify global sourcing practices of companies in the UK.....	222
8.6.4	Objective 4: To compare the perceived importance of the critical success factors and the actual implementation of global sourcing. ....	223
8.6.5	Objective 5: To develop a global sourcing framework that can help companies identify areas to improve their global sourcing strategy implementation .....	224
8.7	Contributions of this research to academics and practitioners .....	225
8.8	Limitations of this research .....	228
8.9	Recommendations for future research .....	229
8.10	Chapter summary .....	230
	REFERENCES.....	231
	APPENDICES .....	239

## LIST OF FIGURES

Figure 1.1: Research Workflow and Thesis Structure of This Thesis .....	6
Figure 2.1: UK Gross Domestic Product Growth from 2004 to the First Quarter of 2009. Source: The Office of National Statistics (ONS) <a href="http://www.statistics.gov.uk">http://www.statistics.gov.uk</a> .....	13
Figure 2.2: International Purchasing & Global Sourcing Levels (Trent & Monczka, 2002).....	17
Figure 2.3: Model for Global Sourcing Effectiveness (Petersen et al., 2000).....	32
Figure 2.4: General Framework on the Development of Global Sourcing Strategy (Rajagopal and Bernard, 1994) .....	34
Figure 2.5: Decision-Making Framework for Global Sourcing (Cavusgil et al., 1993) .....	35
Figure 2.6: International Purchasing Implementation Flowchart (Monczka and Giunipero, 1984).....	36
Figure 2.7 Global Sourcing and Supply Strategy Development and Implementation (Monczka et al., 2006).....	37
Figure 2.8: Common Global Sourcing Process (Monczka et al., 2006).....	38
Figure 2.9: Worldwide Sourcing Assessment Process (Monczka and Trent, 1992)...	39
Figure 2.10: Research Objectives Relevance to the Research Questions of This Thesis .....	42
Figure 3.1: Research Methodology Process .....	44
Figure 3.2: Quantitative and Qualitative Data Collection and Analysis .....	51
Figure 3.3: The Analysis Process of Case studies .....	72
Figure 3.4: The Analysis Process of Survey.....	74
Figure 3.5: Outline of the Research Methodology.....	76
Figure 4.1: Frequency of the Top Three Factors Considered Important In the Implementation of the Sourcing Strategy .....	108
Figure 5.1: The Percentage of Companies in Each Sourcing Level .....	114
Figure 5.2: How Long the Company Has Been In Operation .....	115
Figure 5.3: Distribution of How Long the Company Has Been Operating According To the Sourcing Levels .....	116
Figure 5.4: Number of Full-Time Employees .....	117
Figure 5.5: Distribution of Size of Companies According To the Sourcing Levels ..	117
Figure 5.6: The Percentage of Total Purchases from Outside the UK.....	118
Figure 5.7: Distribution of % of Total Purchases from Outside the UK According To Sourcing Level .....	119
Figure 5.8: Gap Analysis for Companies in Level 2 And 3 .....	121
Figure 5.9: Gap Analysis for Companies in Level 4 And 5 .....	122
Figure 5.10: Gap Analysis Critical.....	124
Figure 5.11: Gap Analysis Practices .....	126
Figure 5.12: Gap Analysis for Companies in Level 2&3 – Factor 1 .....	129
Figure 5.13: Gap Analysis for Companies in Level 2&3 – Factor 2 .....	130
Figure 5.14: Gap Analysis for Companies in Level 2&3 – Factor 3 .....	131
Figure 5.15: Gap Analysis for Companies in Level 2&3 – Factor 4 .....	132
Figure 5.16: Gap Analysis for Companies in Level 2&3 – Factor 5 .....	133
Figure 5.17: Gap Analysis for Companies in Level 2&3 – Factor 6 .....	134
Figure 5.18: Gap Analysis for Companies in Level 2&3 – Factor 7 .....	135
Figure 5.19: Gap Analysis for Companies in Level 2&3 – Factor 8 .....	136

Figure 5.20: Gap Analysis for Companies in Level 4&5 – Factor 1 .....	137
Figure 5.21: Gap Analysis for Companies in Level 4&5 – Factor 2 .....	138
Figure 5.22: Gap Analysis for Companies in Level 4&5 – Factor 3 .....	139
Figure 5.23: Gap Analysis for Companies in Level 4&5 – Factor 4 .....	140
Figure 5.24: Gap Analysis for Companies in Level 4&5 – Factor 5 .....	141
Figure 5.25: Gap Analysis for Companies in Level 4&5 – Factor 6 .....	142
Figure 5.26: Gap Analysis for Companies in Level 4&5 – Factor 7 .....	143
Figure 5.27: Gap Analysis for Companies in Level 4&5 – Factor 8 .....	144
Figure 6.1: Conceptual Model .....	154
Figure 6.2: Step 1 - Needs Identification.....	155
Figure 6.3: Step 2 - Assessment Tool Application .....	160
Figure 6.4: Tool 2.2 – Master Excel Sheet (Start Page).....	162
Figure 6.5: Master Excel Sheet (Data Sheet – Top Section of Tool 2.2).....	163
Figure 6.6: Master Excel Sheet (Data Sheet – Bottom Section of Tool 2.2).....	163
Figure 6.7: Example of a Gap Analysis.....	164
Figure 6.8: Master Excel Sheet (Overall Gap Analysis) .....	165
Figure 6.9: Master Excel Sheet (Gap Analysis for Factor 1) .....	166
Figure 6.10: Mean of 40 companies for Factor 1.....	169
Figure 6.11: Step 3 - Data validation .....	170
Figure 6.12: Step 4 - Areas for Improvement.....	172

## LIST OF TABLES

Table 2.1: Motives for Global Sourcing (Cavusgil et al., 1993).....	8
Table 2.2: Drivers or Motivators of Sourcing Globally .....	9
Table 2.3: Proposed Antecedents of Global Purchasing (Quintens et al., 2006).....	11
Table 2.4: Strategic Stages and the Characteristics in the Development of the Purchasing Function (Reck and Long, 1988).....	20
Table 2.5: The Progression Levels of Worldwide Sourcing Strategies .....	21
Table 3.1: Summary of the Philosophical Assumptions of Positivism and Interpretivism (Creswell, 1994 and 1998, cited in Collis and Hussey, 2009) ....	45
Table 3.2: Summary of the Philosophical Assumptions of Pragmatism (Creswell and Clark, 2007).....	46
Table 3.3: Mixed Methods Strategies (Creswell, 2009).....	47
Table 3.4: Description of Pragmatism (Creswell, 2009).....	48
Table 3.5: Features of Positivism and Interpretivism (Collis and Hussey, 2009) .....	48
Table 3.6: The Advantages of Conducting Interviews.....	54
Table 3.7: The Disadvantages of Conducting Interviews .....	55
Table 3.8: References from Past Studies Which Was Input to the Questionnaire and the Specific Information Requested from Each Question.....	57
Table 3.9: Additional Questions in the Questionnaire and the Rationale for Query ..	59
Table 3.10: The Advantages of Conducting Surveys.....	63
Table 3.11: The Disadvantages of Conducting Surveys .....	64
Table 3.12: The Advantages and Disadvantages of Conducting Online-Based Survey .....	65
Table 3.13: Past Research That Used the Item Asked In the Questionnaire as a Measure.....	67
Table 4.1: Company Description .....	78
Table 4.2: Methods Used To Make Information Accessible and Shared Across the Company .....	87
Table 4.3: Benefits of Having Compatible Information System with Suppliers .....	91
Table 4.4: Common Communication and Coordination Tools That Were Used Extensively .....	94
Table 4.5: Methods of Identifying Potential Suppliers .....	96
Table 4.6: Factors That Determine the Frequency of Visiting Suppliers.....	97
Table 4.7: Other Knowledge and Skills That Were Considered Important.....	103
Table 4.8: Other Training That Was Implemented .....	105
Table 4.9: Additional Issues That Were Considered Important In Implementing Sourcing Strategy Successfully .....	109
Table 5.1: The distribution of companies in each sourcing level in percentages .....	115
Table 5.2: Reliability Analysis of Variables.....	120
Table 5.3: Mean for Sourcing Level 2 and 3 .....	122
Table 5.4: Mean for Sourcing Level 4 and 5 .....	123
Table 5.5: Mean Critical Sourcing Level 4&5 versus 2&3 .....	124
Table 5.6: Mean Practices Sourcing Level 4&5 versus 2&3.....	126
Table 5.7: Ranking Of Factors Before and After the Split of Factor 5 .....	128
Table 5.8: Mean all questions Level 2&3 – Factor 1 .....	130
Table 5.9: Mean all questions Level 2&3 – Factor 2.....	131
Table 5.10: Mean all questions Level 2&3 – Factor 3.....	132
Table 5.11: Mean all questions Level 2&3 – Factor 4.....	133

Table 5.12: Mean all questions Level 2&3 – Factor 5 .....	134
Table 5.13: Mean all questions Level 2&3 – Factor 6 .....	135
Table 5.14: Mean all questions Level 2&3 – Factor 7 .....	136
Table 5.15: Mean all questions Level 2&3 – Factor 8 .....	137
Table 5.16: Mean all questions Level 4&5 – Factor 1 .....	138
Table 5.17: Mean all questions Level 4&5 – Factor 2 .....	139
Table 5.18: Mean all questions Level 4&5 – Factor 3 .....	140
Table 5.19: Mean all questions Level 4&5 – Factor 4 .....	141
Table 5.20: Mean all questions Level 4&5 – Factor 5 .....	142
Table 5.21: Mean all questions Level 4&5 – Factor 6 .....	143
Table 5.22: Mean all questions Level 4&5 – Factor 7 .....	144
Table 5.23: Mean all questions Level 4&5 – Factor 8 .....	145
Table 6.1: Identification of the Overall Sourcing Level (Section 1 of Tool 1.1) .....	157
Table 6.2: Identification of the Overall Sourcing Level (Section 2 Sample of Tool 1.1) .....	158
Table 6.3: Global Sourcing Practices Questionnaire Sample (Tool 2.1) .....	161
Table 6.4: Timeline Guide (Tool 4.1) .....	174
Table 6.5: Assessment Matrix Sample (Tool 4.2).....	176
Table 6.6: The List of Tools That Were Developed For Each Step.....	177
Table 7.1: Feedback Participants .....	179
Table 8.1: Strengths, Weaknesses, Opportunities and Threats of the Framework ....	227

## GLOSSARY OF TERMS

UK	United Kingdom
US	United States
IPOs	International Purchasing Offices

# **1 Introduction**

This chapter describes the introduction to the study, research rationale, research aim, research scope and the thesis structure.

## **1.1 Introduction to the study**

The success of organisations is often attributed to their competitive advantage. The search for competitive advantage is increasingly vital to the survival of any organisation because of the pressures from globalisation. Understanding how to achieve competitive advantage in today's volatile environment should be a major concern for companies that manufacture and market their products or services all around the world. According to Trent and Monczka (2003b), one area where companies can begin to capture the benefits of globalisation is global sourcing.

Throughout the 1980s, purchasing strategies were focused on narrowing the supplier base, establishing single sources of supply and creating supplier partnerships (Kohn, 1993). Kohn further stated that although this strategy has its advantages, such as being able to exploit cost competitiveness and technology of these suppliers, companies may lose out in terms of not being able to seek other suppliers that may produce superior products.

McGowan (1997) mentioned that "conventional wisdom was that firms should buy products from domestic or local suppliers as much as possible to maintain predictable deliveries and make certain of quality control". Nevertheless, this conventional wisdom is challenged as firms are exposed to opportunities of global sourcing (McGowan, 1997).

An abundance of research regarding the topic of international sourcing emerged during the late 1980s and early 1990s (Trent and Monczka, 2003b). Trent and Monczka (2003b) identified that international purchasing was a primary research focus during this period. They further stated that this is a trend due to the belief that international purchasing could help reverse the declining competitiveness of many Western firms.



The trend towards increased global purchasing is clear (Trent and Monczka, 1998; Byrne, 2002; Fraering and Prasad, 1999). Trent and Monczka (1998) stated that cost reduction pressures and the need to gain exposure to worldwide process and technology will ensure that a gradual increase in total purchases from foreign sources will continue.

An article in the Purchasing magazine, “Global sourcing to grow-but slowly” also noted that global sourcing will continue to expand and increase due to the need for competitive pricing and innovation (Anonymous, 2000). Birou and Fawcett (1993) noted that international sourcing has become an attractive competitive option for an increasing number and variety of firms. In addition, they emphasised that the “international purchasing decision is complex with many pitfalls awaiting the unprepared firm” (Birou and Fawcett, 1993).

According to Fagan (1991), companies should no longer ask the question of whether they should go global; instead, companies should find ways to capture the benefits of global sourcing and minimizing the costs and risks.

## **1.2 Research gaps**

Based on the researcher’s literature search, there is an abundance of literature covering the subject area of international purchasing and global sourcing; mainly focusing on the benefits, challenges, critical success factors, strategy development and the issues associated with the progression levels. However, there was limited literature that addressed global sourcing practices of companies in the UK.

In this research, the researcher is also interested in highlighting the degree of importance of having qualified personnel involved in the implementation of the global sourcing strategy. As identified in the studies conducted by Trent and Monczka (2005) and Petersen et al. (2000), having qualified personnel is important in the implementation of a global sourcing strategy. However, this factor did not receive as much emphasis as other factors such as executive commitment to global sourcing and well-defined processes.

There was also little emphasis placed on the development of a framework to improve global sourcing implementation. There is a gap in the literature of a detailed framework on how companies can identify the gaps in implementation and devise the action plan to reduce the gaps. There is a need for a global sourcing implementation framework because the frameworks described in the literature, focused on decisions made before the strategy is implemented and the development process.

### **1.3 Research aim**

To explore what UK based companies are practising in terms of global sourcing and to develop a framework that can help companies improve their sourcing strategy implementation.

### **1.4 Research scope**

This research is focused on the global sourcing strategy implementation of companies in the UK. Before going to the details of the global sourcing strategy, it is important to describe how global sourcing strategy link to globalisation and international business.

Stiglitz (2003) described globalisation as the “closer integration of the countries and peoples of the world which has been brought about by the enormous reduction of costs of transportation and communication, and the breaking down of artificial barriers to the flows of goods, services, capital, knowledge and people across borders”. Globalisation requires that companies have closer links with their supply chains which are geographically dispersed. In respect to dealing with global competition, Heizer and Render (2008) explained that “competition is no longer between companies; it is between supply chains”. The supply chain is an important part of a company’s strategy as it can influence the opportunity for the company to reduce costs and increase margins (Heizer and Render, 2008). Seeing that supply chain management is important for companies, the global sourcing strategy should be considered vital as the effective implementation of this strategy offers companies the opportunity to achieve competitive advantage.

International business is defined as a “business that is primarily based in a single country but acquires some meaningful share of its resources or revenues from other countries” (Griffin, 1999). To succeed in international business, companies need to understand the effects of globalisation on their business strategies. The effect of globalisation forces companies to look into ways to achieve competitive advantage and one way companies can achieve it is by implementing global sourcing.

Global sourcing requires careful planning and implementation. While it is common to focus on the planning side of business strategies when companies conduct transactions across national borders, it is equally important for companies to look back and review their implementation. The global sourcing process is complex, thus companies should also have a process where they are able to evaluate their current performance, to see whether it is going according to plan. Hence, this research is focused on developing a framework for companies to identify areas to improve in terms of their global sourcing strategy implementation.

In order to develop the framework, the critical success factors of global sourcing were identified in the literature. These critical success factors provide companies the opportunity to realise and maximise the advantages of implementing this strategy. The advantages that global sourcing offer include lower costs, access to higher quality goods, access to worldwide technology, better delivery service and better customer service. The global sourcing practices of companies were also identified in the literature.

As mentioned earlier in this section, the research scope of this thesis is on the global sourcing practices of companies in the UK. The focus of this study is on companies in the UK since most literature on global sourcing was based on studies done on companies in the US and worldwide. This research seeks to offer insight on the global sourcing implementation in the UK.

## **1.5 Thesis structure**

This thesis is organised and presented in nine chapters. The contents of the chapters in this thesis are as follows:

- Chapter 1 – Details the introduction to the study, research rationale, research aim and research scope.
- Chapter 2 – Covers the literature review of the area of global sourcing.
- Chapter 3 – Explains the research methodology used.
- Chapter 4 – Presents the research findings from the case studies.
- Chapter 5 – Presents the research findings from the survey conducted.
- Chapter 6 – This chapter addresses the framework development.
- Chapter 7 – This chapter details the feedback process of the framework.
- Chapter 8 – Presents the discussions and conclusions for the whole research. This chapter covers the contribution of this research, limitations of the study and recommendations for future research.

Figure 1.1 describes the research workflow of this research in relation to the structure of this thesis.

Stage 1 Identifying a specific area of study	Method: Scoping background of research area.  Output: Identified research aim and scope.	Chapter 1
Stage 2 Literature Review	Method: Reviewing existing literature.  Output: Defined global sourcing, research objectives and research questions.	Chapter 2
Stage 3 Research Methodology	Method: Detailing the methodology.  Output: Identified case study and survey as chosen method.	Chapter 3
Stage 4 Data Collection & Analysis	Method: Analyzing data from case studies and survey.  Output: Cross case analysis from interviews and gap analysis from survey.	Chapter 4 & 5
Stage 5 Framework Development, Feedback and Refinement	Method: Developing and refining the framework from data collected.  Output: Global sourcing strategy implementation framework.	Chapter 6 & 7
Stage 6 Discussion and Conclusions	Method: Discussion of the study and reviewing the research questions.  Output: Conclusion from the study, contribution to knowledge, limitations of the study, recommendations for future work.	Chapter 8

**Figure 1.1: Research Workflow and Thesis Structure of This Thesis**

This chapter has introduced the research and the thesis structure. The next chapter will cover the literature review of the area of global sourcing.

## **2 Literature Review**

### **2.1 Introduction**

This chapter reviews the relevant literature on global sourcing. The reasons companies source globally and the significance of manufacturing to UK's economy are identified. Global sourcing is defined and the characteristics of each sourcing level are explained. Also covered in this chapter are critical success factors of worldwide sourcing, global sourcing frameworks from past research, importance of having qualified personnel, the research objectives and research questions.

### **2.2 Reasons companies source globally**

There are many reasons why companies would decide to source globally. The main incentive to sourcing globally is surviving competitive pressures because of globalisation. Ohmae (1989) in his article "Managing in a Borderless World" emphasised that "geographic boundaries have largely become irrelevant as the result of a speedier flow of information". The capability of receiving more information is now forcing companies to globalise by delivering products and services based on the customers' needs and preference (Ohmae, 1989). In view of this, managers need to effectively build strategies and pay close attention to their customers in order to meet the requirements of the borderless world (Ohmae, 1989).

Fagan (1991) mentioned in his article that with the lowering of trade barriers, the survival of a company depends heavily on the ability to compete globally. The study titled "The Future of Purchasing and Supply: A Five- and Ten- Year Forecast" by Carter et al. (1998) found that regional and global strategies will become a critically important source of competitive advantage. Alguire et al. (1994) identified global sourcing as an important element of global strategy. Fagan (1991) had pointed out that global sourcing has become a prerequisite to compete in today's environment. Firms pursue international sourcing as a reaction to increased worldwide competition from foreign threats or as a proactive strategy to gain competitive advantage (Monczka and Trent, 1991; Birou and Fawcett, 1993). Global sourcing has been identified as a strategy that could help companies to achieve competitive advantage (Kotabe, 1998; Samli et al., 1998).

Kohn (1993) mentioned that “the pressure of globalisation and benefits of foreign sourcing has motivated many companies to expand their purchasing activities beyond domestic and traditional supply bases”. Alguire et al. (1994) noted that “firms should search around the world for the best sources and not depend solely on domestic suppliers given the probability that superior sources can be obtained elsewhere”. “Companies that pursue global sourcing would be in a more advantageous competitive position than domestic-bound companies” (Kotabe, 1998).

The literature has provided several avenues of discussion on the reason companies source globally. This section discusses the motivators, drivers, facilitators, barriers and benefits from global sourcing that have been identified throughout the literature. Many authors provided the drivers or motivators of sourcing globally. There can be proactive and reactive motives for companies to source globally. Cavusgil et al. (1993) detailed the reasons that motivate companies to implement global sourcing (refer to Table 2.1).

**Table 2.1: Motives for Global Sourcing (Cavusgil et al., 1993)**

	Proactive Motives	Reactive Motives
Competitive (Firm-specific) Advantages	<ul style="list-style-type: none"> <li>• To exploit technological superiority (unique or differential products)</li> <li>• To enhance technological capabilities</li> <li>• To assure organisational flexibility</li> <li>• To gain a foothold in a promising new market</li> <li>• To assure delivery and quality improvements</li> </ul>	<ul style="list-style-type: none"> <li>• To protect proprietary technology leakage</li> <li>• To cope with intensifying global competition more effectively</li> <li>• To lock out competitors from a selected competitive base</li> <li>• To take advantage of more efficient logistics/delivery systems</li> </ul>
Comparative (Location-Specific) Advantages	<ul style="list-style-type: none"> <li>• To take advantage of foreign government incentive</li> <li>• To exploit currency fluctuations</li> </ul>	<ul style="list-style-type: none"> <li>• To diversify supply sources to spread risks</li> <li>• To exploit cost advantages such as cheaper labour, materials and components</li> <li>• To satisfy local government requirements such as local content, countertrade and offset</li> <li>• To overcome protectionist barriers</li> <li>• To guard against currency fluctuations</li> </ul>

Other authors that have discussed the drivers or motivators of sourcing globally are detailed in Table 2.2.

**Table 2.2: Drivers or Motivators of Sourcing Globally**

Author and Year	Drivers or motivators of sourcing globally
Bozarth et al. (1998)	<ul style="list-style-type: none"> <li>• Government requirement for companies to purchase specified amounts of goods and services from local companies such as offset requirements, currency restrictions, local content and counter-trade.</li> <li>• Access to lower prices.</li> <li>• Access to goods that are at par or better quality compared to US and European suppliers.</li> <li>• Gain access to new technology.</li> <li>• Gain access to new markets through joint ventures and strategic alliances.</li> <li>• Shorter product development and life cycles caused by global competition, growing product lines and rapid changes in technology.</li> <li>• Building competitive advantage through comparative advantage of a country as some countries have naturally better sources of commodity and supplies.</li> </ul>
Monczka and Trent (1991)	<ul style="list-style-type: none"> <li>• The introduction of competition to the domestic supply base</li> <li>• Establishing a presence in a foreign market</li> <li>• Satisfying off-set requirements</li> <li>• Increasing the number of available sources</li> <li>• Reacting to offshore sourcing practices of competitors</li> </ul>
Brockwell (2008)	<ul style="list-style-type: none"> <li>• Access to fresh research, design, or specialised intellectual capital</li> <li>• Availability of new technology and capacity</li> <li>• Gain access to new markets</li> <li>• Superior quality</li> </ul>

Birou and Fawcett (1993) described the three most important decision drivers to source globally; higher quality available from foreign sources, availability of foreign products which are not available domestically and lower prices available from foreign sources. These three factors were also quoted as the main drivers by Monczka et al. (2008).

Monczka and Trent (1991) explained that major drivers that will drive companies varies but will include the reasons that they have identified (refer Table 2.2). Bozarth et al. (1998) explained that the motivations for global sourcing vary between companies, depending on a company's sophistication and prior experience with global sourcing. Spekman (1991) argued that the type of global sourcing strategy chosen depends on (1) company capability and resources, (2) availability and capability of suppliers, (3) projected sourcing volumes and variability and (4) the degree of integration of offshore sourcing with other operations.



Quintens et al. (2006) believed that the identification of antecedent factors that would influence the extent of global purchasing is an advantage because it can help businesses understand the fundamental logic behind why businesses would decide to pursue global purchasing. Quintens et al. (2006) has provided an extensive list of factors that influence the decision to source globally (see Table 2.3). Quintens et al. (2006) divided the list into five levels of analysis; product, firm/management, network, industry/competition and environment. Table 2.3 is categorised according to three types of antecedents of global purchasing:

- (1) Drivers (elements that favour or speed up the global purchasing decision),
- (2) Facilitators (conditions that do not necessarily lead to more global purchasing but ease its implementation)
- (3) Barriers (factors that make it more difficult or even impossible to pursue or intensify global purchasing).

**Table 2.3: Proposed Antecedents of Global Purchasing (Quintens et al., 2006)**

	Drivers	Facilitators	Barriers
Product	<ul style="list-style-type: none"> <li>• Cost advantage (materials and components)</li> <li>• Better delivery performance</li> <li>• Higher-quality products</li> <li>• Unique or differential products</li> <li>• Obtain better technology</li> </ul>	<ul style="list-style-type: none"> <li>• Product type</li> <li>• Supplier certification</li> <li>• Top management support</li> <li>• Nationality of parent company</li> </ul>	<ul style="list-style-type: none"> <li>• Limited production volume</li> <li>• Different product standards</li> <li>• Regular design changes</li> <li>• Insufficient product modifications</li> <li>• Delivery delays</li> </ul>
Firm/management	<ul style="list-style-type: none"> <li>• Assure organisational flexibility</li> <li>• Global attitude, orientation and experience</li> <li>• Centralisation of decision making</li> <li>• Integration of worldwide activities</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge on foreign business, exchange rates and global opportunities</li> <li>• Planning for global purchasing</li> <li>• Operational philosophy (lot sizes, number of suppliers, etc.)</li> <li>• Development of communication skills</li> </ul>	<ul style="list-style-type: none"> <li>• Parallel trade</li> <li>• Lack of resources needed for global purchasing (staff, time, money, etc.)</li> <li>• Cost of travel and communication</li> <li>• Accurate demand forecasting</li> <li>• Nationalistic purchasing behaviour</li> <li>• Increased paperwork</li> </ul>
Network	<ul style="list-style-type: none"> <li>• Take advantage of existing logistics systems</li> <li>• Diversification of the supplier base</li> </ul>	<ul style="list-style-type: none"> <li>• Long-term relationship prospects</li> <li>• Buying alliances</li> </ul>	<ul style="list-style-type: none"> <li>• JIT sourcing requirements</li> <li>• Finding qualified suppliers</li> <li>• Foreign supplier image</li> </ul>
Industry/competition	<ul style="list-style-type: none"> <li>• Competitive positioning</li> <li>• Protect proprietary technology</li> <li>• Gain a foothold in new markets</li> <li>• Market size</li> </ul>	<ul style="list-style-type: none"> <li>• Type of industry</li> <li>• Technological orientation of industry</li> </ul>	<ul style="list-style-type: none"> <li>• Diverse business practices</li> <li>• Limited industry information</li> <li>• Agents/brokers fees</li> <li>• Intensity of foreign competition</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• Cost advantages (labour)</li> <li>• Satisfy countertrade requirements</li> <li>• Guard against currency fluctuations</li> <li>• Stimulating foreign government policies</li> <li>• Advantages legal and economic environment</li> </ul>	<ul style="list-style-type: none"> <li>• Development of trade zones</li> <li>• Better foreign transport and communication</li> <li>• Capable intermediaries</li> <li>• Cultural similarities</li> </ul>	<ul style="list-style-type: none"> <li>• Import quotas</li> <li>• Country of origin image</li> <li>• Adverse political environment</li> <li>• Adverse economic environment</li> <li>• Customs regulations</li> <li>• Different time zones</li> <li>• Lack of government assistance</li> <li>• Language</li> <li>• Cultural differences</li> </ul>

Previous research has identified various benefits firms obtain through international purchasing and global sourcing (Birou and Fawcett, 1993; Rajagopal and Bernard, 1994; Scully and Fawcett, 1994; Trent and Monczka, 2003b). The most widely recognised benefit of global sourcing has been lower costs (Fagan, 1991; Rajagopal and Bernard, 1993; Kohn, 1993). Research by Trent and Monczka (1998) revealed that firms want to realise cost savings because of “cost reduction pressures and the need to gain exposure to worldwide process and technology”. Nevertheless, lower costs are not the only benefit realised from global sourcing (Fagan, 1991). Based on past studies, a list of the benefits realised from international purchasing and global sourcing is depicted in Appendix 1.

From the earliest research conducted by Monczka and Trent (1991) in defining global sourcing they have associated the sourcing levels with performance attainment. The higher the sourcing level, the more benefits will be attained. Trent and Monczka (2002) stressed that there is a strong correlation between the levels of international purchasing or global sourcing pursued and the extent of benefits achieved. One of the most revealing and interesting differences found between international purchasing and global sourcing segments is the perceived benefits they realise from their sourcing efforts (Trent and Monczka, 2003a). Results from the 2003a study conducted by Trent and Monczka enforced that firms that engage in global sourcing (Level IV and V) realise greater benefits compared to firms that engage in international purchasing (Level II and III). Trent and Monczka (2003a) suggested that the different benefits attained between the segments help explain why many Level II and III firms hope to evolve toward Levels IV and V in the future. These benefits actually drive firm’s global sourcing efforts.

### 2.3 Significance of manufacturing to UK's economy

The focus of this research is on manufacturing companies in the UK. This section explains the significance of the UK manufacturing sector that influenced the researcher to study this particular sector and the affect on global sourcing initiatives. Christopher et al. (2007) recognised that the UK played a central role in the process of globalisation.

When this research was started in 2006, the economic context was different compared to the current economic context. In the first quarter of 2006, the economy was growing at an annual rate of more than 1 percent (refer Figure 2.1). Figure 2.1 shows the UK Gross Domestic Product Growth from 2004 to the first quarter of 2009 as reported by The Office of National Statistics. In the last quarter (Q1 2009), the GDP contracted by 1.9 percent compared to a decrease of 1.6 percent in the fourth quarter of 2008. According to the Office of National Statistics (ONS, 2009), “the increased rate of decline in output was due to weaker services and production output”.

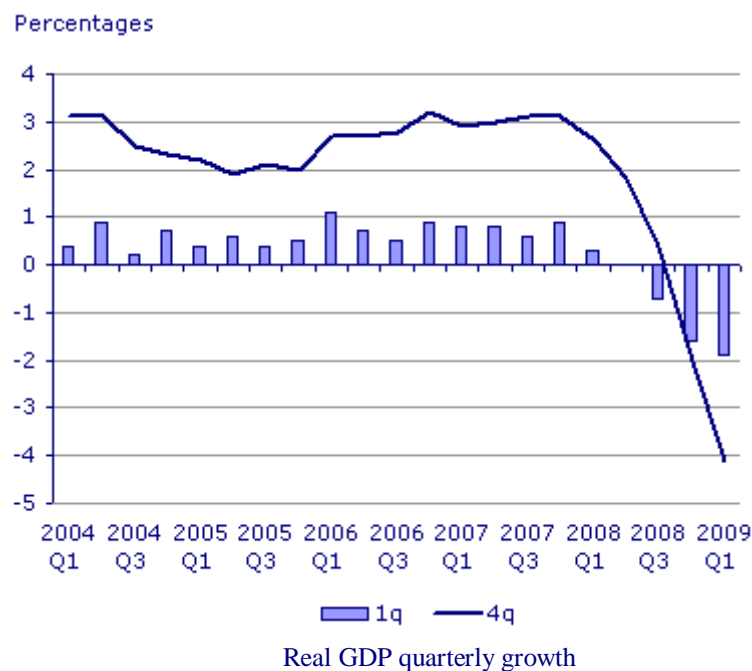


Figure 2.1: UK Gross Domestic Product Growth from 2004 to the First Quarter of 2009. Source: The Office of National Statistics (ONS) <http://www.statistics.gov.uk>

The article “Scribe with an eye for industry” in the *Manufacturer* magazine covered an interview with Richard Lambert, the director-general of the Confederation of British Industry. Richard Lambert believed that the manufacturing sector would be a driver in the economic growth of the country and believes that the decrease of demand is experienced across the world (Anonymous, 2009). The recession has brought about lower demand for products and services worldwide. The lower demand for products and services has resulted in a decrease of manufacturing activities. However, according to Richard Lambert, the manufacturing sector will be the main driving force to improve the current economic state (Anonymous, 2009).

As the UK economy continues to be affected by the global economic trends, companies should focus on taking advantage of the benefits that could be attained through global sourcing and achieving competitive advantage. The external factors that influence companies are various and differ across companies. It is therefore important to be aware of the factors that are most relevant to the company.

Being aware of these external factors will enable companies to plan and strategise in order to reduce risk or take advantage of these factors. Even though some external factors are out of the company’s control, it is essential for companies to identify what they can do to reduce risk.

In order to survive the current economic climate, relationship with suppliers is foreseen by industry experts as becoming more important. Suppliers are now looked upon as business partners instead of just an external party that the company deals with day to day. Young (2009) advocates the importance of working and supporting suppliers in the economic downturn because by taking care of the suppliers, the company would then reduce the risk of losing the source of supplies in the future. Atkinson (2008) explained that gaining leverage from supplier relationship management is currently important for companies that are looking for incremental gains in the future since most companies “have already leveraged their volume and have also explored low-cost country sourcing”.

PwC (2009) believes that “UK manufacturing will survive [the global downturn] as it has survived the crises of 1973, 1982 and 1991. The sector faces a number of serious challenges, from the long-term threats posed by emerging markets, to the current economic downturn”. PwC (2009) suggests UK companies to be able to position themselves in the global market, companies need to consider what strengths to build upon and find a specific area to specialise in. PwC (2009) found that in order to build a sustainable competitive advantage, companies must firstly focus on their unique knowledge and capabilities. “A strong focus on R&D, dedication to quality, reliability and responsiveness, strong partnerships throughout the value chain and concentration on customisation will characterise the most successful business” (PwC, 2009).

There will still be room for improvement for companies that are affected by the current economic situation, which leads to the requirement of a framework that can help companies identify these areas that can be improved and plan strategies to reduce the gap between the current operating level and the desired operating level.

## **2.4 The definition of global sourcing**

Hong and Holweg (2005) explained that the most commonly quoted definition of the term global sourcing is from studies conducted by Monczka and Trent. The terms foreign sourcing, global sourcing, international sourcing and multinational sourcing have been used interchangeably but there is a distinction between these concepts (Monczka and Trent, 1991; Birou and Fawcett, 1993 and Trent and Monczka, 2005).

From the literature, definitions of international purchasing and global sourcing differ in terms of co-ordination and integration of requirements of worldwide business units, scope and complexity, where firms manufacture the products and the reason firms source the products.

According to Birou and Fawcett (1993), international sourcing, multinational sourcing and foreign sourcing are defined as “buying outside the firm’s country of manufacture in a way that does not coordinate requirements among worldwide business units of a single firm”. Trent and Monczka (2002) defined that international purchasing refers to “a commercial transaction between a buyer and supplier located in different countries”.

Strategic global sourcing, however, refers to “the integration and coordination of procurement requirements across worldwide business units, looking at common items, processes, technologies and suppliers” (Monczka and Trent, 1991). Global sourcing “includes the sourcing requirements combined from two or more of your business unit’s location/sites outside the country borders where purchased goods or services are used” (Monczka et al, 2006). Bozarth et al. (1998) explained that global sourcing requires the implementation of centralised global commodity teams and an information system that can track requirements and performance worldwide.

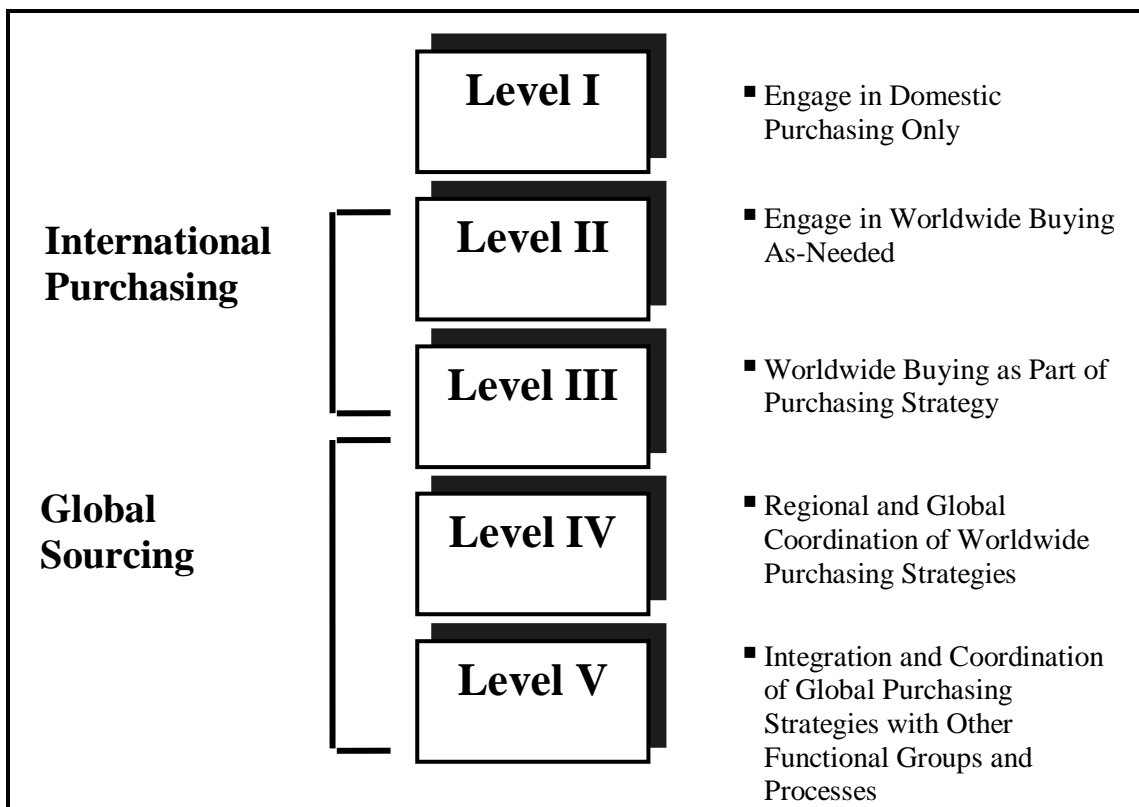
According to Trent and Monczka (2002), global sourcing, “which differs from international purchasing in scope and complexity, involves proactively aggregating volumes and coordinating common items, practices, processes, designs, technologies, and suppliers across worldwide procurement, design, and operating locations”.

Hong and Holweg (2005) described global sourcing as a process where “products are made with parts sourced from abroad as part of a global procurement strategy, to satisfy local demand or foreign demand”. The products are either made domestically or abroad (Hong and Holweg, 2005). Hong and Holweg (2005) described international purchasing as a process where “products are made locally, with parts sourced from abroad with procurement based on specific needs, to satisfy local or foreign demand”. International purchasing and global purchasing here differ, in terms of where companies manufactures and the reason a business sources its product (Hong and Holweg, 2005).

Given these differences, Monczka and Trent (1991) explained that “an internationalization of the sourcing process takes place as firms develop worldwide experience”. “They evolve or progress from domestic purchasing only to the global coordination and integration of common items, processes, designs, technologies, and suppliers across worldwide locations” (Monczka and Trent, 1991).

This progression is parallel to the description in an article by Rajagopal and Bernard (1993), where they stated that “firms evolve along a continuum as they pursue and mature within their sourcing efforts”. Kohn (1993) mentioned that “the progress happens slowly and that companies do not move from stage to stage overnight”. Fagan (1991) stressed that “global sourcing implementation will be most effective if it occurs step by step”.

Figure 2.2 illustrates a multi-level framework that is supported by previous research, and presents international purchasing and global sourcing as a series of evolving levels along a continuum (Trent and Monczka, 2002). As defined in the figure, firms that operate at Levels II and III practice international purchasing while firms that operate at Levels IV and V practice integrated global sourcing (Trent and Monczka, 2003a).



**Figure 2.2: International Purchasing & Global Sourcing Levels (Trent & Monczka, 2002)**



There needs to be a distinction between the terms “global sourcing” and “outsourcing”. Hong and Holweg (2005) explained that outsourcing was also referred to as global sourcing, but these two concepts are different. Throughout the literature, there were instances where the title of the research is global sourcing, however when the literature was read in more depth, the research was on outsourcing instead. One recent example of this is the research by Edgell et al. (2008), titled Global Sourcing Trends in 2008.

Outsourcing was defined by The Institute of Supply Management as “a version of the make-or-buy decision in which an organisation elects to purchase an item that previously was made or a service that was performed in-house; often utilised for services (Monczka et al., 2005). “It involves sourcing and using a supplier that provides the completed item or service rather than buying the components and manufacturing them in-house” (Monczka et al., 2005). Outsourcing relates to “the buying of services or products that do not represent core competencies” (Hong and Holweg, 2005). Outsourcing is more of a decision to source the products to be made in-house or to buy the products or services from a supplier whereas global sourcing is a strategy to source products or services from outside the country of manufacture. Hong and Holweg (2005) distinguishes these two concepts by saying “outsourcing can thus be an instigator of global sourcing, but does not necessarily require the adoption of an international sourcing strategy”.

## **2.5 Global sourcing as a strategy to achieve competitive advantage**

The literature on the development of international purchasing and global sourcing strategies to achieve competitive advantage started evolving rapidly in the 1980s. Monczka and Trent (1991) explained that with the rapid changes of global competition in the 1980s, sourcing internationally was relied on by U.S. firms in order to maintain competitiveness. As these firms became more experienced, there was a shift from a reactive strategy to increased worldwide competition for survival to a proactive strategy to gain competitive advantage (Monczka and Trent, 1991). From there on the research on global sourcing has expanded tremendously.

Purchasing was no longer perceived as a tactical function, but was then looked upon as a strategic function that can be used to achieve competitive advantage. Steinle and Schiele (2008) emphasised that “purchasing is a genuinely strategic function only if it contributes to establishing a competitive advantage”.

There are several authors that believed global sourcing would provide companies with a competitive advantage against their competitors. Monczka and Trent (1992) believed that companies that successfully pursue global sourcing would achieve an advantage over their competitors, whilst realising greater performance gains. Cavusgil et al. (1993) believed that “firms that are able to create a system that emphasises the pursuit of a coordinated and integrated sourcing strategy will be positioned to exploit greater sustained competitive advantages over firms that are not”. Cavusgil et al. (1993) also explained that “global sourcing is increasingly used as a proactive strategy to gain competitive advantage”.

Some authors advocate the use of global sourcing to achieve competitive advantage. Hefler (1981) proposed that global sourcing be used to maintain or gain competitive positions. Monczka and Trent (1991) acknowledged that global sourcing is one of the key strategies that is crucial to the success of companies.

## **2.6 Role of the purchasing function to achieve competitive advantage**

Carter and Narasimhan (1996) explained that “the purchasing function should be viewed as a key component of firm competitiveness and involved at the highest level of corporate strategy formulation and decision making”. The purchasing function involves “acquiring raw materials, components, goods and services for conversion, consumption or resale” (Lysons and Farrington, 2006).

Lysons and Farrington (2006) explained that “function” is defined as “a unit or department in which people use specialised knowledge, skills and resources to perform specialised tasks”. Lysons and Farrington further explained that there is a distinction between purchasing function and purchasing department. A purchasing department is “the organisational unit responsible for carrying out this function as in many organisations, purchasing is still part of a departmentalised structure” (Lysons and Farrington, 2006).

Reck and Long (1988) explained that “the degree the purchasing function contributes to its firm’s competitive advantage varies significantly among firms”. Reck and Long (1988) further explained that the attitudes and practices of the purchasing personnel will affect the level of contribution made by the purchasing function to the competitive strategy.

Table 2.4 shows the strategic stages and the characteristics of each stage in the development of the purchasing function. In the integrative stage, the purchasing strategy is integrated into the overall competitive strategy of the firm (Reck and Long, 1988).

**Table 2.4: Strategic Stages and the Characteristics in the Development of the Purchasing Function (Reck and Long, 1988)**

Stages	Definition:	Characteristics:	
		Nature of long-range planning	Overall characterization
<b>Passive</b>	The purchasing function has no strategic direction and primarily reacts to the requests of other functions.	None	Clerical function
<b>Independent</b>	The purchasing function adopts the latest purchasing techniques and practices, but its strategic direction is independent of the firm’s competitive strategy.	Commodity or procedural	Functional efficiency
<b>Supportive</b>	The purchasing function supports the firm’s competitive strategy by adopting purchasing techniques and practices which strengthen the firm’s competitive position.	Supportive of strategy	Strategic facilitator
<b>Integrative</b>	Purchasing strategy is fully integrated into the firm’s competitive strategy and constitutes part of an integrated effort among functional peers to formulate and implement a strategic plan.	Integral of strategy	Strategic contributor

## 2.7 Sourcing levels and the characteristics

The classification of sourcing levels by Monczka and Trent (1991, 1992) and Trent and Monczka (2002) was used in this research because it was found to be specific and detailed. Bozarth et al. (1998) acknowledged that Monczka and Trent (1991, 1992) provided the most complete classification of global sourcing. Monczka and Trent (1992) acknowledged that not all companies pursue worldwide sourcing or progress exactly to the progression levels they have suggested but the progression levels were formulated based on research and experience with companies across different industries. Table 2.5 explains the definition of each progression level of worldwide sourcing strategies by Monczka and Trent (1991, 1992) and Trent and Monczka (2002) as mentioned earlier in Figure 2.2.

**Table 2.5(a): The Progression Levels of Worldwide Sourcing Strategies**

<b>Level 1: Engage in domestic purchasing only</b>	
Monczka and Trent (1991)	<ul style="list-style-type: none"> <li>• Domestic buyers designated by the business unit for international purchasing.</li> </ul>
Monczka and Trent (1992)	<ul style="list-style-type: none"> <li>• Firms lack initiative, personnel, structure or the need to pursue worldwide sourcing.</li> </ul>
Trent and Monczka (2002)	<ul style="list-style-type: none"> <li>• Engage in no direct worldwide purchasing activities.</li> <li>• Either because they perceive no need of buying internationally or lack the expertise to do so.</li> <li>• Domestic sources fulfil all purchasing requirements.</li> <li>• Companies purchase from domestic suppliers or distributors that are involved in international purchasing.</li> </ul>
<b>Level 2: Engage in worldwide buying as needed</b>	
Monczka and Trent (1991)	<ul style="list-style-type: none"> <li>• Business unit uses subsidiaries or other corporate units for international sourcing assistance.</li> </ul>
Monczka and Trent (1992)	<ul style="list-style-type: none"> <li>• Foreign-based units provide presence and knowledge of foreign markets.</li> </ul>
Trent and Monczka (2002)	<ul style="list-style-type: none"> <li>• Companies progress to this level usually reactively.</li> <li>• Confronted with a requirement for which no suitable domestic supplier exists or because competitors are gaining an advantage due to worldwide sourcing.</li> <li>• Supply disruption, rapidly changing currency exchange rates, a declining domestic supply base, inflation within the home market or the sudden emergence of competitors.</li> <li>• International purchasing at this level is usually limited or performed on an ad hoc basis.</li> </ul>

**Table 2.5(b): The Progression Levels of Worldwide Sourcing Strategies (Continued)**

<b>Level 3: Worldwide buying as part of purchasing strategy</b>	
Monczka and Trent (1991)	<ul style="list-style-type: none"> <li>• International purchasing offices (IPOs) established throughout the world.</li> </ul>
Monczka and Trent (1992)	<ul style="list-style-type: none"> <li>• Establish IPOs when external assistance can no longer support a firm's foreign sourcing requirements.</li> <li>• IPOs support the separate business units within a firm and staffed with people who report to a centralised corporate purchasing executive.</li> </ul>
Trent and Monczka (2002)	<ul style="list-style-type: none"> <li>• Companies operating at this level recognise that a properly executed international purchasing strategy can result in major performance improvements.</li> <li>• However, procurement strategies are not well coordinated across worldwide buying locations, operating centers, or business units.</li> <li>• Each major buying center operates independently.</li> <li>• The progression to the third level occurs because purchasers realise that lower purchase prices and other performance improvements may result from worldwide sourcing.</li> <li>• During this shift, a purchaser develops a worldwide attitude and an awareness of alternate sources that can support the attainment of business goals.</li> <li>• Frequently, purchasing focuses on emerging markets for price reductions.</li> <li>• Third-level participants often designate certain buyers to manage international purchasing, solicit international help from worldwide subsidiaries, or rely on international purchasing offices to support purchasing activities.</li> <li>• Level III is where many firms begin an organisational maturing process that enables them to evolve toward true global sourcing.</li> </ul>
<b>Level 4: Regional and global coordination of worldwide purchasing strategies</b>	
Monczka and Trent (1991)	<ul style="list-style-type: none"> <li>• Assign, design, build and sourcing responsibility to a specific business unit somewhere in the world.</li> </ul>
Monczka and Trent (1992)	<ul style="list-style-type: none"> <li>• Require greater coordination between business units.</li> </ul>
Trent and Monczka (2002)	<ul style="list-style-type: none"> <li>• Higher levels of the internationalisation process occur when an organisation integrates and coordinates material and service requirements, usually through central coordination, across worldwide divisions or business unit locations.</li> <li>• Level IV represents a highly sophisticated level of strategy development.</li> <li>• Operating at this level requires worldwide information systems, personnel with advanced skills and knowledge, worldwide coordination and communication mechanisms, an organisational structure that features control coordination at global activities, and executive leadership that endorses globally integrated sourcing.</li> <li>• Organisational designs begin to resemble a matrix approach where sourcing personnel report directly to their buying centre but also have a dotted-line reporting relationship to a central coordinating group.</li> </ul>

**Table 2.5(c): The Progression Levels of Worldwide Sourcing Strategies (Continued)**

<b>Level 5: Integration and coordination of global purchasing strategies with other functional groups and processes</b>	
Monczka and Trent (1991)	<ul style="list-style-type: none"> <li>• Integration and coordination of worldwide global sourcing strategy.</li> </ul>
Monczka and Trent (1992)	<ul style="list-style-type: none"> <li>• Requires the coordination of purchase requirements between business units on a worldwide basis.</li> <li>• Firm must combine purchase requirements and coordinate information, strategies, technical requirements and suppliers between business units to maximise purchasing performance.</li> <li>• Maximise the information and buying leverage of a firm by coordinating and integrating purchasing and the supply base on a worldwide basis.</li> <li>• Integrate sourcing strategy, product design, information, suppliers and common purchased requirements across business units.</li> </ul>
Trent and Monczka (2002)	<ul style="list-style-type: none"> <li>• Organisations operating at Level V have achieved the cross-locational purchase integration that firms operating at the Level IV have achieved.</li> <li>• The primary distinction is that Level V participants proactively integrate and coordinate common items, processes, designs, technologies, and suppliers across worldwide purchasing centres and with other functional groups.</li> <li>• This integration occurs during new product development as well as during the fulfilment of customer orders.</li> <li>• Level V global sourcing strategy is also linked horizontally with other functional groups, particularly engineering, operations, and increasingly marketing.</li> <li>• Furthermore, designing, building, and sourcing responsibilities are often assigned to the most capable units around the world.</li> <li>• Only those companies that have worldwide design, development, production, and global procurement capabilities can, by definition, progress to this level.</li> </ul>

Monczka and Trent (1992) recognised that not all industries require the same level of worldwide sourcing for companies to be leading edge competitors. Monczka and Trent (1992) found that “different strategies, which correspond to different levels of worldwide sourcing involvement, require different capabilities for successful execution”. Monczka and Trent (1992) have initiated the detailing of selected capabilities and performance characteristics across five sourcing strategies. For example, companies that pursue the most complex strategy to integrate and coordinate their worldwide sourcing strategy are required to have a common worldwide part coding system, a worldwide database that is accessible by all their business units and a worldwide performance tracking system (Monczka and Trent, 1992). According to Monczka and Trent (1992), knowing the conditions will allow companies to evaluate their requirements once they have identified which strategy to pursue.

With regards to the findings by Monczka and Trent (1992), this research will look into the different capabilities or practices that are required under the different levels according to the critical success factors that were identified in the literature. The purpose of identifying the capabilities in this research is different from Monczka and Trent (1992). This research identifies the capabilities to be used in the framework that will be developed, in order for companies to recognise if they are currently operating at the desired level.

## **2.8 Critical success factors of worldwide sourcing**

Previous research has identified the critical success factors firms require in order to successfully develop and implement international purchasing and global sourcing (Birou and Fawcett, 1993; Scully and Fawcett, 1994; Rajagopal and Bernard, 1994; Trent and Monczka, 2003a; Trent and Monczka, 2003b). Based on past studies, a list of the critical success factors is depicted in Appendix 2.

Rajagopal and Bernard (1994) and Birou and Fawcett (1993) discussed that developing a successful international sourcing program requires extensive commitment of time and resources. Birou and Fawcett (1993) further added that a long term perspective must be adopted and supported by top management to assure the commitment of resources to develop the strategy. Making a commitment from the top and then sustaining it is important for global sourcing success, as a short-term focus would work against the benefits that could potentially be attained from global sourcing activities (Fagan, 1991).

In another aspect, there are differences between firms that implement global sourcing and international purchasing in terms of perceived critical success factors. Trent and Monczka (2003a) found that firms that engage in global sourcing rate certain factors as more critical to their sourcing efforts compared with firms that engage in international purchasing.

Trent and Monczka (2003b) pointed out that a specific critical factor that consistently becomes apparent in the studies that they have conducted is the importance of qualified personnel to support global sourcing. In their 2003b article, personnel with the required knowledge, skills and abilities was the highest rated critical success factor and lack of qualified personnel was the most serious problem. “Access to personnel with the right knowledge, skill and abilities is perhaps the most important resource behind global sourcing success” (Monczka et al., 2008). Monczka et al., (2008) found that personnel that are involved with global sourcing efforts are moderately prepared to support the process where the requirements from global sourcing differ dramatically compared to the knowledge and skills that is required of local and regional sourcing activities.

## **2.9 Global sourcing excellence characteristics**

The literature has certainly identified various critical success factors that are important in the implementation of the global sourcing strategy. The study by Trent and Monczka (2005) compiled some of the critical success factors into groups of themes they call characteristics. Trent and Monczka (2005) have documented seven key characteristics that firms should have in order to achieve global sourcing excellence. Trent and Monczka (2005) conducted a study on large North-American-based multinationals which were involved largely in manufacturing. As the results of the study could not be generalised over a broader population, particularly for companies outside the US, the researcher will use the characteristics in the study as the main input in the global sourcing practices framework that will be developed. The list of characteristics of global sourcing excellence generated by Trent and Monczka is depicted in Appendix 3.

Trent and Monczka (2005) explained that the characteristics of global sourcing excellence can be grouped into seven broad characteristics, namely executive commitment to global sourcing, rigorous and well-defined process, availability of needed resources, integration through information technology, supportive organisational design, structured approaches to communication and methodologies for measuring savings.



They have also identified that the most important factor for global sourcing success was access to personnel with the right knowledge, skills and abilities (Trent and Monczka, 2005). However, this factor was positioned under the Availability of Needed Resources characteristic and not as one of the main seven characteristics.

Many previous studies have discussed the first characteristic of global sourcing excellence mentioned by Trent and Monczka (2005), which is executive commitment to global sourcing. This characteristic entails top management support or executive commitment and mandate to source worldwide. Past research that justifies this point includes research done by Birou and Fawcett (1993), Scully and Fawcett (1994), Rajagopal and Bernard (1994), Trent and Monczka (2003a), Monczka et al. (2008). Monczka et al. (2008) explained that the “designation of a process owner to continuously review and improve the global sourcing process” was important and that the process owner can be either an executive leader or steering committee.

In connection to the extent of top management support, Birou and Fawcett (1993) explained that a long term perspective must be adopted and supported by top management to assure the commitment of resources to develop an adequate foundation for international sourcing. The commitment from the company and executive leaders is important to ensure that the needed resources are made available to support global sourcing activities (Monczka and Trent, 1992 and Monczka et al., 2008). The importance of resource allocation is explained by Birou and Fawcett (1993), where they argued that the success of implementing the global sourcing strategy involves a lot of resource dedication and management participation because global sourcing, as a proactive strategy, would help companies establish a sustainable competitive advantage. According to Fagan (1991), making a commitment from the top and then sustaining it is important for global sourcing success. A short-term focus would work against the benefits that could potentially be attained from global sourcing activities (Fagan, 1991).

The second characteristic, a rigorous and well-defined process, was found to be important in previous studies. Birou and Fawcett (1993) have identified two important steps in implementing an international sourcing program. Firstly, firms need to develop a well-defined understanding of the firm's purchasing needs and objectives, and also go through the extensive planning for implementation (Birou and Fawcett, 1993). The planning process was also regarded as important by Scully and Fawcett (1994). The second step covers supplier selection and development (Birou and Fawcett, 1993). Having foreign supplier certification or qualification methods was described as important by Birou and Fawcett (1993) and Scully and Fawcett (1994). "A well-defined and rigorously enforced sourcing process is the foundation of integrated global sourcing and one of the most important predictors of success" (Monczka et al., 2008). Monczka et al. (2006) found that having a well-defined process provides positive outcomes such as "reduced price and lower total cost of ownership, reduced supply chain costs, improved supply chain performance other than price, improved sourcing process outcomes, better management of inventory across the supply chain and improved overall performance to external customers".

The third characteristic, availability of needed resources, has also been thoroughly researched in the past. Rajagopal and Bernard (1994) and Birou and Fawcett (1993) discussed that developing a successful international sourcing program requires extensive commitment of time and resources to overcome the obstacles encountered in the complex buyer-seller environment. Monczka et al., (2008) explained that the resources needed when implementing global sourcing include travel and living expenses of purchasing personnel, availability of required information, access to qualified personnel and time for the purchasing personnel to develop the strategies.

The fourth characteristic, integration through information technology, was identified by Trent and Monczka in 2003. The availability of required information and data and the ability to identify common requirements and part-coding schemes across buying units reveals the importance of information as a success factor (Trent and Monczka 2003a). In addition, having compatible information systems with suppliers was also identified as important (Trent and Monczka, 2003b). Trent and Monczka (2003b) and Monczka et al. (2008) also emphasised that access to complete, reliable and timely information is considered vital. Monczka et al. (2008) found that the most widely

shared information between companies and their suppliers were cost, quality and supplier delivery performance. In addition, other than performance data, companies now share broader information which is related to a supplier's technology contribution, future technology plans, future demands, future investment plans and supplier feedback on the buying company (Monczka et al., 2008). Monczka et al., (2008) found that sharing this information has resulted in lower supply chain costs, improved supply chain performance other than price, a better sourcing process and higher level of trust.

The fifth characteristic, supportive organisational design, was found to be important in supporting the global sourcing initiative. Establishing foreign buying offices in source markets was considered important by Birou and Fawcett (1993) and Scully and Fawcett (1994). In addition, it was also important for international purchasing offices to support global sourcing requirements (Trent and Monczka, 2003b; Trent and Monczka, 2005).

Monczka et al., (2008) believed that the International Purchasing Offices (IPOs) will increasingly be a critical success factor. Monczka et al., (2008) described the IPOs as a full-service procurement centre that facilitates access to products, improves delivery reliability with suppliers, reduces order cycle time and lowers purchasing transaction costs. Other than the support of the international purchasing offices, Trent and Monczka (2003b) identified that it was vital for the operations/manufacturing and marketing department to support the global sourcing process. Cavusgil et al. (1993) considered that global sourcing should become an integrated component of the formal strategy of a company. Cavusgil et al. (1993) further discussed that a company's formal strategy should be vertically and horizontally coordinated. Companies should be vertically coordinated in terms of worldwide information systems, sophisticated personnel capabilities, coordination mechanisms, and effective organisational structure and highest level of executive management support (Cavusgil et al., 1993). Horizontally, the procurement function should work with other functional divisions in the company (Cavusgil et al., 1993).

The sixth characteristic, structured approaches to communication and relationship building with suppliers, was found to be important in past studies. Birou and Fawcett, (1993) and Scully and Fawcett (1994) found establishing long term relationships with suppliers as important. Curtin (1987) explained that developing a long term relationship with suppliers is important and that global sourcing can help companies be in a better, long term, worldwide competitive position. Trent and Monczka (2003b) identified that it is important to have cultural compatibility and language similarity with global suppliers. Monczka et al. (2008) considered that real-time communication tools allow sharing of information and closer coordination across the purchasing team worldwide. The communication method that is proposed to increase in usage is the web-based meeting software and new video technologies (Monczka et al., 2008).

The seventh characteristic, methodologies for measuring savings, was identified as important by Rajagopal and Bernard (1994) and Trent and Monczka (2003a). Both studies found that the ability to measure and evaluate performance improvements or benefits from global sourcing is important when implementing the global sourcing strategy. Hefler (1981) explained that global sourcing is a strategy that companies can use to meet strategic goals and objectives. Scully and Fawcett (1994) considered that aligning the sourcing strategy with the company's overall company strategy is important to ensure that sourcing activities match the company's strategies.

## **2.10 Importance of having qualified personnel in implementing global sourcing**

What do the words "qualified personnel" mean? Monczka et al. (2006) found that employing qualified personnel is important to support global sourcing. The term "qualified" in their study was explained through having the right knowledge, skills and abilities. The researcher found that in the literature, the words "qualified personnel" were often used, as it has been identified, as an important factor in the implementation of global sourcing. However, a description of what it means was not clearly defined. Therefore for the purpose of this research, the author has selected the term "qualified personnel" to describe personnel with the right knowledge, skills and abilities.

From the Merriam Webster Online Dictionary, the word qualified was defined as “fitted (as by training or experience) for a given purpose and also having complied with the specific requirements or precedent conditions”. The Cambridge Learner’s Online Dictionary defined qualified as “having passed exams or courses and having the skills, qualities, or experience that you need in order to do something”.

Carr and Smeltzer (1997) explained that purchasing knowledge and skill refers to “purchasing professionals having the necessary skills to monitor and interpret changes in the supplier market/product base, the technical capabilities to help the firm’s suppliers improve on their processes and products, and improve the firm’s total cost of doing business with the firm’s suppliers”.

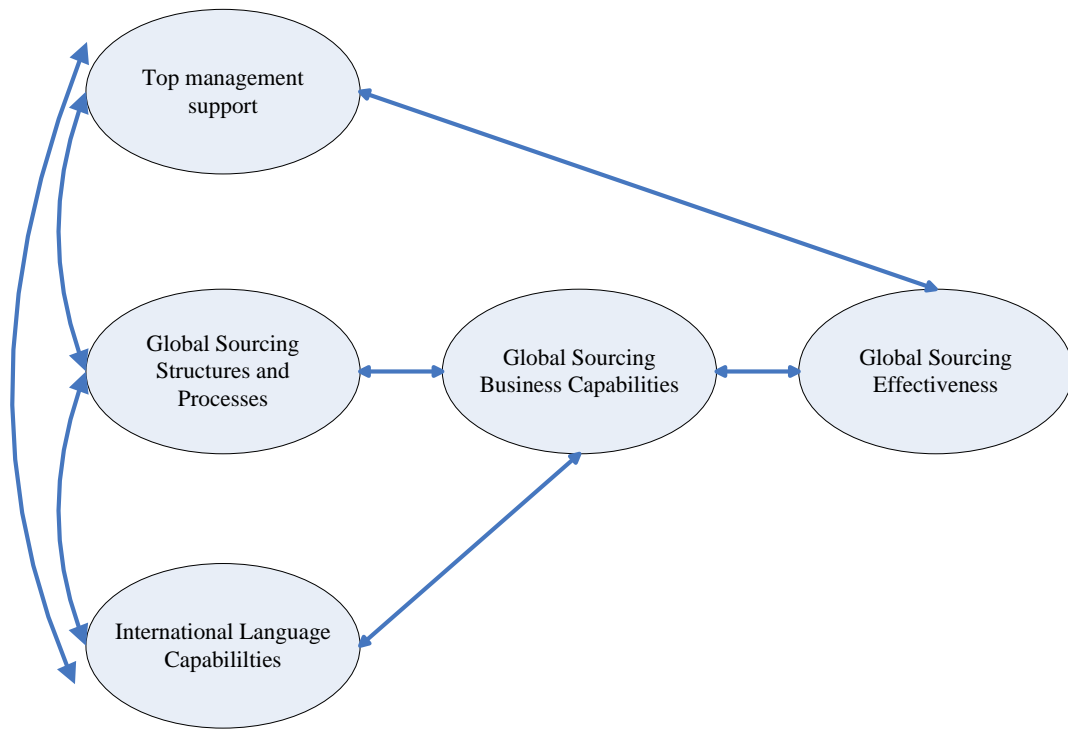
Carr and Smeltzer (2000) have also defined skill as “ability gained by practice or knowledge”. Monczka et al. (2006, 2008) explained that it is unlikely that all the skills that are deemed important were to be found in a single individual, but should be within the groups and teams that support the global sourcing process. Hence, the implication is that it is now vital to have personnel with adequate skills (Pfeffer, 1994).

According to Monczka and Trent (1992), there are certain capabilities that purchasing personnel should have and it includes product and supply market knowledge, ability to manage exchange rate risks and supply risks and understand the culture, political and economic history of other countries that they want to operate in. In addition, Monczka et al., (2008) found that the skills and abilities of purchasing personnel differ across worldwide locations and this makes forming cross-locational teams with different skills, abilities and cultural background a challenge.

How important is having qualified personnel? As part of a Global Sourcing Research Project conducted in 2000 – 2001, Trent and Monczka (2002) have identified some factors that differentiate between successful and less successful global sourcing efforts. Ultimately, involving the right individuals as participants is one of the most distinct factors that differentiate between successful and less successful global sourcing efforts. In another study, Trent and Monczka (2003b) pointed out that personnel with the required knowledge, skills and abilities was the highest rated critical success factor and the lack of qualified personnel was the most serious problem.

Pfeffer (1994) asserts that how firms manage people is more important than traditional sources of competitive success such as economies of scale and technology. Pfeffer (1994) added that “if competitive success is achieved through people, then the skills of those people are critical”. Kotabe and Omura (1989) suggested that “competitive advantage can be gained through global sourcing, provided that managers skilfully execute it”. Literature certainly enforces the importance of skills.

Petersen et al. (2000) formulated a global sourcing strategy effectiveness model. This model established the importance and relationships between several factors that influence the effectiveness of the global sourcing strategy. The model is illustrated in Figure 2.3. The purchasing personnel skills factor was positioned under the Global Sourcing Structures and Processes factor and the results showed that this factor is important to the development of global sourcing capabilities. Moreover, global sourcing capabilities were found to have a very large impact on the effectiveness of the global sourcing strategy.



**Figure 2.3: Model for Global Sourcing Effectiveness (Petersen et al., 2000)**

The importance of having personnel with the right skills was clearly identified in past literature but has not been identified as a critical success factor on its own. The researcher believes that this factor should have the same importance as the other factors that were identified in past research.

## **2.11 Movement of purchasing function from tactical to strategic to support global sourcing**

Humphreys et al. (1998) mentioned that purchasing has moved from a reactive activity to a strategic one. Furthermore, Humphreys et al. (1998) stressed that “the skills and competencies required by professionals in the past were not the same as those required today”. The view that the movement from a tactical to a strategic operating mode required a different skill set for purchasers was supported by Giunipero (2000).

Brien (2000) stated that “the purchasing and supply chain manager’s role has changed from one concerned with process to one focused on strategy”. Giunipero (2000) clearly pointed out that a common theme in the reviewed skills literature was concerned with the movement of purchasing from tactical to strategic mode. Cruz and Murphy (1996) stated that more companies now emphasise their strategic rather than tactical expectations of the purchasing function. Pagell et al. (1996) believed that “the purchasing function has evolved from a tactical supplier of the parts needed for production to a strategic player in the production of goods and services”.

Carr and Smeltzer (1997) defined strategic purchasing as “the process of planning, implementing, evaluating and controlling strategic and operating purchasing decisions for directing all activities of the purchasing function toward opportunities consistent with the firm’s capabilities to achieve its long term goals”. Steinle and Schiele (2008) explained that “purchasing is a genuinely strategic function only if contributes to establishing a competitive advantage”.

Companies need to look at global sourcing strategy as a long term commitment and have intensive skill-building in order to successfully implement the strategy (Birou and Fawcett, 1993). This increases the need for companies to retain and train their purchasing employees. Carr and Smeltzer (1997) found that when purchasing knowledge increase, the level of strategic purchasing increases as well.

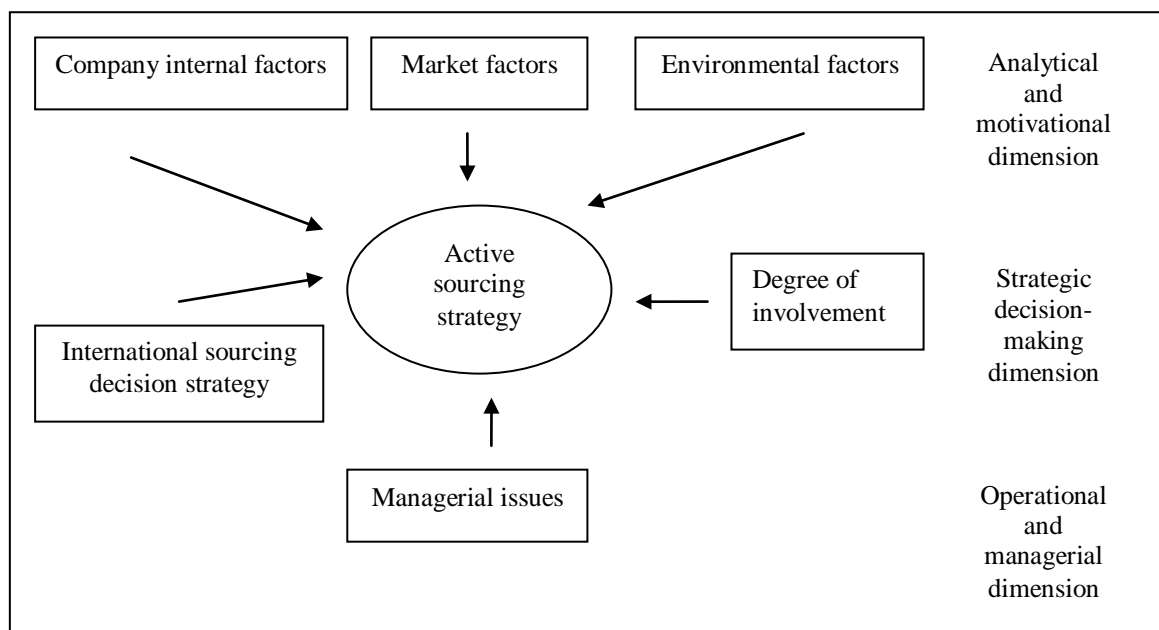


## 2.12 Existing global sourcing framework or model

Existing global sourcing frameworks or models throughout the literature focused around two stages of implementation. The first stage is before the strategy is implemented. The second stage is the actual development and implementation process. The frameworks describing the second stage provided the proposition that there is a need to identify of gaps in implementation.

Rajagopal and Bernard (1994) provided a framework that looked into the stage before the global sourcing strategy is implemented. Rajagopal and Bernard (1994) proposed a framework of generic choices that need to be considered in developing a global sourcing strategy (see Figure 2.4). The framework looks into three dimensions:

- (1) Analytical and motivational dimension which looks at assessing the environmental, market and company internal factors.
- (2) Strategic decision making dimension which looks at the degree of involvement and international sourcing decision strategy.
- (3) Operational and managerial dimension which looks into managerial issues such as having the personnel with the right skills, appropriate training and adequate channels for compilation of information.



**Figure 2.4: General Framework on the Development of Global Sourcing Strategy (Rajagopal and Bernard, 1994)**

Cavusgil et al. (1993) proposed a framework that focuses on the planning stages before the global sourcing strategy is implemented (see Figure 2.5). The framework looks into the strategic issues that need to be addressed once the company has decided to source globally.

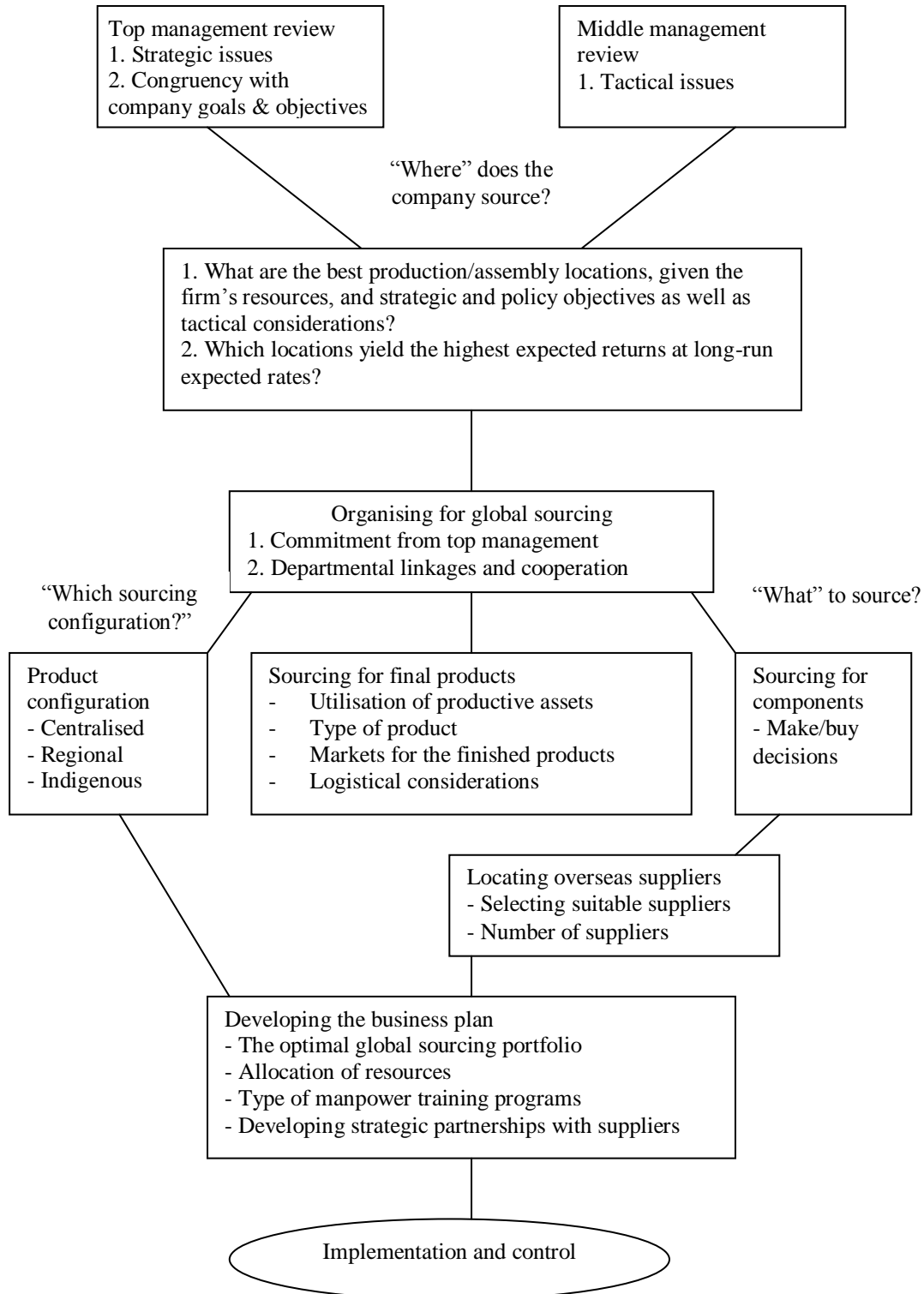


Figure 2.5: Decision-Making Framework for Global Sourcing (Cavusgil et al., 1993)

Monczka and Giunipero (1984) proposed an international purchasing implementation flowchart and the required conditions to guide a company's general approach to developing and enhancing international purchasing initiatives (see Figure 2.6).

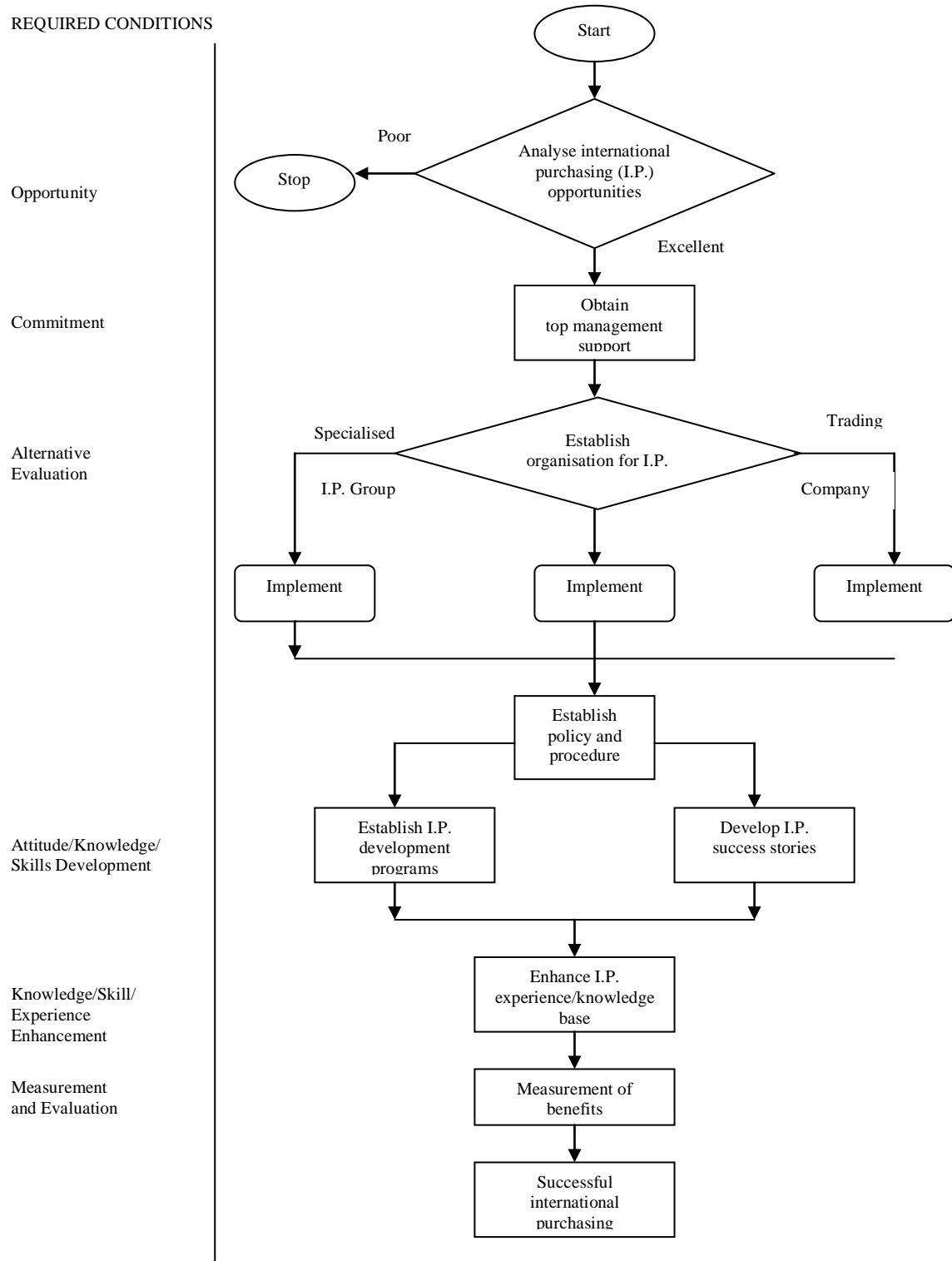
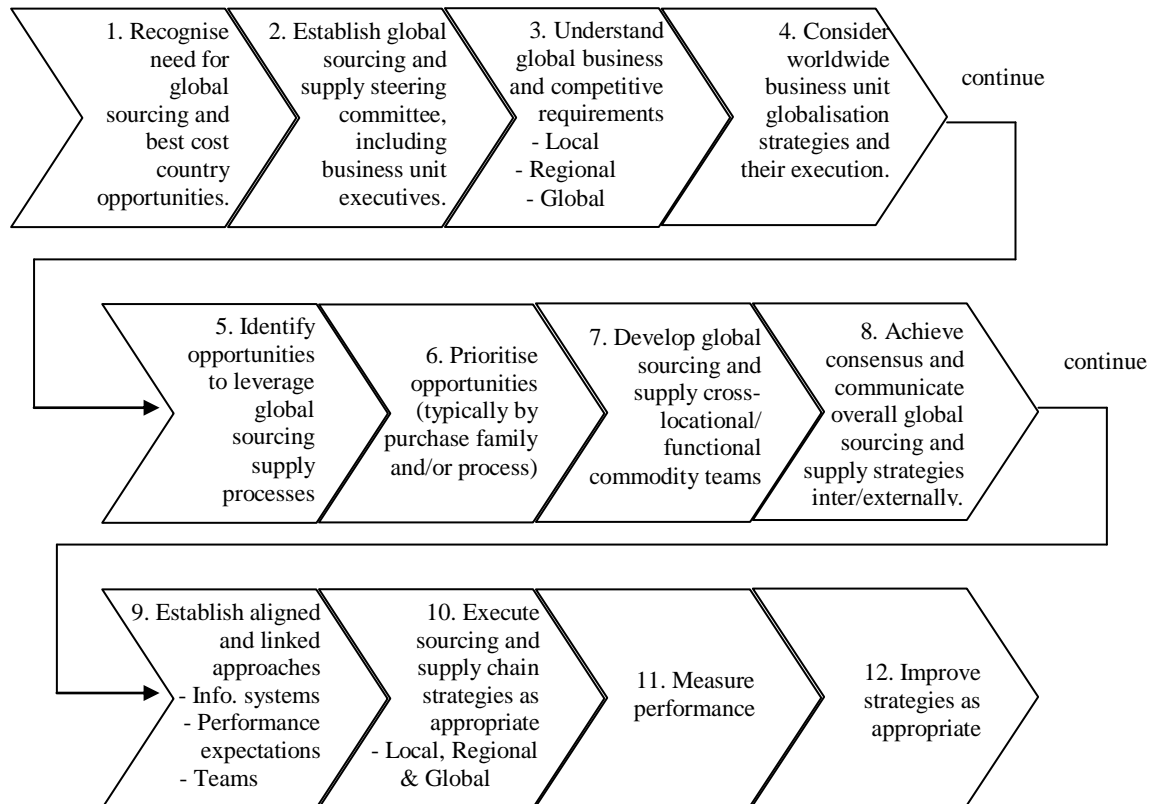


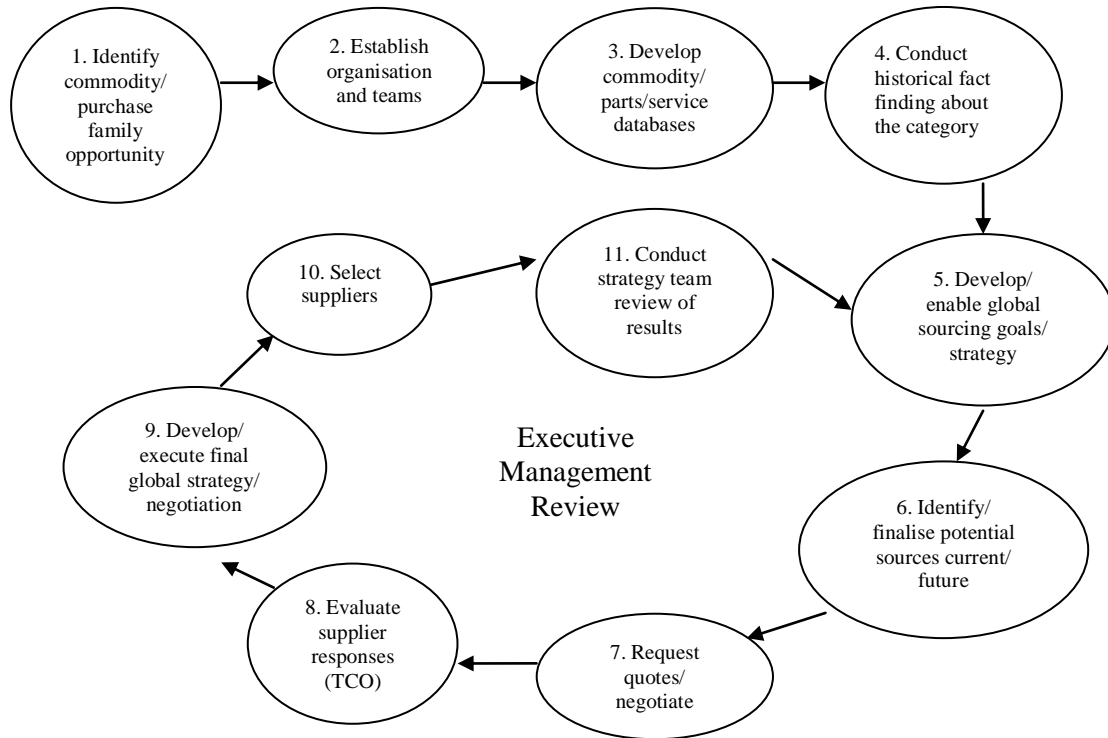
Figure 2.6: International Purchasing Implementation Flowchart (Monczka and Giunipero, 1984)

Monczka et al. (2006) provided a framework that looked into the stage on the actual development and implementation process. Monczka et al. (2006) proposed two process models. The first model proposed by Monczka et al. (2006) covered the overall company process for establishing global sourcing and supply effectiveness (see Figure 2.7).



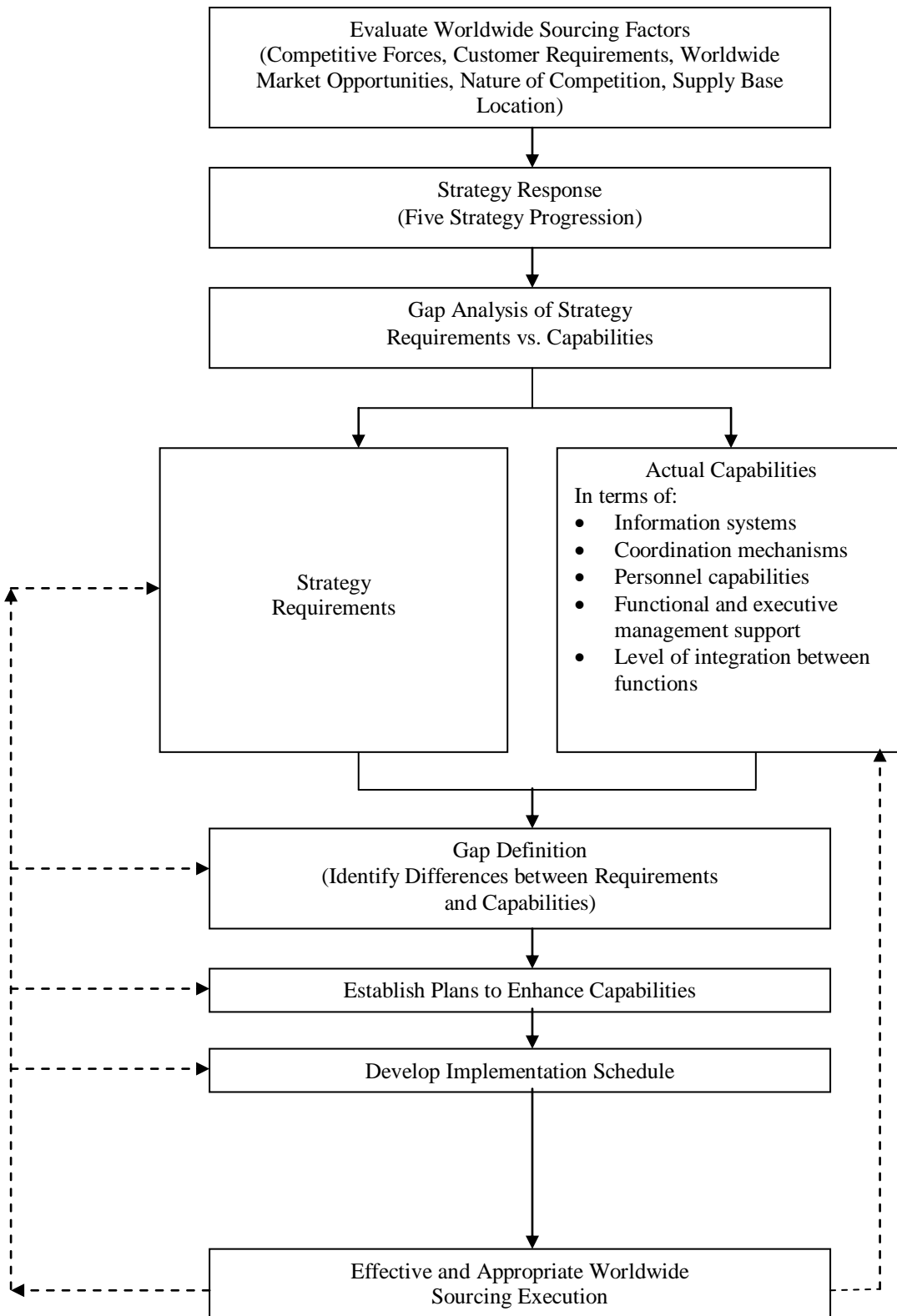
**Figure 2.7 Global Sourcing and Supply Strategy Development and Implementation (Monczka et al., 2006)**

The second process model that was proposed by Monczka et al. (2006) was a common global sourcing process that should be established for all category teams to follow on a worldwide basis (see Figure 2.8).



**Figure 2.8: Common Global Sourcing Process (Monczka et al., 2006)**

Monczka and Trent (1992) have presented a worldwide assessment model to evaluate the need for worldwide sourcing and the execution of worldwide sourcing, which covers both stages of implementation (refer Figure 2.9). This framework helps companies identify which worldwide sourcing strategy best supports a company's competitive requirements. There is a "gap definition" process in the framework proposed by Monczka and Trent (1992) to identify differences between requirements and capabilities but the framework does not provide the details to this step.



**Figure 2.9: Worldwide Sourcing Assessment Process (Monczka and Trent, 1992)**

The frameworks that were identified proposed that there is a need to identify gaps in implementation. The framework by Monczka and Giunipero (1984) proposed that there should be a measurement and evaluation of the implementation. However, the details of this step were not provided. Monczka et al. (2006) identified the need to measure performance and improve strategies in their framework but the details were not provided. Monczka and Trent (1992) proposed a framework that has a step to identify differences between the strategy requirements and actual capabilities of the company, named “gap definition”. Again, the details of this step were not provided. None of the frameworks or models identified in the literature have detailed methods to identify gaps in implementation. Furthermore, there are no current frameworks that provide the details of the specific steps and tools on how to improve a company’s global sourcing strategy implementation.

The framework that is going to be developed in this research is positioned under the “gap definition” step of the Monczka and Trent (1992) study. This research will suggest a detailed framework on how companies can identify the gaps and devise an action plan to reduce the gaps. The proposed framework will be used as a tool to identify the gaps between the requirements to maintain or progress in the sourcing level and the current company capabilities.

### **2.13 Studies that have been conducted on global sourcing in firms in the UK**

Based on the literature search conducted, there were limited amounts of published references that were found to conduct studies on firms in the UK. Most studies related to international purchasing and global sourcing were conducted on companies in the US or worldwide (refer Appendix 4). The only study found which is directly related to international purchasing and global sourcing of firms in the UK was the study by Rajagopal and Bernard (1994). The study focused only on factors that motivate firms to pursue international purchasing and a framework for the development of a global sourcing strategy. Other references concerning studies of best practices conducted on firms in the UK were not found. Since there are limited studies found on global sourcing practices in the UK, it is therefore deemed important by the author to conduct studies in this area.

## **2.14 Research objectives**

In the fulfilment of the research aim, which is “to explore what UK based companies are practising in terms of global sourcing and to develop a framework that can help companies improve their sourcing strategy implementation”, five research objectives were defined.

This research attempts to achieve the following objectives:

- Research Objective 1: To critically review substantive literatures on the concept of global sourcing, global sourcing critical success factors/best practices/excellence framework.
- Research Objective 2: To investigate the critical success factors of global sourcing of companies in the UK.
- Research Objective 3: To identify global sourcing practices of companies in the UK.
- Research Objective 4: To compare the perceived importance of the critical success factors and the actual implementation of global sourcing.
- Research Objective 5: To develop a global sourcing framework that can help companies identify areas to improve their global sourcing strategy implementation.

## **2.15 Research questions**

This research was carried out to answer several questions on global sourcing practices of companies based in the UK. The following research questions have been developed for exploration:

- RQ 1: What are the key concepts of global sourcing?
- RQ 2: What are the practices that are considered critical in implementing the global sourcing strategy in the UK?
- RQ 3: What are the current global sourcing practices of companies in the UK?
- RQ 4: Are there differences between the perceived importance of the critical success factors and the actual implementation of global sourcing?
- RQ 5: Are there approaches that can help companies improve the implementation of their sourcing strategy?



Figure 2.10 explains the relevance of the research questions to the research objectives of this research.

<p>Addressing Research Objective 1: To critically review the literature on global sourcing</p>	<p><b>RQ 1: What are the key concepts of global sourcing?</b> How: Literature Review Output: Key definitions and concepts Key chapter: Chapter 2 – Literature review</p>
<p>Addressing Research Objective 2: To investigate the critical success factors of global sourcing of companies in the UK</p>	<p><b>RQ 2: What are the practices that are considered critical in implementing the global sourcing strategy in the UK?</b> How: Literature Review, Survey Output: Global sourcing critical success factors Key chapters: Chapter 2 – Literature review and Chapter 5 – Survey</p>
<p>Addressing Research Objective 3: To identify global sourcing practices of companies in the UK</p>	<p><b>RQ 3: What are the current global sourcing practices of companies in the UK?</b> How: Literature Review, Case studies, Survey Output: Global sourcing practices Key chapters: Chapter 2 – Literature review, Chapter 4 – Case studies and Chapter 5 – Survey</p>
<p>Addressing Research Objective 4: To compare the perceived importance of the critical success factors and the actual implementation of global sourcing</p>	<p><b>RQ 4: Are there differences between the perceived importance of the critical success factors and the actual implementation of global sourcing?</b> How: Survey Output: Gap analysis Key Chapters: Chapter 5 – Survey</p>
<p>Addressing Research Objective 5: To develop a global sourcing framework</p>	<p><b>RQ 5: Are there approaches that can help companies improve the implementation of their sourcing strategy?</b> How: Literature Review, Case studies, Survey Output: Development of the framework Key chapters: Chapter 2 – Literature review, Chapter 6 – Framework development and Chapter 7 –Validation of the framework</p>

**Figure 2.10: Research Objectives Relevance to the Research Questions of This Thesis**

## **2.16 Chapter summary**

This chapter has reviewed the literature on the key aspects of global sourcing and its significance. The literature has shown that global sourcing would provide companies with a competitive advantage against their competitors. The identification of existing global sourcing implementation frameworks and models showed that the analysis of a company's actual implementation was necessary to ensure an effective execution of the global sourcing strategy. However, none of the existing frameworks and models provided details of how to identify gaps in implementation. Studies that have been conducted on companies in the UK were also identified and there were limited amounts of published references on UK companies that practiced global sourcing. Hence, the gaps in the literature have motivated the researcher to inquire about the global sourcing practices of companies in the UK and to develop a framework that can help companies improve their sourcing strategy implementation. The following chapter details the research methodology used in this research to address the research objectives and research questions that were stated in this chapter.

## 3 Research Methodology

### 3.1 Introduction

This chapter explains the research philosophy and methodological choices relevant to this research. The research methodology used in this research is also described in this chapter. Figure 3.1 describes the overall research methodology process that was followed during this research and the relevant chapters in the thesis that explained each process.

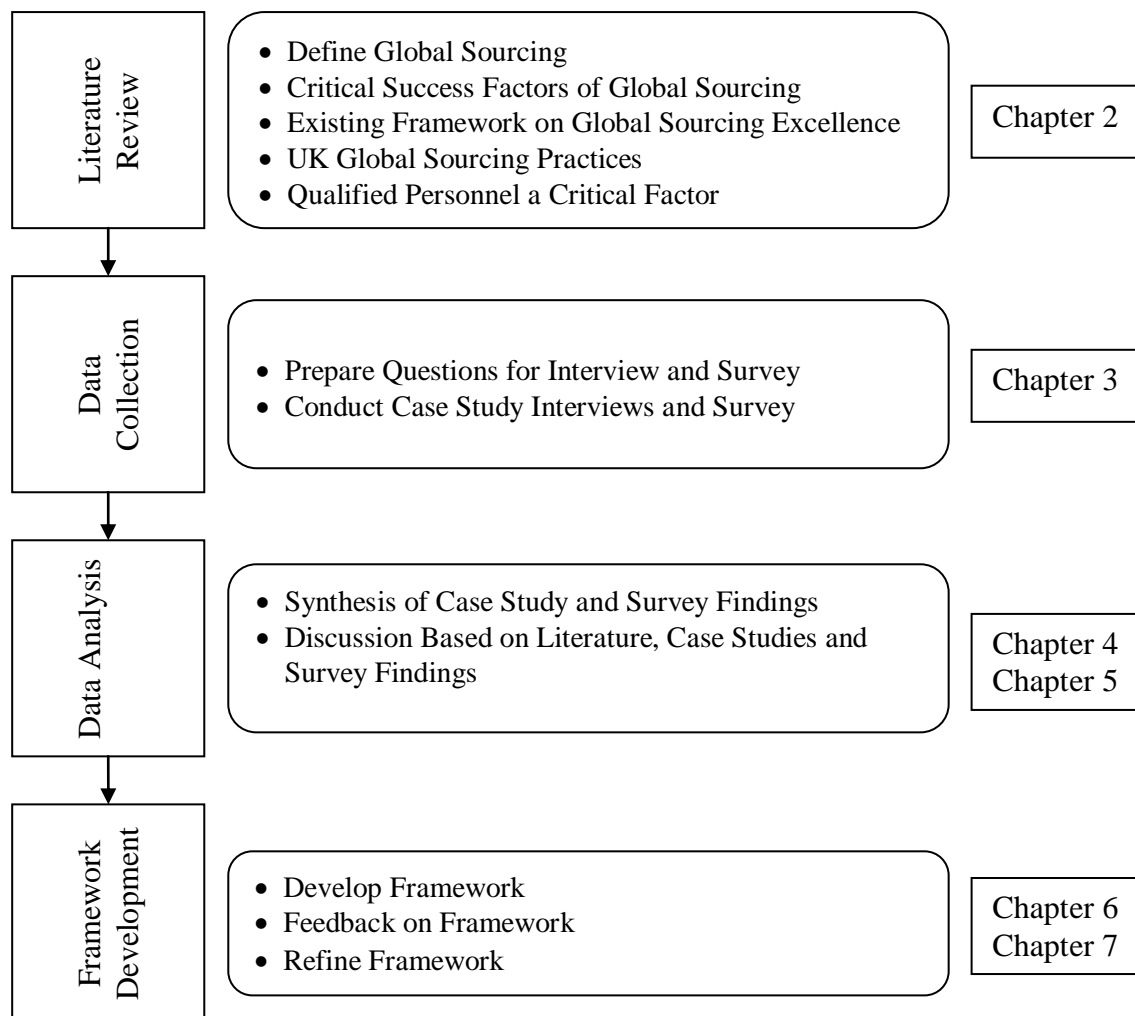


Figure 3.1: Research Methodology Process

## 3.2 Research philosophy and methodological choices

### 3.2.1 Description of research philosophies

A research paradigm is defined as a “philosophical framework that guides how scientific research should be conducted” (Collis and Hussey, 2009). Creswell and Clark (2007) have described worldview and paradigm as “how we view the world” and how we “go about conducting research”. The two main paradigms that were discussed in social research were positivism and interpretivism. These paradigms were described by Collis and Hussey (2009) as two extremes of a continuum and the paradigms are “based on mutually exclusive philosophical assumptions about the world and the nature of knowledge”. The key assumptions for these paradigms are explained in Table 3.1.

**Table 3.1: Summary of the Philosophical Assumptions of Positivism and Interpretivism (Creswell, 1994 and 1998, cited in Collis and Hussey, 2009)**

Philosophical assumption	Positivism	Interpretivism
Ontological assumption (the nature of reality)	Reality is objective and singular, separate from the researcher.	Reality is subjective and multiple, as seen by the participants.
Epistemological assumption (what constitutes valid knowledge)	Researcher is independent of that being researched.	Researcher interacts with that being researched.
Axiological assumption (the role of values)	Research is value-free and unbiased.	Researcher acknowledges that research is value-laden and biases are present.
Rhetorical assumption (the language of research)	Researcher writes in a formal style and uses the passive voice, accepted quantitative words and set definitions.	Researcher writes in an informal style and uses the personal voice, accepted qualitative terms and limited definitions.
Methodological assumption (the process of research)	Process is deductive. Study of cause and effect with a static design (categories are isolated beforehand). Research is context free. Generalisations lead to prediction, explanation and understanding. Results are accurate and reliable through validity and reliability.	Process is inductive. Study of mutual simultaneous shaping of factors with an emerging design (categories are identified during the process). Research is context bound. Patterns and/or theories are developed for understanding. Findings are accurate and reliable through verification.

Other than the two main paradigms, Collis and Hussey (2009) explained that “new research paradigms emerge in response to the perceived inadequacies of earlier paradigms”. Another paradigm that exists to help researchers describe their position when conducting research is pragmatism. The philosophical assumptions of pragmatism were described by Creswell and Clark (2007), as shown in Table 3.2.

**Table 3.2: Summary of the Philosophical Assumptions of Pragmatism (Creswell and Clark, 2007)**

Philosophical assumption	Pragmatism
Ontological assumption (the nature of reality)	Singular and multiple realities.
Epistemological assumption (what constitutes valid knowledge)	Researcher collects data by “what works” to address the research question.
Axiological assumption (the role of values)	Researcher includes both biased and unbiased perspectives.
Rhetorical assumption (the language of research)	Researcher may employ both formal and informal styles of writing.
Methodological assumption (the process of research)	Researcher collects both quantitative and qualitative data and mixes them.

The philosophical assumptions of pragmatism are frequently associated with mixed methods research (Creswell and Clark, 2007). Several authors provided definitions for mixed methods research which entails both qualitative and quantitative approach. Creswell (2009) defined mixed methods research as an “approach to inquiry that combines or associates both qualitative and quantitative forms”. Denscombe (2007) explained that the mixed methods strategy is one that uses both qualitative and quantitative methods. Creswell and Clark (2007) described that mixed methods research, “focuses on collecting, analysing and mixing both quantitative and qualitative approaches in many phases”.

Creswell (2009) presented three general strategies of mixed methods, which include sequential, concurrent and transformative mixed methods procedures. The description of each strategy by (Creswell, 2009) is depicted in Table 3.3.

**Table 3.3: Mixed Methods Strategies (Creswell, 2009)**

Mixed methods strategy	Description
Sequential	The researcher seeks to elaborate on or expand on the findings of one method with another method.
Concurrent	The researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. Both forms of data are collected at the same time and then integrate the information in the interpretation of the overall results.
Transformative	The researcher uses a theoretical lens as an overarching perspective within a design that contains both quantitative and qualitative data. This lens provides a framework for topics of interest, methods for collecting data and outcomes or changes anticipated by the study.

### **3.2.2 Chosen philosophical approach**

In order to undertake this research, pragmatism would seem to be a paradigm possible. Collis and Hussey (2009) explained that pragmatists believe researchers should not be limited by a single paradigm and should be choosing the research paradigms based on usefulness for answering the research questions. This is the assumption that is used in this research where collecting quantitative and qualitative data concurrently, namely using mixed methods, can provide a better understanding of the research problem. Several authors have proposed that pragmatism relates highly to mixed method research. Tashakkori and Teddlie (1998) described that the mixed methods research is underpinned by pragmatism. Creswell and Clark (2007) proposed that pragmatism as “the best philosophical foundation for mixed methods research”.

Creswell (2009) provided a description on the philosophical basis of pragmatism and the relevance to mixed methods research (refer Table 3.4).

**Table 3.4: Description of Pragmatism (Creswell, 2009)**

<b>Philosophical basis</b>	<b>Relevance to mixed methods research</b>
Pragmatism is not committed to any one system of philosophy and reality.	Researchers draw liberally from both quantitative and qualitative assumptions when they engage in their research.
Individual researchers have a freedom of choice.	Researchers are free to choose the methods, techniques and procedures of research that best meet their needs and purposes.
Pragmatists do not see the world as an absolute unity.	Researchers look at many approaches for collecting and analysing data rather than subscribing to only one way (quantitative or qualitative).
Truth is what works at the time.	Researchers use both quantitative and qualitative data because they work to provide the best understanding of a research problem.
Pragmatists look to the what and how to research.	Researchers need to establish a purpose for their mixing, a rationale for the reasons why quantitative and qualitative data need to be mixed in the first place.

### **3.2.3 Rationale for choice of philosophical approach and research methodology**

The features on positivism and interpretivism, as outlined in Table 3.5, were deemed important to illustrate why neither of these paradigms were suitable for this research.

**Table 3.5: Features of Positivism and Interpretivism (Collis and Hussey, 2009)**

<b>Positivism tends to:</b>	<b>Interpretivism tends to:</b>
• Use large samples	• Use small samples
• Have an artificial location	• Have a natural location
• Be concerned with hypothesis testing	• Be concerned with generating theories
• Produce precise, objective, quantitative data	• Produce rich, subjective, qualitative data
• Produce results with high reliability but low validity	• Produce findings with low reliability but high validity
• Allow results to be generalised from the sample to the population	• Allow findings to be generalised from one setting to another similar setting
• Use methodologies such as surveys, experimental studies and cross-sectional studies.	• Use methodologies such as case studies, grounded theory and action research.

The research aim and objectives drove the decision on how this research was carried out. The aim of this research is to explore what UK based companies are practising in terms of global sourcing and to develop a framework that can help companies improve their sourcing strategy implementation. Due to limited past studies, it has not been possible for the author to develop a research design based on hypothesis testing, which positivists tend to use. This research is explanatory in nature. In addition, the author does not seek to generate theories, which interpretivists tend to do, but the author is more interested in adapting the current knowledge on the critical success factors in order to develop a framework to improve a company's global sourcing strategy implementation.

As the chosen paradigm for this research is pragmatism, the research questions guided the author on the decision to choose the methods to be used in this research. Several authors described the relevance of research questions as a guide for researchers that is influenced by pragmatism. Tashakkori and Teddlie (1998) believed that pragmatism “consider the research question to be more important than either the method they use or the worldview that is supposed to underlie the method”. “The pragmatic stance focuses on the research problem and allows for multiple methods to address research problems” (Creswell and Clark, 2007).

The chosen mixed methods research is driven by the ability to gain a more comprehensive understanding on the research area. Creswell (2009) suggested that mixed methods strategy is “useful when either the quantitative or qualitative approach by itself is inadequate to best understand the research problem or the strengths of both quantitative and qualitative research can provide the best understanding.

In addition, the purpose of mixing quantitative and qualitative data is to obtain different answers to the different research questions that were set in this research. Research Question 2 looks into what are the practices that are considered critical in implementing the global sourcing strategy in the UK, and this research question is answered through the quantitative data. Research Question 3 looks into what are the current global sourcing practices of companies in the UK, and this research question is answered through quantitative and qualitative data.



The mixed method was also considered appropriate and beneficial to be used in this research based on the purposes that have been explained by Denscombe (2007):

Purpose	Relevance to this research
i. Improve the accuracy of findings through the use of different methods to investigate the same subject.	<ul style="list-style-type: none"> <li>• Check findings from case studies against the findings from survey and vice versa.</li> </ul>
ii. Enhance findings by providing a more complete picture	<ul style="list-style-type: none"> <li>• The findings from both methods would provide a more complete overview because the subject is investigated from two different perspectives.</li> <li>• The findings were complementary and support each other.</li> </ul>
iii. Compensating strength and weaknesses of the methods used	<ul style="list-style-type: none"> <li>• Findings from survey would not give the kind of depth of information that case studies can but findings from survey can be generalised.</li> </ul>

### 3.3 Research strategy

The methodology or research strategy that was chosen in this research is a mixed-methods approach. Collis and Hussey (2009) described methodology as “an approach to the process of the research, encompassing a body of methods”. Collis and Hussey (2009) described method as a “technique for collecting and/or analysing data”. The methods that were used in this research were case studies and online survey.

The mixed methods strategy that is used in this research is known as concurrent mixed methods. Figure 3.2 depicts a visual representation to show that both qualitative (case studies) and quantitative (survey) data were collected at the same time and how these processes were conducted. This figure illustrates that the data collection, analysis and results were conducted separately and were integrated during interpretation or discussion phase.

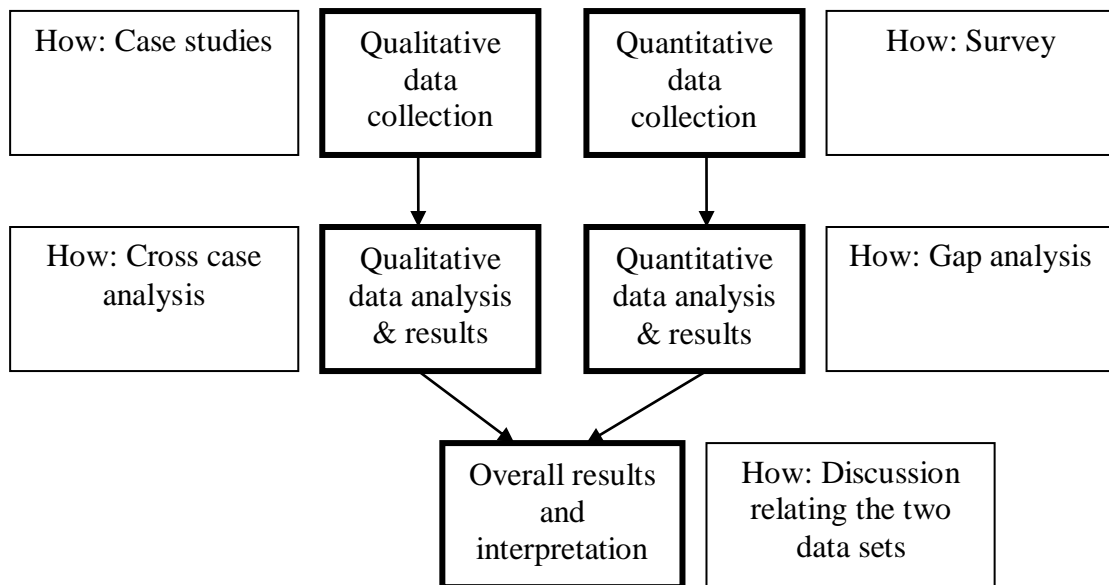


Figure 3.2: Quantitative and Qualitative Data Collection and Analysis

The data collection process involved case studies and survey. Several authors provided definitions of case study research. Eisenhardt (1989) explained that case study is a “research strategy which focuses on understanding the dynamics present within single settings”. According to Yin (2003), a case study research method is an “empirical enquiry that investigates a contemporary phenomenon within its real life context”. Creswell (2009) described case study as a “strategy of inquiry in which the researcher explores in depth a program, event, activity, process, or one or more individuals”. Collis and Hussey (2009) considered case study as “a methodology that is used to explore a single phenomenon in a natural setting using a variety of methods to obtain in-depth knowledge”. Collis and Hussey (2009) further defined that the case may be a particular business, group of workers, event, process, person or other phenomenon. In this research, each case is a company which was categorised according to their sourcing level. The case study method was chosen to develop an in-depth understanding of global sourcing practices of the companies.

Several authors provided definitions of survey. Creswell (2009) explained that surveys provide a “quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population. Collis and Hussey (2009) described surveys as “a methodology designed to collect data from a sample, with a view of generalising the results to a population”. The survey method allowed for more companies to be involved and therefore the results can be generalised to explain the global sourcing practices of companies in the UK. The survey method was chosen to answer two main questions; (1) how important were the critical success factors of global sourcing considered by the companies and (2) how extensive were the implementation of the critical success factors.

After the research data have been collected, the analysis of data also follows a mixed method approach. Greene et al. (1989) listed five purposes of mixed methods evaluation which are (1) Triangulation (seek convergence of results), (2) Complementarity (examine overlapping or different aspects of a phenomenon), (3) Development (use of methods sequentially), (4) Initiation (discover fresh perspectives) and (5) Expansion (adding scope and breadth to the study). The purpose of this research focuses on complementarity, where Greene et al. (1989) explained that complementarity “seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from other method”. The rationale from this complementarity purpose is “to increase the interpretability, meaningfulness and validity of construct and inquiry results by both capitalising on inherent method strengths and counteracting inherent biases in methods and other sources” (Greene et al., 1989).

The findings of the case studies are in Chapter 4 and the survey findings are discussed in Chapter 5. The discussion on the links between the case studies and the survey findings are discussed in Chapter 8. In addition to the use of primary data from case studies and survey, secondary data were also utilised, and these included books, journals, directories and sources from the Internet.

### 3.4 Data collection method: Case studies

To collect data for the case studies, the interview method was chosen. There were three types of interviews considered in this research, which were structured, semi-structured and unstructured interviews. The semi-structured interview method was chosen because it gave the researcher the flexibility to ask additional related questions in each factor in order to obtain the information that was needed to understand company practices related to global sourcing. The characteristics of a semi-structured interview were explained by Robson (2002) and these characteristics influenced the researcher's choice. The semi-structured interview has predetermined questions, the order of the questions can be modified based upon the interviewer's perception, question wording can be changed, explanations to the questions can be given, particular questions which seem inappropriate for a particular interviewee can be omitted or additional ones can be included (Robson, 2002). The advantages of conducting interviews are explained in Table 3.6. The disadvantages of conducting interviews and steps to overcome the disadvantages in this research are explained in Table 3.7.

**Table 3.6: The Advantages of Conducting Interviews**

Reference	Advantages
Robson (2002)	<ul style="list-style-type: none"><li>• Flexible and adaptable way of finding things out</li><li>• Allow following up interesting responses and investigating underlying motives in a way that self-administered questionnaires cannot</li></ul>
Denscombe (2007)	<ul style="list-style-type: none"><li>• Good with producing data which deals with topics in-depth and in detail. Subjects can be probed and issues pursued.</li><li>• Likely to gain valuable insights based on the depth of information gathered and the wisdom of the respondent.</li><li>• Good method for producing data based on informant's priorities, opinions and ideas. Respondents have the opportunity to expand their ideas, explain their views and identify what they regard as the crucial factor.</li><li>• Flexible to adjust on line of enquiry during the interview.</li><li>• High response rate because the interviews are prearranged and scheduled earlier.</li></ul>

**Table 3.7: The Disadvantages of Conducting Interviews**

	Disadvantages	Steps to overcome the disadvantages in this research
Robson (2002)	<ul style="list-style-type: none"> <li>• Time consuming - the interview itself, the preparation in making arrangements to schedule and confirming the interview</li> </ul>	<ul style="list-style-type: none"> <li>• The advantages from getting in-depth information relating to the subject were important to this research and therefore considered worth the effort and time spent.</li> </ul>
	<ul style="list-style-type: none"> <li>• The lack of standardisation raises concerns on reliability and bias</li> </ul>	<ul style="list-style-type: none"> <li>• The interview questions were semi-structured which enabled the researcher to standardise the responses from each interview.</li> </ul>
Denscombe (2007)	<ul style="list-style-type: none"> <li>• Analysis of data can be difficult and time-consuming. The transcribing of interview data is a major task.</li> </ul>	<ul style="list-style-type: none"> <li>• The task of transcribing was necessary to draw out as much rich information as possible and therefore was still done even though it was time consuming and laborious task.</li> <li>• Analysis of data was structured in a case study template to organise the findings from transcribed interviews.</li> <li>• Then, the case studies were compiled as case summaries for analysis.</li> <li>• The case summaries were compared across the cases in order to find any similarities or differences in practices.</li> </ul>
	<ul style="list-style-type: none"> <li>• The cost of the researcher's time and travel can be relatively high, particularly if the respondents are geographically dispersed.</li> </ul>	<ul style="list-style-type: none"> <li>• There were interviews that were conducted via telephone.</li> <li>• The research is focused on companies in the UK.</li> </ul>

The next subsections will look into development of the semi-structured interview questions, company selection criteria, company employment process, and description of companies that were involved. In addition, the pre-interview procedures and the interview procedures are also presented.

### 3.4.1 Development of the semi-structured interview questions

The development of a semi-structured interview follows the structure that was detailed by Robson (2002):

Structure	Actual application in this research
<ul style="list-style-type: none"> <li>• Introductory comments</li> </ul>	<ul style="list-style-type: none"> <li>• The respondents were asked to identify their current position in the company and the company's current sourcing level. The respondents were assured that all the information collected will be kept confidential and not attributed to any specific company.</li> </ul>
<ul style="list-style-type: none"> <li>• List of topics headings and key questions to ask under each heading</li> </ul>	<ul style="list-style-type: none"> <li>• The headings list the eight critical success factors that were identified through literature and under each heading there are questions.</li> </ul>
<ul style="list-style-type: none"> <li>• Set of associated prompts</li> </ul>	<ul style="list-style-type: none"> <li>• These prompts were in the form of specific points/issues that require more explanation which were obtained through company websites.</li> </ul>
<ul style="list-style-type: none"> <li>• Closing comments</li> </ul>	<ul style="list-style-type: none"> <li>• The respondents were asked to rate the top three factors that was considered important and put forward any other factors that were not discussed during the interview.</li> <li>• The respondents were promised a summary report of the findings from this research.</li> </ul>

The development of questions used in the semi-structured interviews was based on past studies. In order to develop the questions, previous studies on critical success factors of international purchasing and global sourcing were identified. Critical success factors were compiled from studies conducted by Monczka and Giunipero (1984), Birou and Fawcett (1993), Scully and Fawcett (1994), Rajagopal and Bernard (1994), Trent and Monczka (2003a) and, Trent and Monczka (2003b). The critical success factors were arranged into eight groups. Seven factors were taken from the study by Trent and Monczka (2005). An eighth factor, qualified personnel, was added based on the importance of it identified in the literature. The critical success factors were then used to develop the questions. References from past studies which were input to the questionnaire and the specific information requested from each question are explained in Table 3.8.

**Table 3.8(a): References from Past Studies Which Was Input to the Questionnaire and the Specific Information Requested from Each Question (Factor 1 to Factor 4)**

Factors	Questions	Reference from past studies and the information requested
Factor 1: Executive commitment to global sourcing	<ul style="list-style-type: none"> <li>• Please explain the role of the executive leadership in the development and implementation of the global sourcing strategy.</li> </ul>	<ul style="list-style-type: none"> <li>• Birou and Fawcett (1993); Rajagopal and Bernard (1994); Scully and Fawcett (1994); Trent and Monczka (2003a); Trent and Monczka (2003b)</li> <li>• To identify the role of executive leadership in the development and implementation of the global sourcing strategy</li> </ul>
	<ul style="list-style-type: none"> <li>• Who is the process owner of the global sourcing strategy?</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2005)</li> <li>• To identify the process owner of the global sourcing strategy</li> </ul>
Factor 2: Rigorous and well-defined processes	<ul style="list-style-type: none"> <li>• Please explain the global sourcing process that is implemented in your company.</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2005)</li> <li>• To identify the global sourcing process</li> </ul>
	<ul style="list-style-type: none"> <li>• Please explain the process of how global agreements are monitored and reviewed</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2005)</li> <li>• To identify the process of how global agreements were monitored and reviewed</li> </ul>
Factor 3: Availability of needed resources	<ul style="list-style-type: none"> <li>• Please explain how critical resources like financial and human resources are made available to support the global sourcing process.</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2005)</li> <li>• To identify how critical resources were distributed</li> </ul>
	<ul style="list-style-type: none"> <li>• Please explain how relevant information is made accessible and shared among participants of the global sourcing process.</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2003a); Trent and Monczka (2003b)</li> <li>• To identify how relevant information was made available</li> </ul>
Factor 4: Integration through information technology	<ul style="list-style-type: none"> <li>• Please explain how your company manages all the global agreements. Is there a contract repository that stores global agreements and provide warning of expiring agreements?</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2005)</li> <li>• To identify how global agreement were managed</li> </ul>
	<ul style="list-style-type: none"> <li>• Please explain the importance of having compatible information system with your suppliers in your global sourcing initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2003b)</li> <li>• To identify if having compatible information system with suppliers were considered important</li> </ul>



**Table 3.8(b): References from Past Studies Which Was Input to the Questionnaire and the Specific Information Requested from Each Question (Factor 5 to Factor 7)**

Factors	Questions	Reference from past studies and the information requested
Factor 5: Supportive organisational design	<ul style="list-style-type: none"> <li>• Please explain which department/team/committee is responsible to oversee the global sourcing process, from the sourcing strategy development, identification of global opportunities, to development of sourcing agreements.</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2005)</li> <li>• To identify the entity which was responsible to oversee the global sourcing process</li> </ul>
	<ul style="list-style-type: none"> <li>• Please explain whether your company practice purchasing volumes aggregated on a worldwide basis for important categories of goods and services.</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2002)</li> <li>• To identify how common it is for companies to practice aggregating their purchases</li> </ul>
Factor 6: Structured approaches to communication and relationship building with suppliers	<ul style="list-style-type: none"> <li>• What communication and coordination tools does your firm use to communicate with different departments in your company and your business partners worldwide?</li> </ul>	<ul style="list-style-type: none"> <li>• Trent and Monczka (2005)</li> <li>• To identify the specific communication and coordination tools used</li> </ul>
	<ul style="list-style-type: none"> <li>• Please explain how potential suppliers are identified.</li> </ul>	<ul style="list-style-type: none"> <li>• To identify how potential suppliers were identified</li> </ul>
	<ul style="list-style-type: none"> <li>• Please explain how you manage the relationship with current suppliers.</li> </ul>	<ul style="list-style-type: none"> <li>• Birou and Fawcett (1993); Scully and Fawcett (1994); Rajagopal and Bernard (1994); Trent and Monczka (2003b)</li> <li>• To identify how companies manage their relationship with their suppliers</li> </ul>
Factor 7: Methodologies for measuring savings or performance	<ul style="list-style-type: none"> <li>• Please explain how sourcing goals are established and linked to the overall company objectives.</li> </ul>	<ul style="list-style-type: none"> <li>• To identify how the sourcing goals were established and linked to the overall company objectives</li> </ul>
	<ul style="list-style-type: none"> <li>• Please explain what measures your company uses to evaluate performance improvements or benefits from global sourcing initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>• Rajagopal and Bernard (1994); Trent and Monczka (2003a); Trent and Monczka (2005)</li> <li>• To identify the specific measures used to evaluate performance improvements or benefits from global sourcing initiatives</li> </ul>
	<ul style="list-style-type: none"> <li>• Please explain to whom and where the performance reports are distributed.</li> </ul>	<ul style="list-style-type: none"> <li>• To identify the hierarchy and authority to which the sourcing performance was reported to</li> </ul>

**Table 3.8(c): References from Past Studies Which Was Input to the Questionnaire and the Specific Information Requested from Each Question (Factor 8)**

Factors	Questions	Reference from past studies and the information requested
Factor 8: Qualified personnel	<ul style="list-style-type: none"> <li>• Please explain the knowledge and skills that your purchasing personnel need to possess that you regard as important to perform global sourcing successfully.</li> </ul>	<ul style="list-style-type: none"> <li>• Monczka and Giunipero (1984); Birou and Fawcett (1993); Scully and Fawcett (1994)</li> <li>• To identify the specific knowledge and skills that were considered important</li> </ul>
	<ul style="list-style-type: none"> <li>• What kind of training would you regard as important for your purchasing personnel in order for them to perform effectively?</li> </ul>	<ul style="list-style-type: none"> <li>• To identify if training were provided to employees to increase their knowledge and skills</li> <li>• If training was provided, what were they?</li> </ul>

At the end of the interview, respondents were asked two additional questions which were not covered under the eight critical success factors. The additional questions and the rationale for the query are explained in Table 3.9.

**Table 3.9: Additional Questions in the Questionnaire and the Rationale for Query**

Factors	Questions	Rationale for query
Other factors	<ul style="list-style-type: none"> <li>• Between these eight factors, which are the top three factors that you consider as important in the implementation of your sourcing strategy?</li> </ul>	<ul style="list-style-type: none"> <li>• This question was asked to identify which factors were considered more important. This finding would be related to the findings from the survey.</li> </ul>
	<ul style="list-style-type: none"> <li>• Are there any other factors that we might have not discussed that you think are important in implementing your sourcing strategy successfully?</li> </ul>	<ul style="list-style-type: none"> <li>• This question was asked to identify if there were other important factors that influenced the sourcing implementation of the companies.</li> </ul>

The semi-structured interview questions enabled the analysis of the sourcing practices of companies in the UK. The desired output from the case studies was to understand the company's current sourcing practices in relation to their sourcing level. Refer to Appendix 5 for the semi-structured interview questions for the case studies phase.

### **3.4.2 Company selection criteria**

Before embarking on locating companies, the decision on whether this research should be based on a single case study or a multiple case studies was made. Yin (1993) and Eisenhardt (1989) explained that single or multiple cases can be adopted. Multiple case studies were chosen because the purpose of the case study method was to find similarities and differences across the cases. Yin (1993) described that if multiple cases were chosen, the findings from the case studies would be based on replication logic. In addition, the number of cases that are chosen might influence the replication of a certain finding; hence having more replications would result in the findings being more robust (Yin, 1993).

The next decision was deciding on the target number of cases for this research. Eisenhardt (1989) explained that there is no ideal number of cases but suggests that four to ten cases is desirable. For this research, the number of cases was more than what was suggested by Eisenhardt (1989), there being twenty. The researcher felt that more than ten cases were needed. Eisenhardt (1989) suggested that researchers should stop adding cases when theoretical saturation is reached. The researcher continued to collect data until this point was reached, where through the data the researcher could already see similarities and differences across the cases. Adding more cases was unnecessary because there would be minimal added value to the data that had been collected.

The final decision to be made before locating companies was to set some criteria for selecting companies. The selection criteria are as below:

- The company must be based in the UK.
- The company must have experience in worldwide sourcing activities.
- The companies must be from different sourcing levels. This is done in order to identify whether there are similarities or differences between the companies at different sourcing levels.

The interviewees that were identified for the purpose of interview included purchasing managers, supply chain managers, sourcing team members or leaders, executive steering committee members, executive leaders and people who were closely involved with global sourcing such as logistics representatives.

The key criterion for interviewees selected in each case study was that the person interviewed worked in a company based in the UK, plus had insight and experience in company-wide worldwide sourcing strategies and their integration across functions, geographies and sites.

### **3.4.3 *Company selection process***

This section outlines the process that was conducted to identify and approach companies to participate in this research. An interview flyer was distributed describing the research and the profile of potential candidates that would give the greatest insights on the specific areas that would be discussed through a semi-structured interview format. The interview flyer was sent via email to the database of the Cranfield University Fellowship of Manufacturing Management and to companies that had participated in previous research projects with the Cranfield Manufacturing Department. Interviews were then scheduled through email and telephone with those that conveyed an interest to participate.

The data collection started with gathering data from secondary sources of those companies that had agreed to participate in this research. The main secondary source of data prior to the interview was the company website. The information that was derived included the background of the company, the organisation structure and information related to how the company manages their worldwide sourcing activities. The information helped the researcher to put into focus the questions that would be asked during the interview. For example, if the company had an internet portal specific for suppliers, questions relating to relationship with suppliers included the use of the internet portal as one of the ways the company interacts with their suppliers.

There were twenty case studies chosen for this research. In the process of locating companies for this research, the researcher was approached by consulting companies that showed an interest in participating. These consulting companies specialised in global sourcing issues. The consulting companies gave insight from a different perspective and were therefore included.

#### **3.4.4 Pre-interview procedure**

Before each interview was conducted, the interviewees were given a one page document containing the interview questions via email. The interviewees were given the questions in advance so that they could familiarise themselves with the questions and to give them time to think of the answers. The researcher believed that by doing this more information could be acquired as the interviewees would be better prepared and more comfortable answering the questions as the answers would be more thought out. The interviewees were also advised that the interview would be recorded to effectively capture all the issues that were discussed.

#### **3.4.5 Interview procedure**

The interviews were conducted either by telephone or face-to-face interviews with high level management of each company. Most of the interviews (15 interviews) were conducted by telephone as the interviewees were often not available in their office. The interviewees were found to be more accessible by telephone compared to face-to-face because of their work commitment and frequent changes to their work schedules.

The interviewees are all directly involved in the worldwide sourcing process. The interviewees also had vast experience and knowledge regarding the company's worldwide sourcing practices in their respective company. In each case, the interviewees were first asked to describe their position in the company and elaborate on their job scope. Then, the interviewees were asked to identify the company's current sourcing level. The interview then focused on the specific practices of the company. Next, the interviewees were asked to rate the top three factors that they considered were important in the implementation of their sourcing strategy. To conclude the interview, they were asked if there were any other factors that have not been included in the discussion that they think were important in the implementation of their sourcing strategy.

The interviews were conducted over a five month period, between October 2007 to February 2008.

### 3.5 Data collection method: Survey

The survey was administered using a self-completion approach. This approach was chosen because respondents could answer the questions on their own and this allowed the survey to be distributed to a larger sample. The characteristics of a self-administered survey approach that were considered when choosing the survey method included (Robson, 2002):

- Low cost
- Long length of data collection period
- Distribution of sample may be wide
- Short length of questionnaire
- Questionnaire must be simple
- Questions should be simple to moderate
- Good for sensitive topics

The advantages of conducting surveys are explained in Table 3.10. The disadvantages of conducting surveys and steps to overcome the disadvantages in this research are explained in Table 3.11.

**Table 3.10: The Advantages of Conducting Surveys**

Reference	Advantages
Cooper and Schindler (2003)	<ul style="list-style-type: none"><li>• Allow contact with otherwise inaccessible respondents</li><li>• Often lowest cost option</li><li>• Expanded geographic coverage without increase in cost</li><li>• Perceived as more anonymous</li><li>• Allows respondents to think about questions</li></ul>
Robson (2002)	<ul style="list-style-type: none"><li>• They provide a relatively simple and straightforward approach to the study of attitudes, values, beliefs and motives.</li><li>• They allow anonymity, which can encourage frankness when sensitive areas are involved.</li></ul>
Denscombe (2007)	<ul style="list-style-type: none"><li>• The search for empirical data is purposeful and structured.</li><li>• Wide and inclusive coverage.</li></ul>

**Table 3.11: The Disadvantages of Conducting Surveys**

Reference	Disadvantages	Steps to overcome the disadvantages in this research
Cooper and Schindler (2003)	<ul style="list-style-type: none"> <li>• Low response rate in some modes</li> </ul>	<ul style="list-style-type: none"> <li>• Follow-ups were done via email and telephone.</li> <li>• Questionnaire was designed to be concise and simple to answer.</li> <li>• Incentive in the form of report on findings.</li> <li>• Ensure anonymity of respondents.</li> </ul>
	<ul style="list-style-type: none"> <li>• No interviewer intervention available for probing or explanation</li> </ul>	<ul style="list-style-type: none"> <li>• The findings from the survey are supplemented by the findings from case studies for a more in-depth view of the subject.</li> </ul>
	<ul style="list-style-type: none"> <li>• Cannot be long or complex</li> </ul>	<ul style="list-style-type: none"> <li>• Questionnaire was designed to be concise.</li> </ul>
	<ul style="list-style-type: none"> <li>• Accurate mailing list needed</li> </ul>	<ul style="list-style-type: none"> <li>• The email addresses on record were not always up to date, hence follow up phone calls were required to obtain the right email addresses.</li> </ul>
Robson (2002)	<ul style="list-style-type: none"> <li>• Respondents won't necessarily report their beliefs and attitudes accurately</li> </ul>	<ul style="list-style-type: none"> <li>• The purpose of the research was explained clearly that it is for academic purpose only.</li> <li>• The potential respondents were also assured that the information that they provide would be treated as confidential.</li> </ul>
Denscombe (2007)	<ul style="list-style-type: none"> <li>• The data may lack detail and depth on the subject being investigated.</li> </ul>	<ul style="list-style-type: none"> <li>• The findings from the survey are supplemented by the findings from case studies for a more in-depth view of the subject.</li> </ul>
	<ul style="list-style-type: none"> <li>• Response rates from surveys are often quite low and getting a reasonable response rate can be quite a challenge.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow-ups were done via email and telephone.</li> <li>• Questionnaire was designed to be concise and simple to answer.</li> <li>• Incentive in the form of report on findings.</li> <li>• Ensure anonymity of respondents.</li> </ul>

The advantages and disadvantages of conducting online-based surveys are presented in Table 3.12. The advantages were compared to the disadvantages and the researcher was confident in the decision to use the online-based survey because the respondents were more likely to be contacted via Internet compared to any other methods.

**Table 3.12: The Advantages and Disadvantages of Conducting Online-Based Survey**

Reference	Advantages	Disadvantages
Fowler (2002)	<ul style="list-style-type: none"> <li>• Low unit cost of data collection</li> <li>• Potential high speed returns</li> <li>• All the advantages of a self-administered instrument</li> <li>• Provides time for thoughtful answers</li> </ul>	<ul style="list-style-type: none"> <li>• Limited to samples of Internet users</li> <li>• Need for good addresses</li> <li>• Challenges of enlisting cooperation</li> </ul>
Cooper and Schindler (2003)	<ul style="list-style-type: none"> <li>• Fast access to the computer literate</li> <li>• Rapid data collection as</li> <li>• Short turnaround from survey draft to execution of the survey</li> </ul>	<ul style="list-style-type: none"> <li>• Recruiting the right sample is time consuming.</li> <li>• Need technical skill to convert the survey to an online-based.</li> </ul>
Sekaran (2003)	<ul style="list-style-type: none"> <li>• Easy to administer</li> <li>• Can reach globally</li> <li>• Very inexpensive</li> <li>• Fast delivery</li> <li>• Respondents can answer at their convenience</li> </ul>	<ul style="list-style-type: none"> <li>• Computer literacy is a must</li> <li>• Respondents must have access to the facility</li> <li>• Respondent must be willing to complete the survey</li> </ul>
Denscombe (2007)	<ul style="list-style-type: none"> <li>• Allow access to people that would not otherwise be possible</li> <li>• Reduce cost in terms of no travel needed.</li> <li>• The data supplied via the Internet arrive in a format that is ready for analysis as it can be automatically entered to spreadsheet or in statistical package.</li> </ul>	<ul style="list-style-type: none"> <li>• Sample bias with internet surveys as it is premature to say that everybody is online.</li> <li>• Request for participation can be easily ignored. Request for participation is extremely quick and easy to delete with a click of a button.</li> </ul>



The online-based survey method was chosen to gain access to a larger population of companies. The questionnaire was distributed using an online-based survey website called QuestionPro, which required no downloading of additional software or purchase of any hardware. The survey invites were distributed through email, which allowed for wider access to companies and faster delivery of returned responses. Through an online-based survey, respondents can be managed more easily because through QuestionPro, the response rates and uncompleted rates can be monitored. The researcher was also able to view real-time reports on the respondents' statistics on those that have viewed, started and completed the survey. The respondents benefited from being able to answer the questionnaire at their own convenience, anytime and anywhere, by clicking on a link in the email which takes them straight to the online-based survey and were also assured anonymity.

The next subsections will look into the questionnaire development, questionnaire design and the target sample.

### **3.5.1 Questionnaire development**

The survey was constructed with three main aims. Firstly, to assess how important were the critical success factors of global sourcing considered by the companies. The second aim of the survey was to identify how extensive was the implementation of the critical success factors. Thirdly, the survey was designed to identify what were their forecast sourcing efforts in three to five years time.

The development of the questionnaire for the survey covers questions that identified current sourcing levels, critical success factors of global sourcing and current practices. The development of the questionnaire started by identifying past studies on the critical success factors of international purchasing and global sourcing. Seven past studies that were identified include Monczka and Giunipero (1984); Birou and Fawcett (1993); Rajagopal and Bernard (1994); Scully and Fawcett (1994); Trent and Monczka (2003a); Trent and Monczka (2003b); Trent and Monczka (2005).

The critical success factors were compiled into eight groups. The items under each critical success factor were grouped together according to their logical relationship. Seven factors were taken from the study by Trent and Monczka (2005). An eighth factor was added based on its importance identified in the literature. The critical success factors were then used to develop questions for the survey. To encourage a high response for the survey, the questionnaire was kept as concise as possible. The number of questions under each main critical success factor was limited to five. The factors and items in these past studies were mainly tested using a worldwide sample population, including companies in Europe, which justifies the usage of the factors and items on companies in the UK. Past research that was referred to for each question in the questionnaire is detailed in Table 3.13.

**Table 3.13(a): Past Research That Used the Item Asked In the Questionnaire as a Measure (Factor 1 to Factor 2)**

Factor	Critical success factor	Past research that used each item as a measure
<b>Factor 1: Executive commitment to global sourcing</b>	(i) Top management support and commitment to source worldwide	Birou and Fawcett (1993); Rajagopal and Bernard (1994); Scully and Fawcett (1994); Trent and Monczka (2003a); Trent and Monczka (2003b)
	(ii) An executive steering committee to guide the process	Trent and Monczka (2003b)
	(iii) Cross-functional leaders participate on a global sourcing steering committee or council	Trent and Monczka (2005)
	(iv) A designated executive has the authority to translate a global vision into reality	Trent and Monczka (2005)
	(v) Global sourcing leaders make strategy presentations to the executive committee and to the board of directors	Trent and Monczka (2005)
<b>Factor 2: Rigorous and well-defined processes</b>	(i) Planning for global sourcing	Birou and Fawcett, (1993); Scully and Fawcett (1994)
	(ii) A well-defined process is in place that requires participants to establish goals, meet milestones and report progress to executives	Trent and Monczka (2005)
	(iii) "Lessons learned" sessions are conducted at the conclusion of each project, and findings are distributed to worldwide participants	Trent and Monczka (2005)
	(iv) Global agreements are continuously monitored, reviewed and re-established as required	Trent and Monczka (2005)
	(v) Foreign supplier certification / qualification methods defined	Monczka and Giunipero (1984); Birou and Fawcett (1993); Scully and Fawcett (1994)

**Table 3.13(b): Past Research That Used the Item Asked In the Questionnaire as a Measure (Factor 3 to Factor 6)**

Factor	Critical success factor	Past research that used each factor as a measure
<b>Factor 3: Availability of needed resources</b>	(i) Executives make critical resources, such as budgets and qualified participants, available to support global initiatives	Trent and Monczka (2005)
	(ii) The process involves individuals who have the ability to take a global sourcing perspective rather than a local or regional perspective	Trent and Monczka (2005)
	(iii) Availability of required information and data	Trent and Monczka (2003a); Trent and Monczka (2003b)
	(iv) Availability of suppliers that are interested in global contracts and have global capabilities	Trent and Monczka (2003b)
	(v) Obtaining expert assistance or support	Birou and Fawcett (1993); Scully and Fawcett (1994); Trent and Monczka (2003b)
<b>Factor 4: Integration through information technology</b>	(i) Data warehouses provide access to required data and information on a real-time basis	Trent and Monczka (2005)
	(ii) A companywide intranet provides access to global sourcing support documents, guidelines, templates and progress updates	Trent and Monczka (2005)
	(iii) Ability to identify common requirements across buying units	Trent and Monczka (2003a); Trent and Monczka (2003b)
	(iv) Common part coding system across buying units	Trent and Monczka (2003b)
	(v) Compatible information systems with suppliers	Trent and Monczka (2003b)
<b>Factor 5: Supportive organisational design</b>	(i) Use of cross-functional teams to develop global strategies	Trent and Monczka (2003a)
	(ii) A formal executive steering committee oversees the global sourcing process	Trent and Monczka (2005)
	(iii) Organisational design includes the separation of strategic activities (such as global sourcing) and operational activities (such as the routine reordering of material)	Trent and Monczka (2005)
	(iv) Establishing foreign buying offices	Birou and Fawcett (1993); Scully and Fawcett (1994)
	(v) Foreign buying offices support global sourcing requirements	Trent and Monczka (2003b); Trent and Monczka (2005)
<b>Factor 6: Structured approaches to communication and relationship building with suppliers</b>	(i) Advanced communication and coordination tools are available (videoconferencing and Web-based collaboration tools)	Trent and Monczka (2005)
	(ii) Project teams meet regularly to coordinate efforts (either face-to-face or electronically)	Trent and Monczka (2005)
	(iii) Project teams regularly report progress to executive leaders	Trent and Monczka (2005)
	(iv) Establishing long-term relationships with suppliers	Birou and Fawcett (1993); Rajagopal and Bernard (1994); Scully and Fawcett (1994)
	(v) Direct site visits to suppliers	Trent and Monczka (2003b)

**Table 3.13(c): Past research that used the item asked in the questionnaire as a measure (Factor 7 and Factor 8)**

Factor	Critical success factor	Past research that used each factor as a measure
<b>Factor 7: Methodologies for measuring savings or performance</b>	(i) Ability to measure and evaluate performance improvements or benefits from global sourcing	Rajagopal and Bernard (1994); Trent and Monczka (2003a)
	(ii) Global sourcing participants meet regularly with executive leaders to review savings	Trent and Monczka (2005)
	(iii) Measurement systems support the calculation of companywide savings	Trent and Monczka (2005)
	(iv) Measurement systems support the calculation of the impact that sourcing initiatives have on corporate financial measures (e.g. return on assets)	Trent and Monczka (2005)
	(v) Measurement systems support the calculation of the return on investment for individual projects	Trent and Monczka (2005)
<b>Factor 8: Qualified personnel</b>	(i) Developing the skills unique to international purchasing and global sourcing	Monczka and Giunipero (1984); Birou and Fawcett (1993); Scully and Fawcett (1994)
	(ii) Developing communication skills	Monczka and Giunipero (1984); Birou and Fawcett (1993); Scully and Fawcett (1994)
	(iii) Developing knowledge on exchange rates	Monczka and Giunipero (1984); Birou and Fawcett (1993); Scully and Fawcett (1994)
	(iv) Developing knowledge on foreign business practices or customs	Monczka and Giunipero (1984); Birou and Fawcett (1993); Scully and Fawcett (1994)
	(v) Understanding global opportunities	Monczka and Giunipero (1984); Birou and Fawcett (1993); Scully and Fawcett (1994)

### **3.5.2 Questionnaire design**

The questionnaire was divided into four sections. Section A requested information on the organisational profile. These questions were used to classify the respondent's company. These items include how long the company has been operating, total number of full-time employees and what percentage of the organisation's total purchases (in £) represents purchases from outside the UK.

Section B required the respondent to describe the company's current sourcing level. The five sourcing levels are taken from the study by Trent and Monczka (2003b). The first level is for firms that engage in domestic purchasing only. If the respondent categorised the company at this level, the respondent then proceeded to Section D as the questions in Section C were related to international purchasing and global sourcing.

Section C focused on the eight critical success factors of implementing international purchasing and global sourcing strategy. This section was divided into eight categories of critical success factors:

- (1) Executive commitment to global sourcing
- (2) Rigorous and well-defined processes
- (3) Availability of needed resources
- (4) Integration through information technology
- (5) Supportive organisational design
- (6) Structured approaches to communication and relationship building with suppliers
- (7) Methodologies for measuring savings and performance
- (8) Qualified personnel

There are five questions under each category and were presented in a centre column. Five questions that best explain each category were chosen to be included in the questionnaire. The rationale for selecting factors to be included in the questionnaire is:

- 1) Factors that have the most references in each category.
- 2) Factors from the study by Trent and Monczka (2005) were included since the study had a comprehensive view, where the data collected were based on site visits and quantitative data (survey).

These items are measured using a five-point Likert Scale. One section requested respondents to rate how critical each of the items is to the effectiveness of the firm's sourcing strategy. The rating scale used were 1=Not Critical to 5=Very Critical. The other section requested respondents to rate the degree to which the respondents perceive the items have been implemented in their company. The rating scale used were 1=Not Implemented to 5=Broadly Implemented.

Section D focused on future sourcing efforts of firms that engage in domestic purchasing only. This section required respondents to predict the company's sourcing efforts in three to five years time. The perception of future sourcing efforts was on the eight critical success factors. Refer to Appendix 6 for the questionnaire.

Several rigorous discussions with other academics and researchers were undertaken to develop the questionnaire. Before the questionnaire was finalised, it was piloted by five peers in order to check if:

- the questions were easily understood
- the instructions were clear
- the estimated time of 15 minutes was sufficient to answer the questionnaire

### **3.5.3 *The sampling method***

Non-probability sampling through convenience sampling was chosen as the sampling method for this study. According to Rodeghier (1996), convenience sampling relies upon contacting population members who are easily located and willing to participate. This method was chosen because it was not possible to estimate the probability of distribution of each sourcing level of companies in the UK in order to pursue a probability sampling method. This research was exploratory because it addressed the gaps in worldwide sourcing practices of companies in the UK. Due to the exploratory nature of this research, convenience sampling was found to be an ideal method to collect the data.

The survey was collected over a ten month period, between September 2007 to June 2008.

### 3.6 Data analysis technique: Case studies

This section will explain the case studies analysis process. There are five main stages of data analysis as suggested by Creswell and Clark (2007):

Stages of data analysis	The detailed process
i. Data preparation	<ul style="list-style-type: none"> <li>• Transcribing the interviews</li> <li>• Preparation of the data by tidying the transcribed interviews, transferring the data in case summaries</li> </ul>
ii. Initial exploration of the data	<ul style="list-style-type: none"> <li>• Look for obvious recurrent themes or issues in case summaries by conducting a cross case analysis</li> </ul>
iii. Analysis of the data	<ul style="list-style-type: none"> <li>• Comparison of practices under each factor and the top three rated factors considered important.</li> <li>• The identification of other factors that were considered important.</li> </ul>
iv. Representation and display of the data	<ul style="list-style-type: none"> <li>• Written interpretation of the findings</li> <li>• Use of figures and tables</li> </ul>
v. Validation of the data	<ul style="list-style-type: none"> <li>• Triangulation of findings from case studies, survey and literature review.</li> </ul>

#### 3.6.1 Case studies analysis process

Figure 3.3 summarises the analysis process from the case studies.

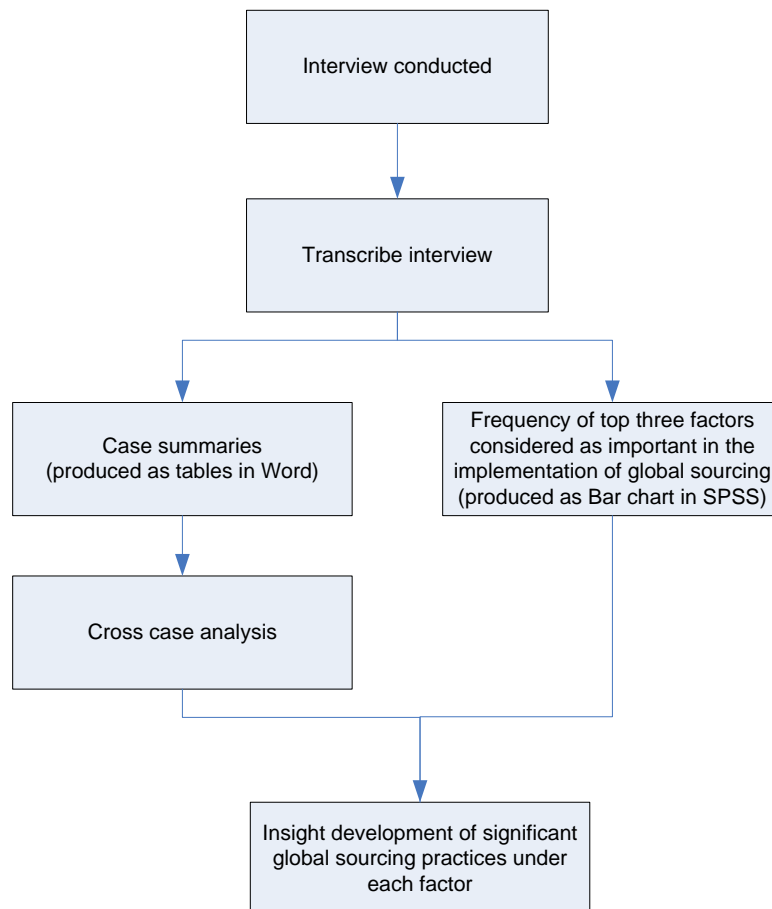


Figure 3.3: The Analysis Process of Case studies

After the interviews were conducted, the interviews were transcribed. From the transcribed script, each interview was summarised in a case summary format. The summary of the data collected from the all the interviews were presented in a cross case analysis summary. The findings from the case studies were then derived from the cross case analysis summary. The findings also included the frequency of top three factors that were considered important in the implementation of the global sourcing strategy and other factors that were put forward by the respondents. The findings of case studies are detailed in Chapter 4.

### 3.7 Data analysis technique: Survey

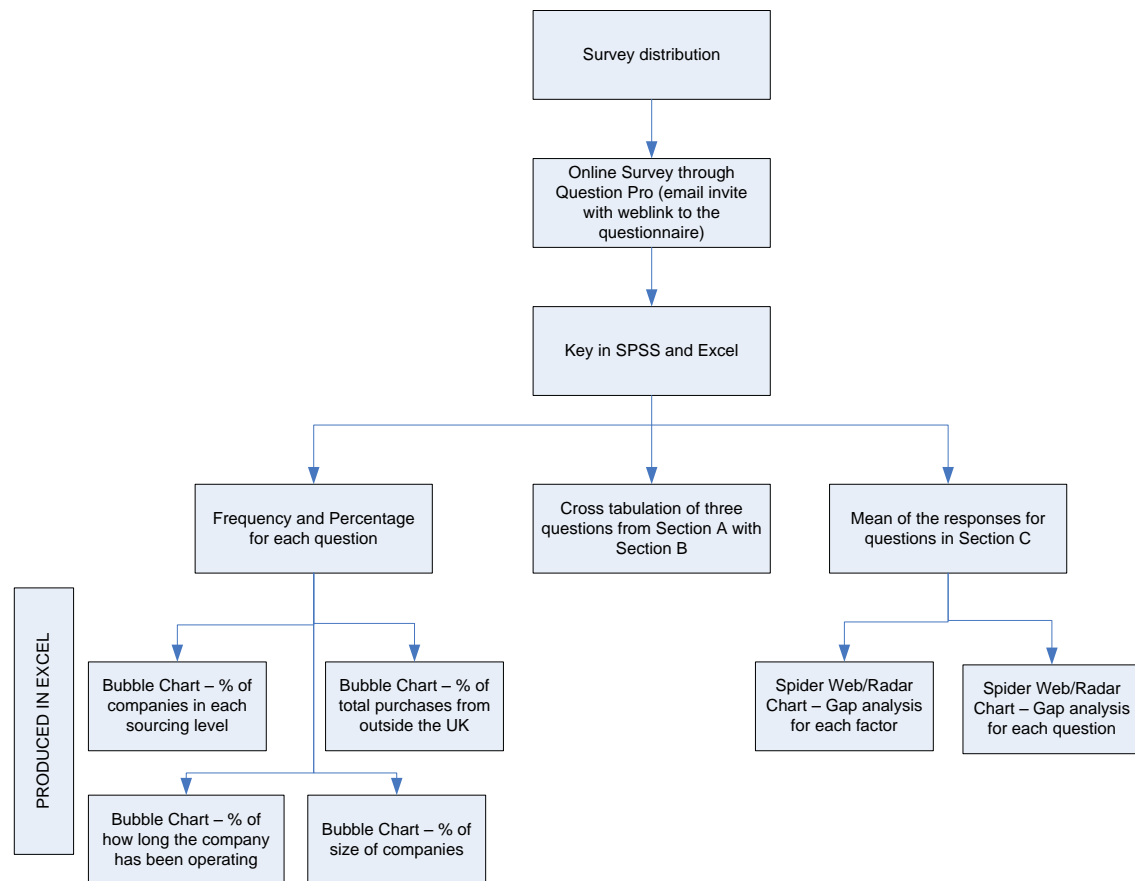
This section will explain the survey analysis process. There are five main stages of data analysis as suggested by Creswell and Clark (2007):

Stages of data analysis	The detailed process
i. Data preparation	<ul style="list-style-type: none"> <li>• Converting and transferring the raw data from QuestionPro to SPSS and Excel</li> <li>• Coding the variables in the questionnaire so that the data can be analysed in SPSS and Excel</li> <li>• Checking the data to identify if there were any missing values</li> <li>• Finalise the data so that it is suitable for statistical analysis</li> </ul>
ii. Initial exploration of the data	<ul style="list-style-type: none"> <li>• Separate the responses according to the different sourcing levels to look for obvious trends</li> <li>• Separate the responses to differentiate international purchasing (Level II and III only) and global sourcing (Level IV and V) companies</li> </ul>
iii. Analysis of the data	<ul style="list-style-type: none"> <li>• Reliability analysis to identify the reliability of the measures in the questionnaire.</li> <li>• The use of descriptive statistics to identify the distribution of the sample according the company's current sourcing level</li> <li>• The use of descriptive statistics to identify distribution of how long the company has been operating, size of companies and percentage of total purchases from outside the UK according to the sourcing levels.</li> <li>• Cross tabulation of the current sourcing levels and the organisational profile of the respondents</li> <li>• The use of the mean of the responses to derive the spider web/radar charts for the gap analysis</li> </ul>
iv. Representation and display of the data	<ul style="list-style-type: none"> <li>• Use of tables, figures and written interpretation of the statistical finding</li> </ul>
v. Validation of the data	<ul style="list-style-type: none"> <li>• Triangulation of findings from case studies, survey and literature review.</li> </ul>



### 3.7.1 Survey analysis process

Figure 3.4 describes the analysis process from the survey. The survey was distributed through QuestionPro. Invitations for participation in the survey were sent through email with a web link direct to the online-based survey in QuestionPro. The completed surveys were then keyed into SPSS (Statistical Package for the Social Sciences) and Microsoft Excel.



**Figure 3.4: The Analysis Process of Survey**

The frequency and percentages of the organisational profile and sourcing levels were derived from the data and the bubble charts were then produced. A cross tabulation of the current sourcing levels and the organisational profile of the respondents were also derived. The mean from the responses was used to derive the spider web/radar charts for the gap analysis. The findings of the survey are detailed in Chapter 5.

### **3.8 Chapter summary**

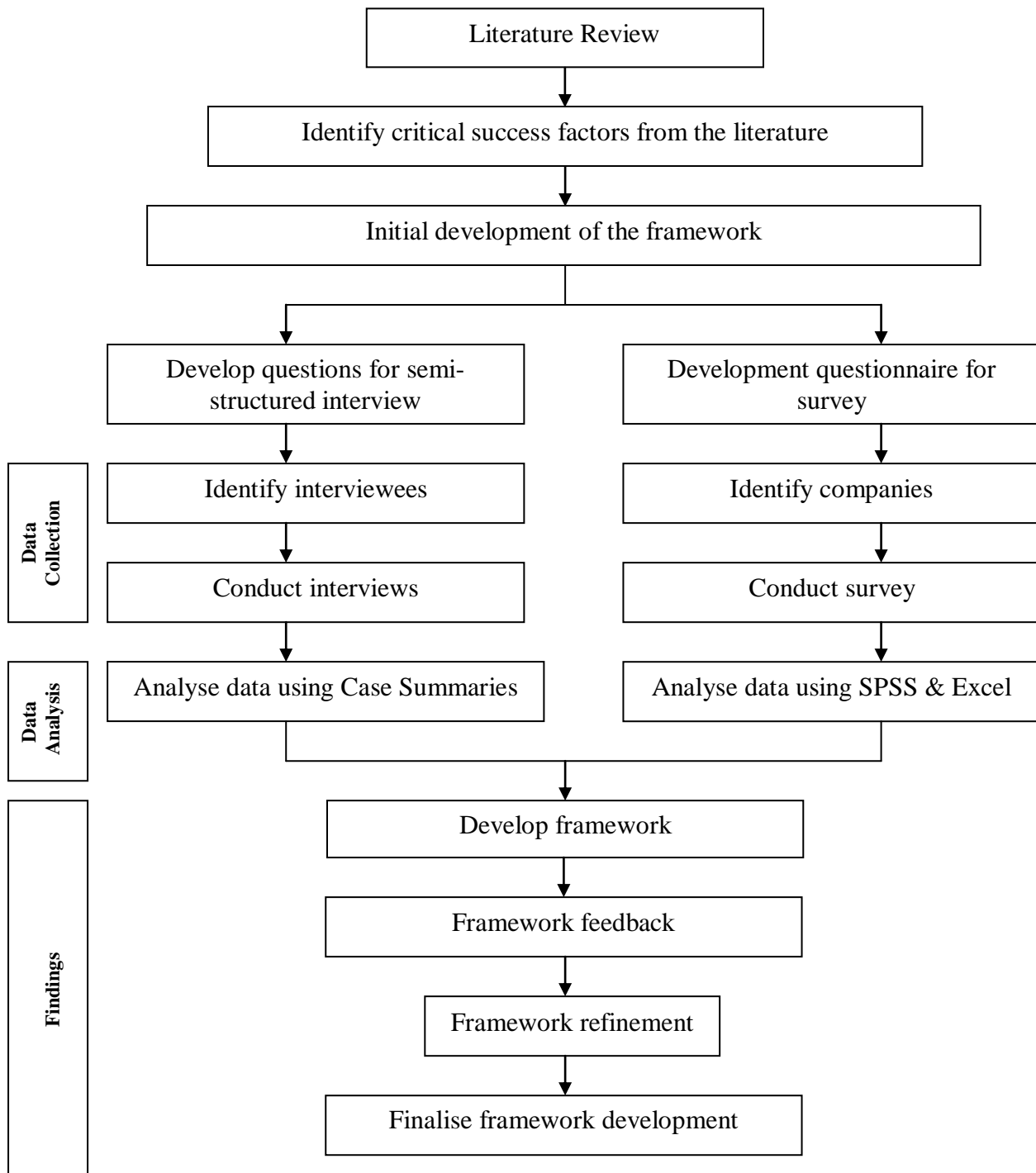
This chapter described the research methodology used in this research. The first process of this research started with conducting a literature review. The literature review was conducted to define the scope of the research and identify gaps in the current body of knowledge. The researcher gave emphasis to searching throughout the literature for the definition of global sourcing, the critical success factors of global sourcing, existing frameworks on global sourcing excellence, UK global sourcing practices and the importance of qualified personnel as a critical factor.

The literature provided the scope in order to decide the research method to be used. Due to the exploratory nature of this research, the data collection methods that were used were case study and survey. The literature provided the input for the development of questions for the data collection process. The case studies data were collected through semi-structured interviews, whereas the survey was conducted through an online-based survey. Both data collection methods were conducted in parallel.

The data analysis process for the case studies was summarised using a cross case analysis, whereas the survey was analysed using SPSS and Excel. The analysis of data from both the case studies and survey, with references from the literature, provided the input to develop the global sourcing practices framework. After the framework was developed, feedback was acquired from participants from industry and academia by conducting semi-structured interviews. The feedback acquired was taken into consideration and the framework was then refined.

This chapter focuses on the data collection methods and data analysis techniques employed through the case studies and survey that was used in this research. The methodology behind the development of the framework is detailed in Chapter 6, whereas the methodology behind the feedback process and refinement of the framework are detailed in Chapter 7.

Figure 3.5 summarises the methodology of this research.



**Figure 3.5: Outline of the Research Methodology**

In the following chapters, the findings from the research are analysed, starting with the case studies findings in the next chapter.

## **4 Research findings – case studies**

### **4.1 Introduction**

This chapter describes the analysis of the findings from twenty case studies. The aim of conducting the case studies was to get an in-depth understanding regarding the global sourcing practices of companies in the UK. The global sourcing practices were analysed in detail according to each factor. In addition, the top three factors that were considered most important in the implementation of the sourcing strategy and any additional issues that were considered as important are also presented here.

### **4.2 Company description**

An overview of the twenty case studies is explained here. The scope of this research is looking into the global sourcing strategy implementation of companies in the UK. Hence, the twenty case studies are based on companies that are located in the UK and have experience in worldwide sourcing activities. These companies are at different sourcing levels which would reveal similarities and differences in sourcing practices. The list of companies and some background of each case study can be found in Table 4.1.

Out of the twenty case studies, seventeen case studies are manufacturing companies and three case studies are consulting companies. Manufacturing companies are described with a number that represents their sourcing level followed by a letter (i.e. Company 2A). Consulting companies are described with double letters (i.e. Company AA).

As illustrated in Table 4.1, out of the seventeen manufacturing companies, three companies are at Level 2, five companies are at Level 3, two companies are at Level 4 and seven companies are at Level 5. The three consulting companies consulted their clients regarding specific issues around global sourcing strategy development and implementation. Therefore, they are not categorised in any of the sourcing levels. The main purpose of including consulting companies was to acquire insights from experts that specialised in dealing with global sourcing activities.

**Table 4.1: Company Description**

	Company	Profile
Manufacturing companies	Company 2A	Focused consumer products company
	Company 2B	Distillery of single malt whisky
	Company 2C	Advanced technology company
	Company 3A	A global defence company delivering a full range of products and services for air, land and naval forces, as well as advanced electronics, security, information technology solutions and customer support services.
	Company 3B	Global Semiconductor and Nano Technology Company
	Company 3C	Design and manufacture of gas control, measurement and analysing equipment company
	Company 3D	Technology enterprise that serves civilian and military organisations, specialising in: aerospace, air systems, land and joint systems, naval, and security solutions and services
	Company 3E	Specialises in the design, testing, manufacture and assembly of a diverse range of high-performance composite and metallic structures and components for range of civil and military aerospace and space programmes
	Company 4A	A global power systems company providing power civil aerospace, defence, marine and energy markets
	Company 4B	World leader in the design and production of centrifugal pumps and fluid handling systems company
	Company 5A	A global company engaged in the development, delivery and support of advanced defence and aerospace systems
	Company 5B	A global business providing integrated power systems for use on land, at sea and in the air
	Company 5C	Large and small jet engines for commercial and military aircraft producer and aviation services provider
	Company 5D	Home appliances and appliances for professional use company
	Company 5E	Global provider of engineering, design, and manufacture for seat comfort, driver and motion control systems, fluid assemblies, and industrial driver interface products
	Company 5F	A diversified global company, distinguished by a significant presence in healthcare, with niche businesses that also serve the aerospace and commercial markets
Company 5G	Motorcycles Manufacturing Company	
Consulting companies	Company AA	International Information Technology Services Company
	Company BB	Business Support Services Company
	Company CC	Supply Chain and Operational Solutions Company

### 4.3 Case studies findings

Each case study was initially compiled in a case summary format after each interview was transcribed. Refer to Appendix 7 for the case summary template and Appendix 8 for the case summaries. The case studies were then analysed through a cross case analysis. Refer Appendix 9 for the cross case analysis summary. The global sourcing practices that were found in the case studies are elaborated on in the following sections.

#### 4.3.1 Factor 1: Executive commitment to global sourcing

The issues that were covered under this factor include the role of the executive leadership and the process owner of the global sourcing strategy.

##### **Role of the executive leadership**

The executive leadership played an **active role** in all the cases except in Case 2A. Case 2A had limited executive leadership involvement in their virtual procurement network. The virtual procurement network is not a formal centralised function and comprises representatives from different categories of products. The executive leadership is not directly involved in the sourcing process because the company is organised in a matrix system. Their personnel work in category teams and also support the virtual procurement network as part of their responsibilities. Case 2A would use this virtual procurement network to coordinate the efforts to source from abroad.

According to Case 3B, executive leadership is an important part of the sourcing strategy. In terms of the extent of involvement, for Case 5F, the executive leadership was very much involved through giving **top level direction** to the implementation of the global sourcing strategy. Case 5C considered that the **extent of involvement depended on the particular product line**. For indirect goods, the President would have very little input. The majority of indirect goods are part of a broader corporate strategy. For direct goods, the President, executive team and executive leaders within each of the business units have input into creating and developing a strategy such as a low cost strategy.

Analysis of the case studies revealed that executive commitment and support to mandate sourcing from worldwide sources is important when **setting the vision and direction** for the company. The vision from the executive leadership is then turned into specific objectives and cascades down to the appropriate level that will roll out the strategy that has been developed. Case 3C has a top down initiative to reduce costs as much as possible.

The role of executive leadership that was most quoted was on **developing strategies** other than providing the leadership and direction. In addition, they also play the role of **ensuring the delivery of the strategy**.

### **Process owner of the global sourcing strategy**

The process owner of the global sourcing strategy is usually the person at the **executive level**. The designation of the process owners in the case studies ranges from department heads, directors, managers, vice presidents, presidents and chairman of the company. Throughout the case studies there are **process owners that head a purchasing or procurement group**. From the case studies, the companies at Level 5 have a purchasing or procurement group which is led by an executive leader and is active in making sourcing decisions. The purchasing or procurement group are formally called Group Purchasing/Procurement Council. Cases 5A, 5D and 5E have a purchasing panel called Group Purchasing/Procurement Council in their company. The council in Case 5A sets sourcing strategies and policies. Case 5D utilises the council for evaluating purchasing decisions.

In Case 3B, the Operations Manager is the named process owner that is responsible for manufacturing, logistics, purchasing in the UK. In terms of the company as a whole group, the Central Purchasing Group looks at the different divisions in the company. The Central Purchasing Group sets strategies and guidelines for the UK division to follow. This is the same practice for Case 5E where the Purchasing Council is in a position to influence decisions made across all their four divisions in the company.

In Case 3D, it is a different situation compared to Case 3B and 5E. The global sourcing strategy is led by each of the individual divisional groups in the company. As the company is divided into divisions, each division has the responsibility of providing services and goods to the customer. Each division has their own Board of Directors and the divisional purchasing groups have to report to the Vice President of Purchasing, who is the process owner of global sourcing in the company. In Case 5F, the process owner of the global sourcing strategy is the Sourcing Director of each division and they are responsible for purchasing and act as the global sourcing specialists in the company.

Case 5A is the only case where the process owner was not quoted as any individual in the company but is the Global Purchasing Council. There are two big operating units in the company, one is North America, and the other is the UK and the rest of the world. Each of those operating units has a Procurement Council, which comprises all the Senior Procurement Directors in each of those businesses. The two procurement councils set the specific policies, strategies, and operational agendas unique to those operating units. Then there is a Global Procurement Council which has the top five Procurement Directors from each side of the operating unit to form an overall Procurement Council. The Global Procurement Council set strategies, sourcing policies, optimising procedures on the global scale and also on an operating unit scale.

❖ Key Finding 1: Executive leadership plays an active role in developing global sourcing strategies.



### **4.3.2 Factor 2: Rigorous and well-defined processes**

The issues that were covered under this factor include the global sourcing process and how global agreements are monitored and reviewed.

#### **The global sourcing process**

The case studies revealed that **companies at Level 2 do not have a well defined global sourcing process**. Case 2C does not have a global sourcing process, whereas Case 2B has a fairly ad-hoc and informal process. The process starts off with identifying the local requirements and identifying what the factory needs. Then the company decides whether the products can be sourced locally or sourced cheaper outside the UK.

Case 4A defines the global sourcing process through the development of the company's strategy. The process starts with creating the vision and defining what the requirements are at the corporate level. Once the company has pulled together the customer requirements, general business requirements and technical requirements, the company can predict the needs in the supply chain. Then the company looks at the current status and sees if there is a gap between what the company needs in the future and what they have got now. All of the information is pulled together and a commodity strategy is then developed and renewed every year. From the commodity strategy, specific supplier strategies are then developed.

Regarding the **process of qualifying suppliers**, most cases have a formal process and guideline for qualifying their suppliers. Cases 2A and 3B have a formal process and guideline for qualifying and validating new suppliers. Case 2A validates new suppliers that have been identified using a supplier questionnaire. Upon the completion of the questionnaire the information that the supplier has given will be reviewed. If the supplier is acceptable, then the next stage is to send a company representative to perform a quality audit of the facility. Assuming that is successful the company will review the criticality of the supplier and then accepts them as a validated supplier.

In Case 3B, if a supplier is a strategic supplier which makes a very important part for the company, the company will look into the potential of forming partnerships with the supplier. There are a number of factors that effect the decision of selecting suppliers. The company would look for companies that are financially robust, suppliers that have an excellent quality and control system in place.

Case BB explained that potential suppliers need to demonstrate that they comply with various standards like ISO and have signed up to some ethical standards (for example, they are not using child labour). Suggested activities that companies should perform before the supplier is approved include auditing the factory, checking their paperwork and their ability to manufacture the products.

In Case 3C, the first step to qualifying suppliers is to send the company's engineers out to look at the suppliers, establish suppliers abroad and make sure that the procedures are up to standard, and if not, the company would help the supplier bring the procedures up to standard. When the supplier has been chosen then the company's buyers will work with the suppliers to look at pricing, processing quotations, sending drawings out to the supplier, and waiting for the quotes to come back. From there the company will collect all the information about the process, look at the prices the company is paying at the moment, and the freight on board (FOB) price. This process is basically to make sure the supplier can supply to the quality and cost that the company requires.

Case 5G also send their engineers to assess the potential supplier. Once the company has decided on an appropriate source, the first thing is always to get approval by the quality engineers and quality department. The first stage in any process would be to establish a potential supply source and then the first direct action would be to have a quality audit done of that potential supply source. A report would be made by the quality engineers as to the suitability of their processes, equipment and business structure to support the demands of supply to the company.

There were **two main drivers** that were the focal point of several companies from the case studies **when sourcing products; cost and technology**. For Case 3B, in the first instance, the company tries to buy products as locally as possible with the lowest price. Since the company buys very specialist items, there are a limited number of suppliers in the world that they can buy them from. The company would have to purchase items from abroad for technical reasons. The company looks for suppliers that have big enough capital equipment to machine the items cost effectively and is very much driven by cost and technology when sourcing for products. For Case 3E, the sourcing process is highly influenced by the nature of the product being sourced and the global sourcing strategy (either focused on low cost or high end). Firstly the company looks at technology, for a high end sourcing. The company mainly sources from the US where high technology equipment is available. The company is not looking particularly at the cheapest option, but looking more for the best high technology solution because the company is in a technology driven industry. Secondly, the company considers value for money and low cost sources for more common parts. Case 3E has developed a low cost strategy of being part of the commodity strategy in each of the major commodities, which are metals, composites and machining. Case 4B pursues a similar strategy where their global sourcing process was driven by the low cost products that can be purchased from India.

### **How global agreements are monitored and reviewed**

Monitoring processes differ across all the cases. Case 2B have **quarterly meetings with their procurement managers** who share information at meetings and progress against their targets. Cases 3A and 5A have an agreed framework set up in the global agreement and the compliance of their suppliers are monitored through **the integrated supplier information system**. In Case 5A their integrated supplier information system pulls together information such as which supplier they are working with, what they are purchasing and the performance matrix against the key performance indicators.

In Case 3D, the global agreements are monitored at a corporate level, through regular **Quarterly Business Reviews with their suppliers**. This is similar to Cases 5B and 5C where there are Quarterly Business Reviews with their core suppliers to review contract performance of both parties. The Quarterly Business Review process looks into two things, (1) to build the business relationship with the supplier and (2) to review the performance of the suppliers against the contract in terms of quality, delivery and cost. Case 5C also implements **Bi-Monthly Site Reviews** to confirm the agreement implementation in terms of delivering profit growth committed. The Bi-Monthly Site Reviews are more financial and management driven in terms of making sure the contracts are implemented on schedule.

In Case 3E, there is a senior commodity department head that is involved in the regular review meetings with the suppliers. In Case 4A, the global agreements are reviewed on an annual basis, looking at the commodity and supplier strategy. In Case 5F, the process of monitoring global agreements is done at their head office and reviewed at least annually. In each of the low cost regions there are local specialists who deal with people locally. There is a Supplier Quality Assurance manager who would go out independently from Europe, to India and China and make sure that the processes were being followed.

When reviewing the global agreements, the **suppliers are measured against some designated measures that were detailed in the agreement**. Case 3D monitors suppliers on quality, delivery and relationship. Case 4A checks the performance of the supplier based on quality, delivery and technical capability. In addition, the company reviews their future capacity and looks into whether the supplier is still relevant to be used for the next year. Case 4B monitors global agreements with regard to quality and on time delivery. Case 5G has three key measures that they focus on, quality of supply, quality of product and cost. Once a supply agreement has been established, if the supplier is meeting the expectations in terms of supply quality, product quality and price then generally the company will look to develop the supply relationship with them. The company does not actively look to change the supply agreement unless the supplier gives the company a good reason to change, by causing supply difficulties, quality difficulties or giving the company a reason to believe that the cost of supply were an issue.

There are **different entities that deal with different aspects of the global agreement**. The legal team oversees global agreements in Cases 3B and 5D. In Case 3B, the Central Purchasing Group is the entity that negotiates the legal agreements with suppliers and the legal department specifically manages the contracts and reviews them. In Case 5D, the agreements are reviewed by the Department Heads in each of the business units. In Case 5B, the Global Commodity Purchase Executive approves the Long Term Agreements. In Case 5C, the commodity team puts in place the global agreements. In Case 5E, global agreements are negotiated and overseen by the Vice President of Global Purchasing.

- ❖ Key Finding 1: Level 2 companies do not have a well defined global sourcing process.
- ❖ Key Finding 2: The global sourcing process is highly influenced by the nature of the product being sourced and the focus of the global sourcing strategy (low cost or high technology)
- ❖ Key Finding 3: Global agreements are monitored differently in different companies.

#### **4.3.3 Factor 3: Availability of needed resources**

The issues that were covered under this factor include how critical resources are made available and how relevant information is made accessible and shared.

##### **How critical resources are made available**

Case 2A highlighted that the right buying resource needs to be in place to support any global sourcing process. Analysis across the cases revealed that **resources are distributed using a budget** (Case 3C, 4B, 5E, 5G). In Case 5B, as with all other functions within the business, Commodity Purchasing is required to submit an annual budget for corporate approval.

Even though the method of distribution of resources across the cases through a budget is common, the **organisation structure of the departments which distribute resources in the company varies**. In Cases 3A and 3D, all the specialists from all the functions; finance, human resources, engineering, purchasing and supply chain play their part in an integrated project team. The functions in Case 3A are very small and the project teams have got the right staff with the range of skills to execute the project. In Cases 3A, 3D and 5G, all the resources are provided through the projects, whereas Case 2C pulls in human and financial resources on a program by program basis. In Case 4A, within the purchasing division the company has a full finance and human resource team. The company has a dedicated resource allocated to purchasing permanently and those resources are built in the purchasing division.

### **How relevant information is made accessible and shared**

There were various **methods** companies used to make the relevant information accessible and shared across the company. The examples are listed in Table 4.2.

**Table 4.2: Methods Used To Make Information Accessible and Shared Across the Company**

<b>Methods</b>	<b>Case</b>
• Intranet or internal web portal	3C, 3D, 3E, 4A, 5C, 5D, 5E, 5F
• face to face meetings	2A, 2B, 3B, 4A, 5C, 5G
• email	2A, 2B, 3B, 3E, 4B, 5G
• an Enterprise Resource Planning (ERP) system	2A, 2B, 3B, 5F
• spreadsheet	2A, 2B, 5G
• shared database or shared drives	3C, 3E, 5G
• video conference	4A, 5C, 5G
• integrated supplier information system	3A, 5A
• Local Area Network	5B

In Case 2A, relevant information is not readily available because of the disparate systems available in the company. Case 2B highlighted that the sharing of information is poorly done because there is no formal structure on how relevant information is made accessible and shared.

Case 3A uses a database to make sourcing decisions. This system allows procurement and supply chain people to look into information that is important when making sourcing decisions. Some examples of the information that they use, include who places the purchase orders, when it was ordered, what is the outstanding debt, which suppliers the company is using today, the company's spend and the supplier's performance. In Case 3C, information is starting to be shared among the groups in the company. The company is looking at a better system at the moment and will eventually move to one complete system.

In terms of having **face to face communications internally**, there were various methods used. Case 3D has a top level **Group Purchasing Committee (GPC)** that meets once a month and all the information is shared through this medium. The GPC comprises all those involved in purchasing, from the divisions and the Vice President of Purchasing for the entire company. The GPC handles all purchasing issues such as making strategy and policy. In Case 3E, information is shared through a **monthly global supply chain review meeting**, where each of the commodity and site leaders updates on the various initiatives. In Case 5B, there are **Global Sourcing Forums** held half yearly where commodity teams are briefed on current status of strategies around the business. In Case 5G, the **senior management** sits down once a week and shares information about projected growth, new products coming in, new processes that may affect the demand and supply base, any significant increases in volume and long term plans. Through the **meeting**, the senior management can then see where there is a potential shortfall in resource or a skill set in terms of a new process that they need to identify and deal with.

In terms of **communication with suppliers**, in Case 5A, there is a strategic partnership and a strategic engagement with the top major suppliers of the company where the top suppliers are involved in their annual board meeting.

Case 4B shared the information **with the board and production function** using a monthly reporting method. The supply chain manager produces a report based on spend, delivery performance and quality performance.

- ❖ Key Finding 1: Even though the method of distribution of resources through a budget is common, the allocation of resources varied according to the organisation structure.
- ❖ Key Finding 2: Although most information can be shared through the Internet, face to face interactions and personal contact were still extensively used.

#### **4.3.4 Factor 4: Integration through information technology**

The issues that were covered under this factor include how global agreements are managed and the importance of a compatible information system with suppliers.

##### **How global agreements are managed**

There are cases that use a **contract repository to store global agreements and provide warnings of expiring agreements**. Cases 2C, 3E, 4A, 4B, 5A, 5C, 5D and 5G have a contract repository.

The contract repository is **managed by the purchasing team** (Case 3E, 4A, 5G). In Case 3E, the purchasing team manages the review and renegotiation process. Whereas in Case 4A, an internal commercial service group within purchasing manages the contracts, provide legal guidance and deals with expiry dates. In Case 5D, the contract repository is handled by the Legal and Global Purchasing team.

In Case 2C and 5A, the **contract repository stores agreements electronically**. The system is accessible through appropriate security levels, the right people can access and look at the global deals.

Cases 2B and 5B do not have a contract repository. In Case 2B, there are designated purchasing personnel for each supplier and they are responsible for maintaining that contract. In Case 5B, the Commodity group is responsible for approving, holding and maintaining the agreements.



The **time frame of the agreements and how the agreement expiry dates are identified varies across the cases**. In Case 3B, not all contracts necessarily have an expiry date. All contracts in Case 3B are copied to the financial department locally and major contracts shared with the Central Purchasing Group. The contracts will then be sent to the Central Purchasing Group for approval. Normally the contracts are valid until they are terminated by either party. In Case 3C, agreements are managed by a senior buyer and there is a spreadsheet available to the senior buyer which informs the dates of when contract reviews are coming up. In Case 3D, there is a depository of global agreements in one central area and a mechanism to alert the purchasing team when agreements expire so they can renew them. In Case 4B, the contract repository provides warnings by flashing like an email. In Case 5C, a Program Management Report will identify month by month when each of the long term agreements expire.

#### **Importance of having a compatible information system with suppliers**

Cases 2A, 3C and 4A considered having a compatible information system with suppliers as **not critical to a business**. Case 2A found that as long as the company is able to exchange data through SAP, word, excel and email, it was considered sufficient for the company. Case 3C acknowledges that having compatible systems would be an advantage but is not critical to the business. Case 3C experienced no problem of sharing information because most of the information needed is sent through email. Case 4A just uses a simple web based system that is accessible to anyone involved with the company.

Cases 4B and 5C **do not have compatible information system or access to the supplier's system**. Everything needs to be extracted from each others' individual manufacturing system and shared through spreadsheet and email.

**Most cases however, considered having a compatible information system important to the company** (Cases 2B, 2C, 3D, 5A, 5B, 5C, 5D, 5E, 5F, 5G). Case 2B emphasised that it is important that suppliers can readily access information on supply for forecasting. Case 5B communicates with suppliers through a fully integrated SAP system that is supported by an internet portal.

**The extent of how integrated companies are with their suppliers is influenced by how close the relationship** is with their suppliers. For Cases 2B and 5D, these companies are extensively integrated with some of their suppliers. Major suppliers are linked quite closely with the company's system. For the other suppliers, the companies are not integrated at all or not well connected. In Case 5D, with smaller suppliers, communications are through email and verbal discussions.

Across the cases, the **benefits** that have been identified from having compatible information system with suppliers are detailed in Table 4.3.

**Table 4.3: Benefits of Having Compatible Information System with Suppliers**

<b>Benefits</b>	<b>Case</b>
<b>Saves time</b>	
• savings in terms of time as the documents can be accessed and shared anytime	2C, 3C, 3D, 4B, 5D
• reduce the time it takes to process orders and invoices	3D
• reduce the time to compile information	3D
<b>Reduce use of paper</b>	
• reduction of paper transactions and paperwork by getting rid of paper-based invoices and billing system	2C, 3D
<b>Saves cost</b>	
• savings in terms of hard copy printing and cost of postage	2C, 4B
<b>Improve management of information</b>	
• configuration management and control	2C, 3E
• pushes away the responsibility to the suppliers and makes the supplier more accountable	2B
• make things easier	3C
• facilitate the production planning	4B
• having a common process of presenting information to the supplier	5C
<b>Increase accuracy</b>	
• facilitate the ability of sharing of accurate information and technical specifications	3E, 5D, 5G
• reduce human error because there is no need to translate information from one system to the other	3D
• large amount of data can be transferred quickly	3E
<b>Reaction to changes</b>	
• changes are noticed quicker	2B
• faster reaction to change	5D

To ensure that the information that is shared is **secure**, Case 5E provides every supplier with a username and password. This allows information such as a request for quotation (RFQ) and quote information be exchanged online in a secure way.

- ❖ Key Finding 1: Contract repositories were used to store global agreements and provide warnings of expiring agreements.
- ❖ Key Finding 2: The key benefits from having a compatible information system with suppliers are saving time and having accurate and up-to-date information.

#### **4.3.5 Factor 5: Supportive organisational design**

The issues that were covered under this factor include the internal group responsible for overseeing the global sourcing process and purchasing volumes aggregated on a worldwide basis.

##### **Internal group responsible for overseeing the global sourcing process**

The internal group that is responsible for the global sourcing process is the **group that is headed by the global sourcing process owner of the company**. Throughout the cases, the internal groups that were responsible for the global sourcing process varied. Examples of some internal groups that are responsible for the global sourcing process include the Sourcing/Procurement/Purchasing/Global Purchasing Council, Central Purchasing/Commercial Procurement Group, Group Procurement Network, Group Purchasing Committee and the purchasing department.

**Examples of the roles of the internal groups** are explained here in Cases 2A, 3A 3B and 5F. In Case 2A, the Head of the Group Procurement Network is **responsible for the global sourcing process and drafting templates to use in agreements**. The Category team is responsible for **identifying global opportunities, developing the opportunities into sourcing agreements and implementing** the tools and techniques that the Head of the Group Procurement Network had identified.

In Case 3A, the entity that is responsible for the global sourcing process depends on three elements; major equipment, direct commodities and indirect commodities. For major equipment and indirect procurement, it is led by a Procurement Director. For direct commodities, the Sourcing Council will take on the role of advising on purchases.

In Case 3B, part of the Central Purchasing Group's role is to **negotiate with big strategic suppliers** using the total group spend to obtain price leverage. In Case 5F, it is the Centre of Excellence's responsibility to guide the global sourcing strategy and **look at cost reduction opportunities**.

### **Purchasing volumes aggregated on a worldwide basis**

In terms of aggregating purchasing volumes on a worldwide basis, there was only **one case study that did not practice it**, Case 4A. The reason for this was that their different facilities made different products and required completely different size parts.

The **benefits** from aggregating purchasing volumes on a worldwide basis include being in a better position in negotiations, getting a better deal than the market rate, getting a better price, cost reductions and leveraging spend.

The **extent of aggregating purchasing depends on** various factors. Case 3D aggregates the common elements which tend to be the lower **cost items**. Many of the higher cost items cannot be aggregated because they are built to specification, so there is no commonality. Case 3G has highlighted that the decision to aggregate volume depends on the extent the company wants to strategically protect their business from the **risk** of having all their eggs in one basket.

- ❖ Key Finding 1: The internal group that is responsible for overseeing the global sourcing process is headed by the global sourcing process owner.
- ❖ Key Finding 2: Majority of the companies practice purchasing volumes aggregated on a worldwide basis.

#### 4.3.6 Factor 6: Structured approaches to communication and relationship building with suppliers

The issues that were covered under this factor include the communication and coordination tools used, how potential suppliers are identified and relationship management with current suppliers.

##### Communication and coordination tools

Across the cases, the **common communication and coordination tools** that were used extensively are detailed in Table 4.4.

**Table 4.4: Common Communication and Coordination Tools That Were Used Extensively**

<b>Communication and coordination tools</b>	<b>Case</b>
• Email	2A, 2B, 2C, 3A, 3B, 3C, 3E, 4A, 4B, 5C, 5D, 5E
• Tele/video conferencing	3B, 3C, 3E, 4A, 4B, 5C, 5D, 5F, 5G
• Face to face meetings	2A, 2C, 3B, 3C, 3E, 4B, 5C, 5G
• Intranet	2C, 3A, 3D, 4A, 5C
• Internet	4A, 5D, 5F
• Telephone	4B
• Fax	4B
• Instant messenger system	5E

Analysis of the case studies revealed that a **project manager** plays the role of managing the relationship with suppliers. There is a proficient project manager who will coordinate communication through face to face meetings and email with the suppliers (Cases 2A and 5G). In Case 3E, there are senior relationship managers that manage the relationship with the suppliers in respect of business development. In Case 5E, every purchasing person in the organisation has a supplier that they are responsible for.

Across the cases, different **systems** are used for the purpose of communication. Cases 2B, 2C, 3A, 3B and 5F use the SAP application. According to Case 3B, the data that is available on the system includes on time delivery and quality. In Case 2B, the financial systems give an overview of the business.

Cases 2C, 5C and 5E use **supplier portals on the Internet**. The portal system is where suppliers can access information by using certain code words and code numbers (Case 3D). Case 5C has a supply chain web portal available for suppliers to obtain information and communicate with the company. Case 3A and 5A uses an internal integrated supplier information system. Case 3A uses this tool as a supplier relationship management tool and a global data warehouse. Case 3D uses a local purchasing system within the intranet which is used for communicating information.

**Company websites** are also used as a communication tool. In Case 3D, an e-sourcing tool for suppliers exists on the company website. This tool allows the purchasing team to communicate large amounts of data with suppliers without using paper. This tool is developed partly because of the restrictions of security on the business.

#### **How potential suppliers are identified**

The **methods** that were used **to identify potential suppliers vary depending on the nature of the product**. In one of the cases (Case 5C), the company sources specialist products that only two or three suppliers in the world have the technology to manufacture, and the company has no choice but to buy from those suppliers.

The methods that were used to identify potential suppliers also vary depending on the **familiarity of the company in the source market**. In the case where the company were trying to source from China (Case 5C), the company recruited people with specialist country knowledge to find suppliers.

Identifying potential suppliers also depends on **whether the company is sourcing high technology parts or services and low spec items**. In Case 3D, the company will look at the technology that the supplier offers and financial stability when sourcing high technology parts. If they are looking for services and low specification items, the company will look at the supplier's ability to supply on demand, the supply chains, the organisation and the support organisations.

Some **methods** of identifying potential suppliers which were identified from the case studies are detailed in Table 4.5.

**Table 4.5: Methods of Identifying Potential Suppliers**

<b>Methods of identifying potential suppliers</b>	<b>Case</b>
<b>External searches</b>	
• internet/websites	2A, 2C, 3B, 3E, 4A
• trade fairs/trade shows	2C, 4A, 4B, 5G
• digest of approved suppliers/ distributors	3E, 4B, AA
• meet with local trade bodies or local suppliers	4A, CC
• catalogues	2C
• exhibitions	3B
• advertise in an industry bulletin or publication	5A
• internet business information software or database	AA
• trade magazines	AA
• market research	AA
<b>Internal practice of the company</b>	
• a supplier that is already being used by the other divisions in the group	2B, 3B, 3C
• use a third party or a consultant company that has a supply base overseas	2B, 3B
• recruit a designated person in the foreign country to find suppliers, work with the suppliers and develop them	5C, CC
• invite suppliers to regular events around the country	3A
• using a Commodity team, looking at capability, quality, cost and delivery credibility	5B
• work with government agencies to identify suppliers fit	5C
• having a designated purchasing personnel in each geographic area to identify new suppliers	5D
• the tender process	5D
• using the company central supplier listing	5E
<b>Through suppliers</b>	
• some suppliers might just approach the company	2A, 2C, 3C, 5G
• word of mouth/recommendations	2A, 3A, 3B, 4B
• through other suppliers	2A, 2C
• daily mail shots from suppliers	3A
• look at competitor's suppliers	5G
• supplier database	BB

In Case 3A, they are continuously in **search of new products**. The company uses a scientific community to identify innovative and new technologies at certain universities. If the technology identified is sufficiently mature, they would consider adopting the technology in the company.

**Knowledge about suppliers** is easily accessible if the industry is small and there are only a few of them that supply the products that the company requires. Case 2C is in an industry which is relatively small which allows the company to be familiar with most of the suppliers that are available in the industry. The company has databases of the capabilities of those suppliers. Case 3B explained that they already know most suppliers because there are only a certain number in the world.

**Relationship management with current suppliers**

The **methods** that were used across the cases to manage the relationship with current suppliers include Quarterly Business Reviews, face to face meetings, visiting the supplier on site and balance/supplier scorecard.

In terms of visiting suppliers on site, the factors that determine the frequency of visiting suppliers are detailed in Table 4.6.

**Table 4.6: Factors That Determine the Frequency of Visiting Suppliers**

<b>Factors that determine the frequency of visiting suppliers</b>	<b>Case</b>
<b>The characteristics of the company</b>	
• size/volume of the business	5B, 5G
• complexity of the business	5G
<b>The product</b>	
• risk of the product	2A
• whether the product is single sourced or multiple sourced	2A
<b>The extent of relationship with the supplier</b>	
• how the company rates the supplier in terms of importance of the supplier to the company	2A, 5G, BB
• if the supplier is new, they are visited more often	3B
• if it's a long term, partnership type of agreement, the company meets the suppliers very frequently face to face to build relationship	4A
• if the company working on new designs with the supplier	BB
<b>The performance of the supplier</b>	
• depends on what the company has to discuss and if there are problems. The company visits problem suppliers more often than visiting good suppliers	4A, BB
• the supplier's current performance	5B



From the cases there were **common measures** used to evaluate the supplier's performance. These measures include **delivery** (Case 2A, 2C, 4B), **quality** (Case 2A, 2C, 4B), **cost** (Case 2C, 5D) and **lead time** (Case 2A).

Across the cases, the **suppliers are measured in different time frames**. In Case 2A, formal calculations of performance are done on a monthly basis, however if there are any pressing issues or deterioration in the quality of the product, it will be addressed sooner. Case 2B runs a vendor rating system, where the suppliers are rated on quality, delivery and cost. The assessment is done once a year for all the major suppliers. Case 3E uses one performance chart per supplier which has multi-site scope and is then shared with the supplier monthly to review performance.

In Case 3A, senior management in the company would **meet the supplier's senior management to discuss performance**. This is also done by Case 5A where senior coordinators are nominated to manage the top suppliers of the company. The senior coordinator carries out the responsibility for strategy, performance and overall relationship with the suppliers on a global basis.

In Case 3D, there will be **one buyer or purchasing manager assigned to each supplier**. The company manages their suppliers through multifunctional teams. For high technology materials, there is a specific supply chain team for a supplier. The team consists of people from engineering, purchasing, quality control, marketing and sales. The team manages a supplier on a one-to-one basis. For the really high technology suppliers, there are teams embedded in the supplier's facilities. For the lower technology suppliers and some service suppliers, the lead is by the purchasing department.

In order to reduce the risk of running out of stock, Case 3C **builds supplier partnerships through service level agreements**. The company would place bulk orders with the suppliers and the company would agree to take all of the stock that the supplier has produced if something happens. The suppliers basically produce one month's stock for the company, so that way, the company never runs out of stock.

Case 5E has a **symbolic system to identify their suppliers**. Supplier performance is assessed in terms of parts per million, payment days and contractual performance. The company decides whether or not a supplier is in the green list or the red list. Red means the supplier is on the exit plan, and is later removed from the list. Green means that the supplier is in the development plan. Because the company does not have all the resources to cover all the suppliers, the company narrows the supplier development process down to those suppliers that are considered to be worth the investment.

- ❖ Key Finding 1: Common communication and coordination tools that were used extensively include e-mail, tele/video conferencing, face to face meetings, intranet, internet and telephone.
- ❖ Key Finding 2: Methods that were used to identify potential suppliers vary depending on the nature of the product and familiarity of the company in the source market.
- ❖ Key Finding 3: Relationships with current suppliers are managed through Quarterly Business Reviews, face to face meetings, visiting the supplier on site and balance/supplier scorecard.

#### **4.3.7 Factor 7: Methodologies for measuring savings or performance**

The issues that were covered under this factor include linking sourcing goals to company objectives, measuring performance improvement and benefits from global sourcing and performance reports distribution.

##### **Linking sourcing goals to overall company objectives**

**Sourcing goals are linked to the overall company objectives through a budget process** (Case 2A and 5F). In Case 5F, the budget links the sourcing goals with company objectives through the business plan. The company objectives such as material cost reductions and cost of quality are built into the business plan.

In Case 3C, **sourcing goals are established through the value of the product and how much the company is spending**. A certain product is considered very important if it is an expensive part in the manufacturing process. The company will look at strategic dealings with that particular product through cutting down the number of suppliers and moving to overseas suppliers in order to reduce cost and achieve savings.

**Top level management is where the initiative of linking sourcing goals begins.** According to Case 2B, top management decides how much savings need to be made and where they can source from. In Case 3A and 5A, top level vision and objectives are set by the Executive Committee. That then cascades to each appropriate level and then flows down to the employee's personal objectives. In Case 3D and 4B, sourcing goals are established at the board level. In Case 5C, the overall company objective comes from the President. That objective gets flowed down to the commodity director and it's up to the commodity director to work out how to save money. In Case 5E, the Purchasing Council determines the sourcing goals. The sourcing goals are then reviewed by the Executive Committee and the Executive Committee determines whether they want to support the goals or not.

### **Measuring performance improvement and benefits from global sourcing**

The **measures that were used to evaluate key performance improvements or benefits from global sourcing** from the case studies include **cost, quality, delivery and lead time reduction**.

**Financial measures** were used to identify performance improvements. **Cost comparisons or cost savings measures** were used by Cases 2B, 3C and 3D. In Case 3D, each project has an individual financial report and the benefits gained from each project were reported in the financial report. Those financial project reports are then delivered to the divisional boards and later, the divisional board presents it to the main board.

Case 2A uses a **Quarterly Finance Review** process to track how the company is doing against the targets. Case 3B uses a price road map. This price road map details yearly reduction of current cost for their suppliers.

According to Case 4B, the **measurement of the total cost of sourcing globally** needs to consider not only the obvious cost of the product and establishing the infrastructure for the sourcing activity, but also to take into account the research needed on the business environment of a foreign country. This would cover communication costs that needs to be done in the future, time difference, cultural differences, providing insurance and medical coverage for the personnel that visits a supplier that is abroad, high cost of shipping and packaging, lost and damaged products, time to establish relationship with new suppliers and the learning curve on taking a new supplier.

### **Performance reports distribution**

Across the cases, performance reports were found to be distributed across different levels throughout the company.

- ❖ Key Finding 1: Key measures used to evaluate performance improvements or benefits from global sourcing are cost, quality and delivery.
- ❖ Key Finding 2: Measurement of total cost needs to take into account more than just the obvious price of product.

### **4.3.8 Factor 8: Qualified personnel**

The issues that were covered under this factor include knowledge and skills required by personnel and training.

#### **Knowledge and skills required by personnel**

Across the cases, there were **two contradicting views on the importance of purchasing personnel having a formal qualification** such as The Chartered Institute of Purchasing & Supply (CIPS) to perform global sourcing successfully. **On one hand**, there are cases where they place **very strong emphasis on people being CIPS qualified**. In Cases 3A and 5A, if their personnel are not CIPS qualified, the company will put the personnel through the program. Cases 3A and 4B believed that it is ideal to have their personnel CIPS qualified.

**On the other hand, having personnel with a formal qualification such as CIPS was considered not important** in order to perform global sourcing successfully (Cases 2A and 4A). Having personnel with the right attitude and experience (Case 3B) was considered more important. An interviewee in Case 4A said “Knowledge and skills are learnt continuously. Intelligent people can always learn new things. Attitude and application are far more important. I do not get too hung up about skills, knowledge or qualification. You can teach those if somebody brings in the attitude with them”.

In Case 5A, there is a **prescribed profile** that defines the appropriate competences and skills that are necessary to perform a particular role/function/job. The company has categorised competence into three levels, (1) learner, at this level the employee does not fully understand the job, (2) practitioner/experienced, at this level the employee is competent in using those skills but is not able to train others, (3) expert, at this level the employee could train somebody else. This method is used to identify personnel requirements in the development program of the company.

Cases 2C, 3A, 5A and 5B use a **competency matrix** to rate their purchasing personnel’s performance. The matrices are used to record competence or capability and therefore future training needs can then be determined (Case 5B).

The **significant knowledge and skills** that were emphasised across the cases include **negotiation skills, cultural awareness, communication skills and interpersonal skills**.

**Other knowledge and skills** that were considered important are detailed in Table 4.7.

**Table 4.7: Other Knowledge and Skills That Were Considered Important**

Knowledge	Case
• understand product technically	3B, CC
• engineering knowledge	3C, 3E
• have purchasing legal knowledge for contracts	3B
• keep up with fluctuations in price of materials such as metal	3C
• understand supplier's business in terms of the processes and supply chain	3D
• understand tools and processes the company uses to manage, improve and measure suppliers	3D
• industry sector knowledge	5C
• knowledge on strategic sourcing, operations purchasing and dealing in low cost economies	5C
• commodity management	5C
• understand strategic supply management and category management	AA
Skills	
• commercial skills	2B, 5B, 5C, 5E
• competences in relationship management with suppliers	3A
• project management skill	3E
• have the right organisational behaviour and people skill set	5C
Experience	
• engineering experience	3C, 3E
• have experience in wide ranges of suppliers in Europe and UK	3B
Personal characteristics	
• demonstrate high values and high personal standards that are self driven	5E

Here are some **examples of how companies deal with communication challenges with global suppliers**. Case 3B emphasises that their employees need to be able to communicate clearly with non-English suppliers. Case 3C proposed that the local people employed in India and China needs to be able to speak English to make the communication process with the central office smoother. Case 5F uses an interpreter to communicate with the person who runs the operation in a foreign country. Some cases recruit local people to overcome any language or cultural barriers (Case 2A and 5D). Case 2A identified that it is important to have somebody who has an extremely good understanding of the culture in order to do business in countries like China. Case 3E proposed having someone in the offshore market that has had experience in working or living in that region.

## **Training**

The **common training** that was quoted more than once across the cases included **negotiation skills, project management, supply chain management, purchasing/procurement, leadership techniques and development, soft skills and communication skills.**

Cases 3D and 4B proposed that employees need to have good formal training such as CIPS so that the employees fully understand the fundamentals of purchasing and the supply chain. Cases 2A and 5A support their employees in attaining a formal qualification.

Having **experience through on-the-job training** was considered to be an important aspect by Cases 3B and 4A. In Case 4A, an interviewee said “The real training is on the job training. You really need to be able to put in into practice. And to do that properly, you need a mentor, I think. I like to partner up a more experienced person with somebody fairly new and that person acts as a mentor so that they kind of oversee and support and coach. So classroom learning and university is fine but practical experience in the application is much more important”.

A **personal development plan** was found to be conducted in Cases 2C, 3A, 3C, 5A and 5E. This personal development plan was conducted together with a formal measurement of employee performance in Cases 2C, 3A, 5A. This process is done through a discussion between a superior and the employee. The purpose of having the personal development plan is to allow the company to plan for future requirements. The assessment of employee performance was based on objectives that were determined the year before. The future objectives that are then planned for the next year will determine any training and development the employee needs in order to meet the objectives.

In Case 2A, the **structured training and development plan** is used as part of the plan to retain and develop employees. This practice is also done by Case 3A where they make sure that their personnel are qualified and motivated, so they put a lot of effort in personal development of their procurement personnel. They support employees by having personnel development plans so that they have the right skills.

**Other training** that was mentioned throughout the cases is detailed in Table 4.8.

**Table 4.8: Other Training That Was Implemented**

Knowledge	Case
• finance	2A
• general business course	2A
• business awareness	2A
• risk management	3A
• contract knowledge	3B
• purchasing law	3B
• engineering related to products manufactured	3C
• sub contract management	3D
• value analysis and cost modelling	4A
• contract management	4B
• project management	4B
• specifics of the industry	5A
• language	5D
• cultural awareness	5D
• technical knowledge	5G
• category management	AA
Skill	
• interpersonal skills	2B, 5C
• leadership	2B
• personal effectiveness	3A
• practical problem solving	4A
• supplier management	3D
• psychological techniques	5F
• reading body language	5F
• customer-facing skill	AA

- ❖ Key Finding 1: There were contradicting views on the importance of purchasing personnel having a formal qualification versus experience.
- ❖ Key Finding 2: Gaining experience through on-the-job training was implemented in a form of a mentorship scheme.
- ❖ Key Finding 3: A formal measurement of employee performance was found to be conducted with a personal development plan.



#### **4.3.9 Summary of the key insights from the case studies**

##### **Factor 1: Executive commitment to global sourcing**

- Executive leadership play an active role in developing global sourcing strategies.

##### **Factor 2: Rigorous and well-defined processes**

- Level 2 companies do not have a well-defined global sourcing process.
- The global sourcing process is highly influenced by the nature of the product being sourced and the focus of the global sourcing strategy (low cost or high technology).
- Global agreements are monitored differently in different companies.

##### **Factor 3: Availability of needed resources**

- Even though the method of distribution of resources through a budget is common, the allocation of resources varied according to the organisation structure.
- Although most information can be shared through the Internet, face to face interactions and personal contact were still extensively used.

##### **Factor 4: Integration through information technology**

- Contract repositories were used to store global agreements and provide warnings of expiring agreements.
- The key benefits from having compatible information systems with suppliers are saving time and having accurate and up-to-date information.

##### **Factor 5: Supportive organisational design**

- The internal group that is responsible for overseeing the global sourcing process is headed by the global sourcing process owner.
- Majority of the companies practice purchasing volumes aggregated on a worldwide basis.

**Factor 6: Structured approaches to communication and relationship building with suppliers**

- Common communication and coordination tools that were used extensively include e-mail, tele/video conferencing, face to face meetings, intranet, internet and telephone.
- Methods that were used to identify potential suppliers vary depending on the nature of the product and familiarity of the company in the source market.
- Relationships with current suppliers are managed through Quarterly Business Reviews, face to face meetings, visiting the supplier on site and balance/supplier scorecard.

**Factor 7: Methodologies for measuring savings or performance**

- Key measures used to evaluate performance improvements or benefits from global sourcing are cost, quality and delivery.
- Measurement of total cost needs to take into account more than just the obvious price of product.

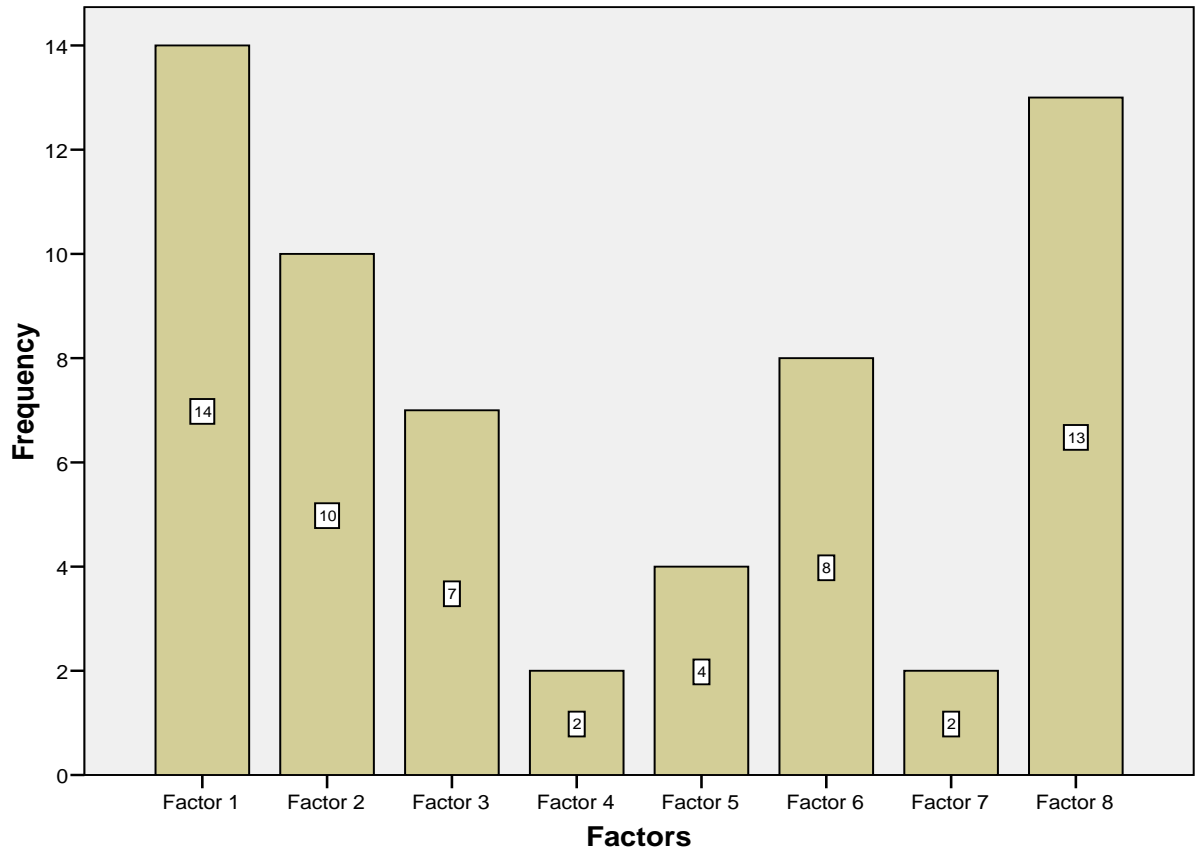
**Factor 8: Qualified personnel**

- There were contradicting views on the importance of purchasing personnel having a formal qualification versus experience.
- Gaining experience through on the job training in a form of a mentorship scheme.
- A formal measurement of employee performance was found to be conducted with a personal development plan.

***4.3.10 Top three factors that were considered important in the implementation of the sourcing strategy***

In the final section of the semi-structured interview questions, the interviewees were asked to rank the top three factors that they considered as important in the implementation of their sourcing strategy between the eight factors. Figure 4.1 shows the frequency of the top three factors considered as important in the implementation from the 20 case studies.

From the figure, the three highest factors that were quoted by the interviewees were Factor 1 (Executive commitment to global sourcing), Factor 8 (Qualified personnel), and Factor 2 (Rigorous and well defined processes). As qualified personnel was found to be the second highest factor in the implementation of the sourcing strategy, this finding has clearly supported its importance and the fact that it needs to be recognised as a main factor along with the other factors that were identified in past studies.



**Figure 4.1: Frequency of the Top Three Factors Considered Important In the Implementation of the Sourcing Strategy**

<b>Legend:</b>
Factor 1: Executive commitment to global sourcing
Factor 2: Rigorous and well-defined processes
Factor 3: Availability of needed resources
Factor 4: Integration through information technology
Factor 5: Supportive organisational design
Factor 6: Structured approaches to communication and relationship building with suppliers
Factor 7: Methodologies for measuring performance
Factor 8: Qualified personnel

#### 4.3.11 *Additional issues that were considered as important in implementing sourcing strategy successfully*

There were several issues raised that were considered important in implementing sourcing strategy successfully. These issues were additional issues other than those that have been specifically covered under each factor (refer Table 4.9).

**Table 4.9: Additional Issues That Were Considered Important In Implementing Sourcing Strategy Successfully**

<b>Issues raised</b>	<b>Rationale of the importance</b>
Reward and recognition for the buyers	<ul style="list-style-type: none"> <li>• For the buyers to be motivated and feel that they are part of a successful function.</li> </ul>
Having a well-defined product specifications	<ul style="list-style-type: none"> <li>• To be clearly understood by the supplier.</li> <li>• The product specifications cover issues such as delivery time, lead time, and technical specifications.</li> </ul>
Understanding the sensitivity of the product	<ul style="list-style-type: none"> <li>• The sensitivity of the product can be a constraint when sourcing, especially in the defence industry.</li> <li>• It limits which countries and suppliers to source from.</li> </ul>
Raw material shortages	<ul style="list-style-type: none"> <li>• Shortages can cause long lead times.</li> <li>• Companies need to work out with suppliers to make sure the supplies of products are continuous and consistent.</li> </ul>
Companies need to be aware that there is a possibility that suppliers outsource their production	<ul style="list-style-type: none"> <li>• Supply chain becomes longer and risks become much greater for the company.</li> <li>• Companies can overcome this risk by building strategic stocks of items to buffer themselves from the risks that the suppliers take.</li> </ul>
Understand all aspects of products when deciding where to source from	<ul style="list-style-type: none"> <li>• This can help companies make more informed decisions.</li> <li>• Information about the products that should be understood include the market for the product, type of product, weight influence logistics cost, lead time required by customers, how difficult is it to buy, how important is it to the company and how important the suppliers perceive the company.</li> </ul>
Companies need to be globally aware	<ul style="list-style-type: none"> <li>• Not just regarding cultural factors.</li> <li>• Companies need to observe global politics and economics.</li> <li>• Companies need to react accordingly to the changes in the global arena.</li> </ul>
Establish capable, credible and long term supply sources	<ul style="list-style-type: none"> <li>• When products have high technical content, it is vital that the suppliers used are reliable.</li> </ul>

#### **4.4 Chapter summary**

This chapter has presented the findings from the case studies. The case study approach allowed an in-depth understanding of the sourcing practices entailed under each key factor. For certain factors, companies in different sourcing levels, have different practices. In others, the practices were quite similar across the companies. The next chapter will cover the findings from the survey.

## **5 Research findings - survey**

### **5.1 Introduction**

This chapter analyses the findings of the survey. The aim of the survey is to identify the extent of the actual implementation and perceived importance of the critical success factors of global sourcing for companies in the UK. The survey analysis looks at the distribution of the respondents and performs gap analysis for responses to each factor. The survey analysis uses SPSS (Statistical Package for the Social Sciences) and Microsoft Excel.

### **5.2 The target sample and response rate**

This research is focused on the global sourcing strategy implementation of companies in the UK. Hence, the population of the study for the survey consisted of companies that are based in the UK that practice either international purchasing or global sourcing. The target sample was from the Cranfield University Fellowship of Manufacturing Management (FMM) membership database. Invitations to request for participation in the survey were sent to respondents by the Director of the FMM through email with a direct web link to the online-based survey. The researcher was not allowed access to the email addresses of the FMM members due to confidentiality reasons. A reminder email was sent a week after the initial email from the Director of FMM but the response rate was very low.

Out of 939 initial invites, only 257 of the emails were opened and 30 companies followed the link to the questionnaire. After follow up emails, of the 257 sample, a total of 25 responses were received. Another database was used to supplement the FMM database. A database of contacts who have participated in previous research in the area of supply chain management with the School of Applied Sciences of Cranfield University, with a total of 279 people, was then used to increase the responses for the survey. Of 279 invites, 49 emails were returned as undelivered, 3 were unable to be contacted because they were out of office and 10 decided not to participate in the study because it was not in their area of knowledge and experience. Of the remaining 217 companies a total of 17 companies were received after follow up email and phone calls.

With a total sample of 474 from both databases, the total responses were 104, where there were 42 completed surveys and 62 uncompleted surveys. The overall response rate was 21.9% (104 of 474) and usable response rate was 8.9% (42 of 474). The response rate was considered sufficient for the study based on past research that acquired a 9% response rate and adopted a survey method which was supplemented by case studies (Trent and Monczka, 2003a; Trent and Monczka, 2003b; Trent and Monczka, 2005).

Zhang (1999) acknowledged potential concerns that were unique to online-based surveys, specifically regarding calculation of response rates. Researchers are able to identify a large portion of undeliverable surveys or unreachable potential respondents and exclude these cases from a sample. Hence, the calculation of the final sample population only took into account emails that were opened and successfully delivered.

The low response rate from the FMM database was due to the general background of the target sample. The FMM database consisted of members in various disciplines. The target disciplines relevant to this research were supply chain and purchasing. The low response rate may have been attributed to the fact that more FMM members have manufacturing background compared to supply chain or purchasing background. The FMM database was then found not to be very suitable for the research and another database was used to supplement the data collection effort.

As a whole, other factors that contributed to the low response rates for the research were primarily because respondents were unable to be contacted, either because they were out of office, the email address was wrong or they declined to participate in the research. According to past studies in the area of worldwide sourcing, the low response rates were found to be caused by the fact that many firms in the sample have no experience with worldwide sourcing activities or firms do not have active international sourcing strategies (Trent and Monczka, 2002; Trent and Monczka, 2003a; Trent and Monczka, 2003b; Birou and Fawcett, 1993). Thus, these factors result in firms not participating in surveys regarding international purchasing and global sourcing because they felt that they did not have the information required by the questionnaire to contribute to the research.

### **5.3 Overview of the survey findings analysis**

The survey findings analysis focused on several areas:

- The distribution of respondents according to the sourcing levels. This issue will be discussed in section 5.4 (Distribution of the respondents).
- To identify whether the answers from the data that have been collected yield consistent results from the questions in the survey, through reliability analysis (Section 5.5).
- The gaps between how critically companies rate the factors and the extent of actual implementation of the factors. This issue will be discussed under section 5.7 (Gap analysis critical versus practices).
- To identify whether companies at certain sourcing levels rate certain factors more important compared to the other factors. This issue will be discussed in section 5.8 (Gap critical).
- To identify whether companies at certain sourcing levels actually practice certain practices at a greater extent compared to the other practices. This issue will be discussed in section 5.9 (Gap practices).
- The specific gaps under each factor. This issue will be discussed in section 5.10 for Level 2&3 companies and in section 5.11 for Level 4&5 companies (Gap for Level 2&3 and 4&5).
- The similarities between Level 2&3 companies and Level 4&5 companies. This issue will be discussed in section 5.12 (Similarities between both groups).

There are two main purposes of conducting the gap analysis:

- (1) To identify the differences between how critical companies rate the factors and the extent of the actual implementation of the factors.
- (2) To identify the similarities and differences between companies that are at the lower sourcing levels (Level 2&3) and the higher sourcing levels (Level 4&5).

The method of identifying the differences between the lower and higher sourcing levels have been conducted in the past including studies by Trent and Monczka (2003a) and Trent and Monczka (2003b). However, those studies did not display the gaps in a radar chart and only used the averages in a table format.



The radar chart is used in this research to give a better picture of the gaps, in addition to using the table format.

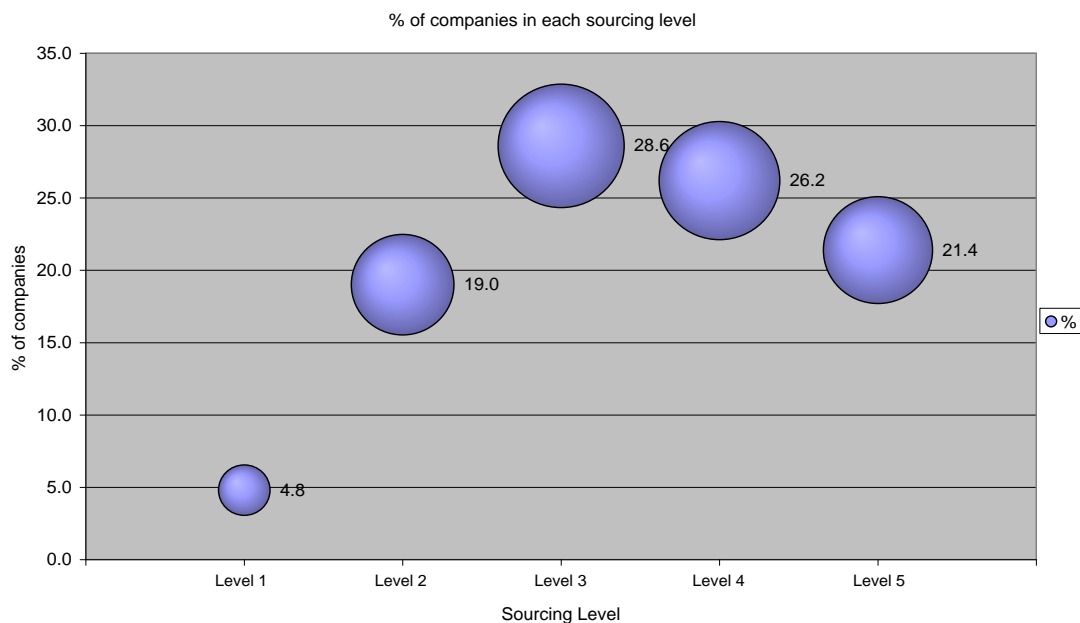
## 5.4 Distribution of the respondents

This section details the distribution of the respondents according to the distribution of companies in each sourcing level, years in operation, number of full-time employees to reflect the size of the companies and percentage of total purchases (in £) from outside the UK. The distribution of the companies' sourcing levels according to how many years the companies have been in operation, the size of the companies and the percentage of total purchases from outside the UK was also identified.

### 5.4.1 Current sourcing level

The frequency and percentages for the companies' current sourcing level were first derived in SPSS.

The percentages of the companies' current sourcing level were then used to produce a bubble chart in Microsoft Excel. Figure 5.1 and Table 5.1 shows the distribution of companies in each sourcing level as a percentage.



**Figure 5.1: The Percentage of Companies in Each Sourcing Level**

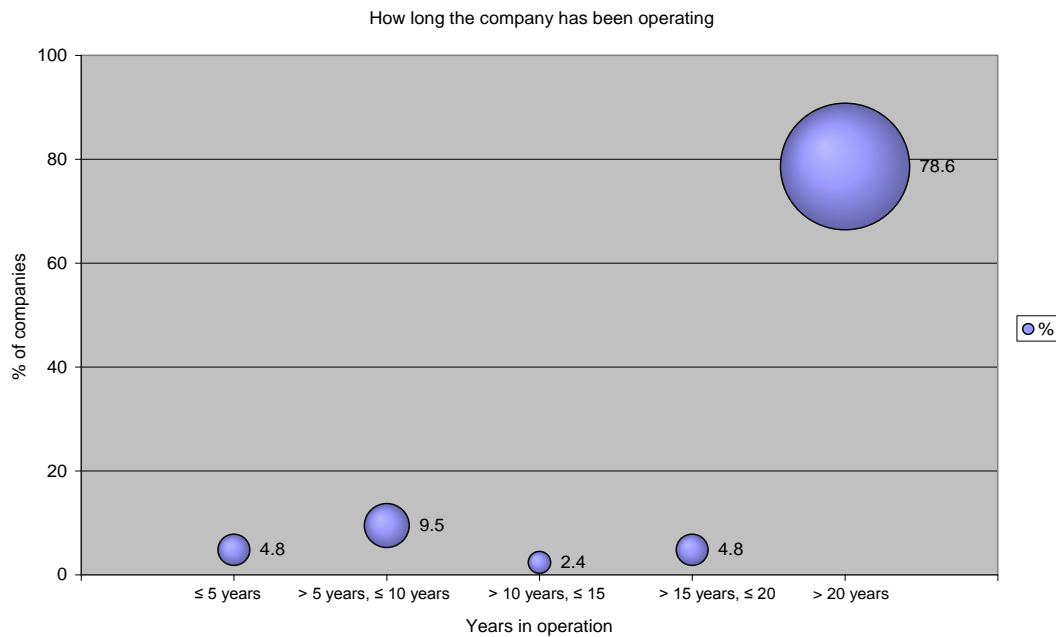
**Table 5.1: The distribution of companies in each sourcing level in percentages**

Sourcing Level	Percentage
Level 1	4.8%
Level 2	19.0%
Level 3	28.6%
Level 4	26.2%
Level 5	21.4%

The analysis of the survey differentiates Level 2&3 companies and Level 4&5 companies. Referring to the data set, there are equal percentages of Level 2&3 companies and Level 4&5 companies, which is 47.6%. The remaining 4.8% consist of companies at Level 1.

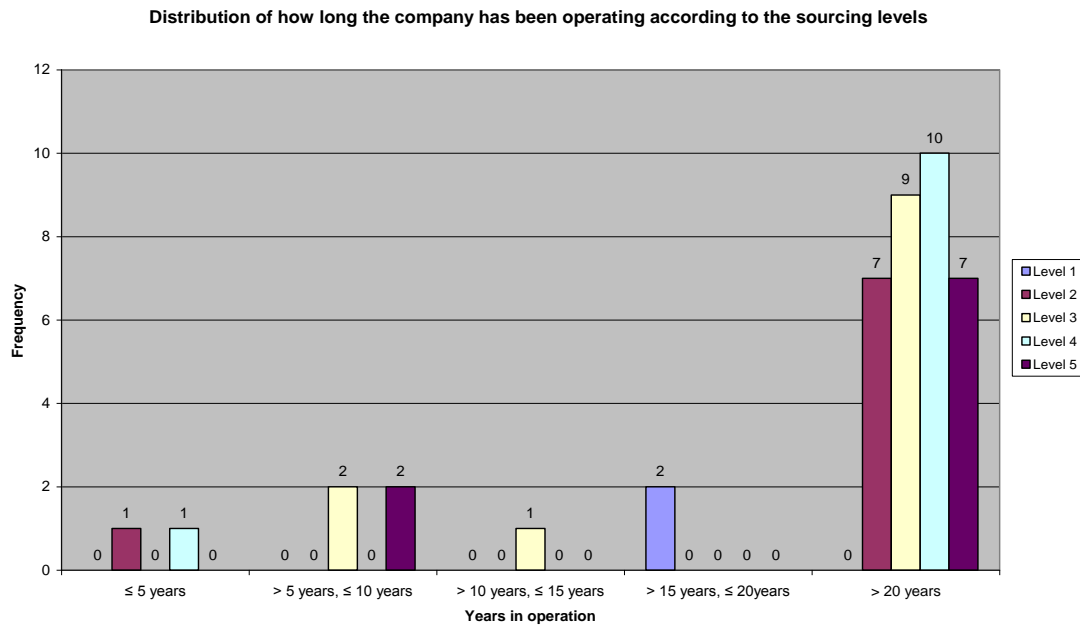
### 5.4.2 Years in operation

Most of the companies (78.6%) have been in operation for more than 20 years (Figure 5.2).



**Figure 5.2: How Long the Company Has Been In Operation**

Figure 5.3 shows the distribution of how long the company has been operating according to the sourcing levels.



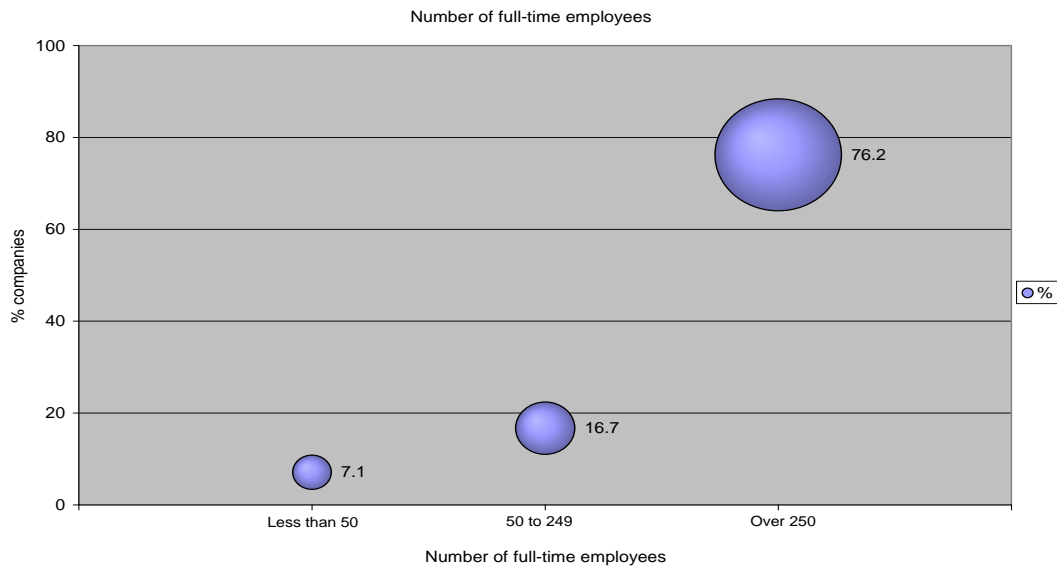
**Figure 5.3: Distribution of How Long the Company Has Been Operating According To the Sourcing Levels**

Referring to Figure 5.3, the majority of companies in the different sourcing levels have been in operation for more than 20 years, with seven companies in Level 2, nine companies in Level 3, ten companies in Level 4 and seven companies in Level 5. As most of the respondent companies have more than 20 years experience, this reflects that these companies have well established worldwide sourcing strategies as they are not new in the business. This finding provides support and confidence in the data to show the true current practices of these companies in their respective sourcing levels.

### **5.4.3 Number of full-time employees**

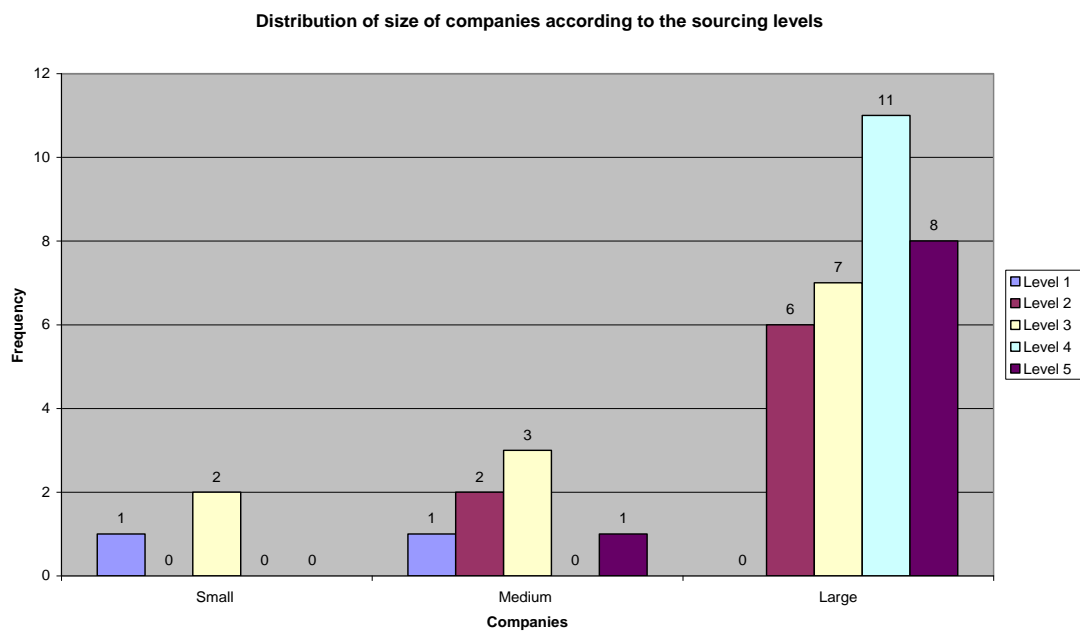
The number of full-time employees was used to identify the size of companies in the survey. The Department for Business Innovation & Skills (2009) has defined what constitutes as a small or medium sized company, where a small sized company was defined as companies with not more than 50 employees and a medium sized company was defined as companies with not more than 250 employees. Following this, large sized companies are defined as companies with 250 or more employees.

Referring to Figure 5.4, 7.1% are small sized companies and 16.7% are medium sized companies. Majority of the companies that participated in this research are large sized companies (76.2%).



**Figure 5.4: Number of Full-Time Employees**

Figure 5.5 shows the distribution of size of companies according to the sourcing levels. From the 76.2% of large sized companies, six companies are from Level 2, seven companies are from Level 3, eleven companies are in Level 4 and eight companies are in Level 5.



**Figure 5.5: Distribution of Size of Companies According To the Sourcing Levels**

This finding shows that more large companies are involved in worldwide sourcing activities, which was also found by studies conducted by Min and Galle (1991), Rajagopal and Bernard (1994) and Trent and Monczka (2003a). Min and Galle (1991) explained that large companies are more involved in worldwide sourcing activities because foreign sources offer higher quality and less expensive products and also because worldwide sourcing “requires long-term commitment of large sources that only large sized companies can afford”.

#### 5.4.4 Percentage of total purchases (in £) from outside the UK

The frequency and percentages for the company’s total purchases (in £) that represent purchases from outside the UK were first derived in SPSS. The percentages of the company’s total purchases (in £) that represent purchases from outside the UK were then used to produce a bubble chart in Microsoft Excel.

Figure 5.6 shows the percentage of total purchases from outside the UK. Nineteen percent of companies made less than 20% of their total purchases outside the UK. The number of companies that made 20% to 60% of their total purchases from outside the UK was 33.4%. The percentage of companies that had more than 60% of their total purchases from outside the UK was 45.2%.

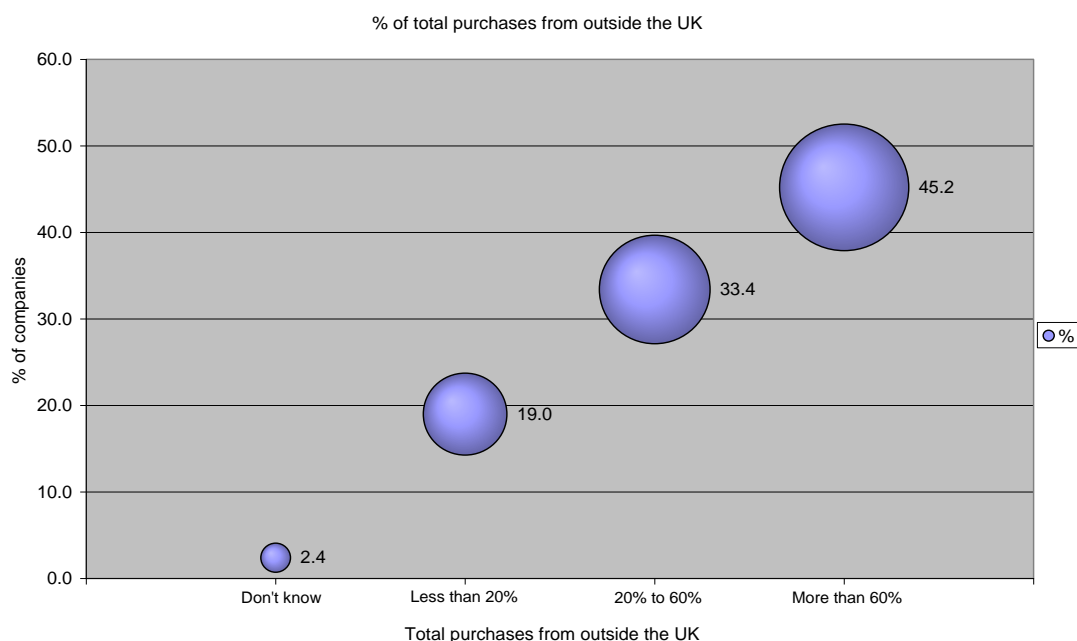
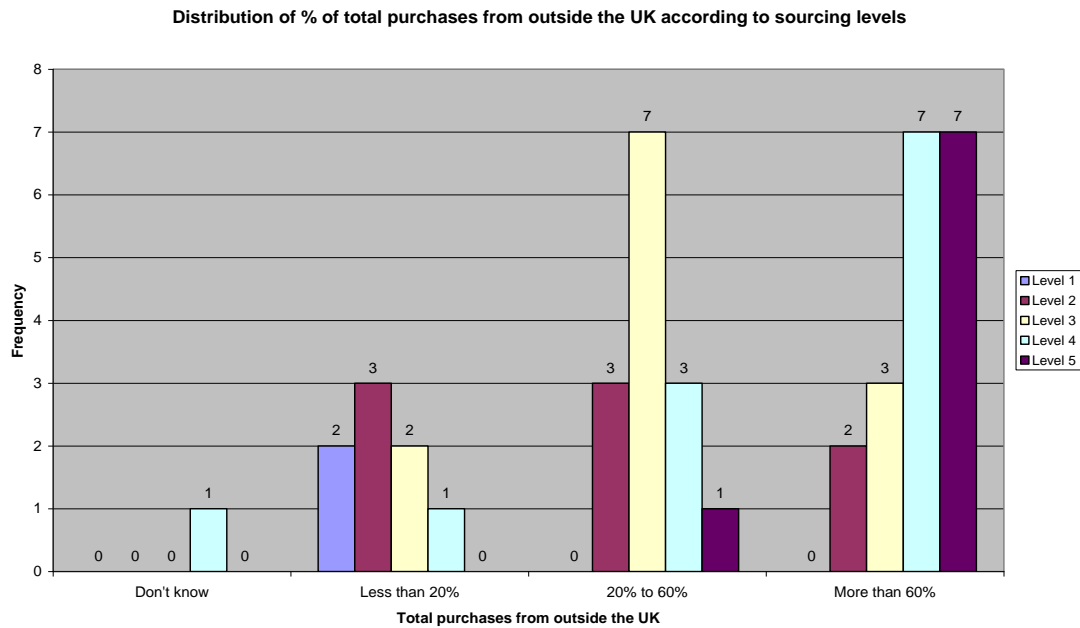


Figure 5.6: The Percentage of Total Purchases from Outside the UK

Figure 5.7 shows the distribution of % of total purchases from outside the UK according to the sourcing levels.



**Figure 5.7: Distribution of % of Total Purchases from Outside the UK According To Sourcing Level**

Referring to Figure 5.7, the majority of the companies that purchase more than 60% of their purchases from outside the UK are in Level 4 and 5. Companies that purchase 20% to 60% of their purchases from outside the UK are mostly companies in Level 3. This shows that companies that have extensive involvement in sourcing globally are companies that are in the higher sourcing levels.

## 5.5 Reliability analysis

The reliability analysis was conducted to identify whether the answers from the data that have been collected yield consistent results from the questions in the survey. According to Foster (2001), reliability refers to the consistency of the results on different items in a test. Rodeghier (1996) and Pallant (2001) explained that the reliability test provides a measure of the internal consistency of a scale.

The measure that was used to prove that the questions were reliable is the alpha coefficient from the reliability analysis test in SPSS. According to Pallant (2001), one of the most commonly used indicators of internal consistency is Cronbach's alpha coefficient and an alpha coefficient ideally should be above 0.7. Rodeghier (1996) explained that the alpha coefficient ranges from value zero to one and that higher scores indicate greater reliability.

The reliability analysis was used to specifically identify the degree of consistent results from the questionnaire in each factor. The items under each factor measures two aspects: how critical the respondents perceive the factors and the extent the factors are implemented in the company. Based on Table 5.2, the factors that measure the critical success factors and practices of sourcing have an alpha coefficient higher than 0.7 respectively. Since the reliability scores were all higher than 0.7, this indicates that the items were reliable and a very good measuring tool to answer the research questions.

**Table 5.2: Reliability Analysis of Variables**

Factor (Critical)	Alpha score	Factor (Practices)	Alpha score
Factor 1 Critical	0.843	Factor 1 Practices	0.822
Factor 2 Critical	0.776	Factor 2 Practices	0.830
Factor 3 Critical	0.858	Factor 3 Practices	0.878
Factor 4 Critical	0.796	Factor 4 Practices	0.731
Factor 5 Critical	0.780	Factor 5 Practices	0.758
Factor 6 Critical	0.727	Factor 6 Practices	0.753
Factor 7 Critical	0.895	Factor 7 Practices	0.895
Factor 8 Critical	0.752	Factor 8 Practices	0.844

## **5.6 Gap analysis for responses for each factor**

From the 42 responses, the data in SPSS were split into three groups, the first group comprises companies that were in Level 1 (domestic purchasing only), the second group comprises companies that were in Level 2 and Level 3 (international purchasing), the third group comprises companies that were in Level 4 and 5 (global sourcing). Companies in Level 1 are exempt from the gap analysis.

The gap that is measured here is the difference between the mean of how critical the respondents regard the factor to the effectiveness of the firm’s sourcing strategy and the degree to which the firm currently has implemented the factor. The mean of responses for each question in Section C in the questionnaire (refer Appendix 6) was derived in SPSS. The cumulative mean from the questions under each factor is then averaged to get the mean for each factor.

## 5.7 Gap analysis between how critical factors are versus the actual practices of companies

This section explains the gap analysis for the critical scores versus practices scores in each group.

### 5.7.1 Gap critical versus practices in Level 2 and 3 companies

The radar chart for the gap analysis was derived in Microsoft Excel. Figure 5.8 shows the gap between how critical the respondents from Level 2 and 3 companies regard the factor to the effectiveness of the firm’s sourcing strategy and the degree to which the firm currently has implemented the factor. The mean scores that were used to derive this chart can be referred to in Table 5.3.

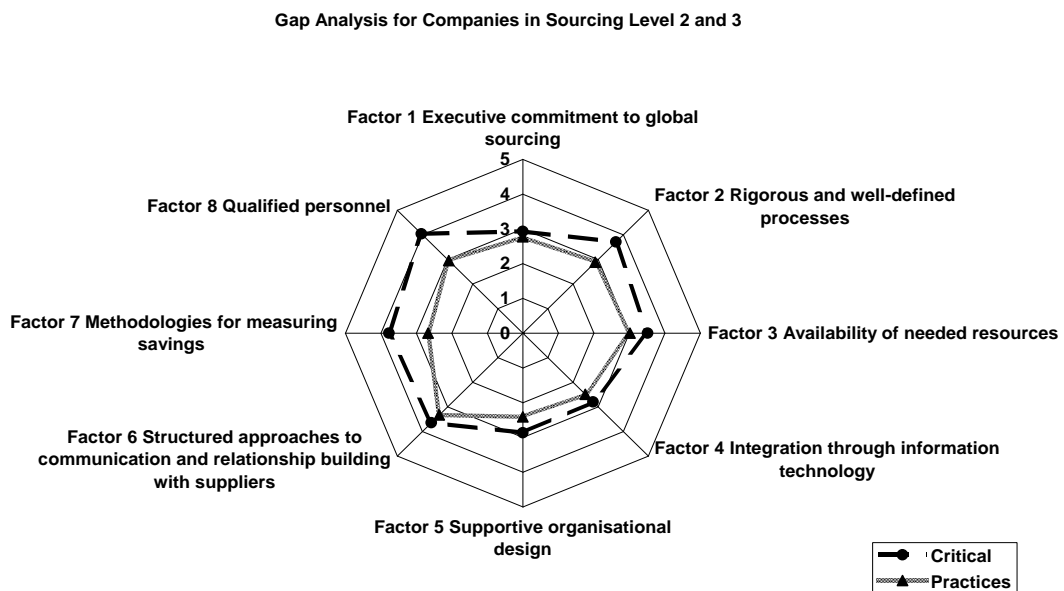


Figure 5.8: Gap Analysis for Companies in Level 2 And 3



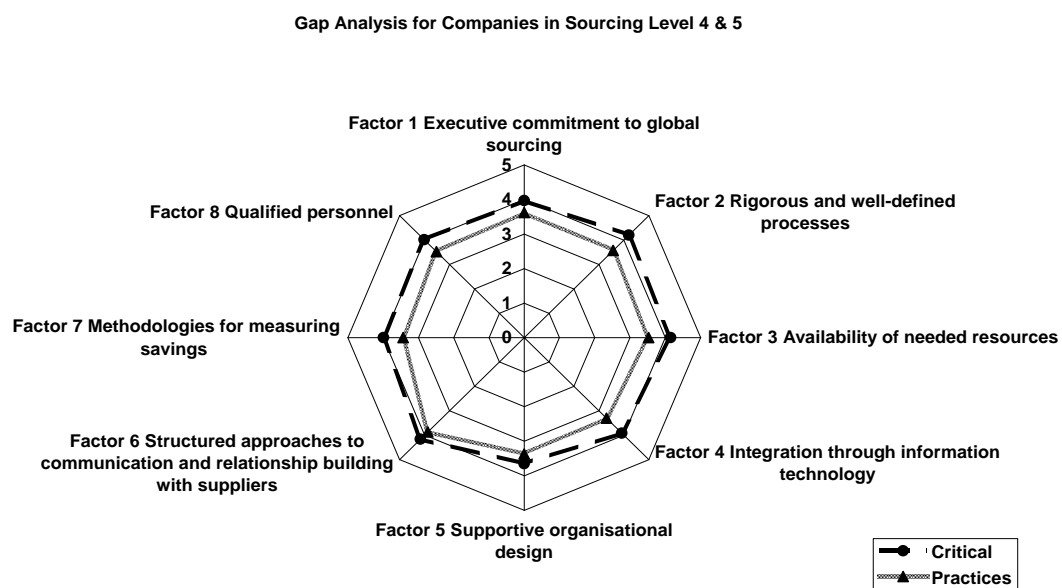
**Table 5.3: Mean for Sourcing Level 2 and 3**

Factor	Mean Critical	Mean Practices	Gap
Factor 1: Executive commitment to global sourcing	2.93	2.77	0.16
Factor 2: Rigorous and well-defined processes	3.71	2.89	0.82
Factor 3: Availability of needed resources	3.52	3.02	0.5
Factor 4: Integration through information technology	2.80	2.49	0.31
Factor 5: Supportive organisational design	2.87	2.41	0.46
Factor 6: Structured approaches to communication and relationship building with suppliers	3.65	3.33	0.32
Factor 7: Methodologies for measuring savings	3.77	2.67	1.1
Factor 8: Qualified personnel	4.04	2.95	1.09

The largest gap is in Factor 7 (Methodologies for Measuring Savings) with a gap of 1.1, followed by Factor 8 (Qualified Personnel) with a gap of 1.09 and Factor 2 (Rigorous and Well-Defined Processes) with a gap of 0.82.

### 5.7.2 Gap critical versus practices in Level 4 and 5 companies

Figure 5.9 shows the gap between how critical the respondents in companies in Level 4 and 5 regard the factor is to the effectiveness of the firm’s sourcing strategy and the degree to which the firm currently has implemented the following factor. The mean score that was used to derive this chart can be referred to in Table 5.4.



**Figure 5.9: Gap Analysis for Companies in Level 4 And 5**

**Table 5.4: Mean for Sourcing Level 4 and 5**

<b>Factor</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Factor 1: Executive commitment to global sourcing	3.97	3.62	0.35
Factor 2: Rigorous and well-defined processes	4.2	3.57	0.63
Factor 3: Availability of needed resources	4.15	3.53	0.62
Factor 4: Integration through information technology	3.91	3.3	0.61
Factor 5: Supportive organisational design	3.65	3.37	0.28
Factor 6: Structured approaches to communication and relationship building with suppliers	4.16	3.86	0.3
Factor 7: Methodologies for measuring savings	3.99	3.43	0.56
Factor 8: Qualified personnel	4.01	3.52	0.49

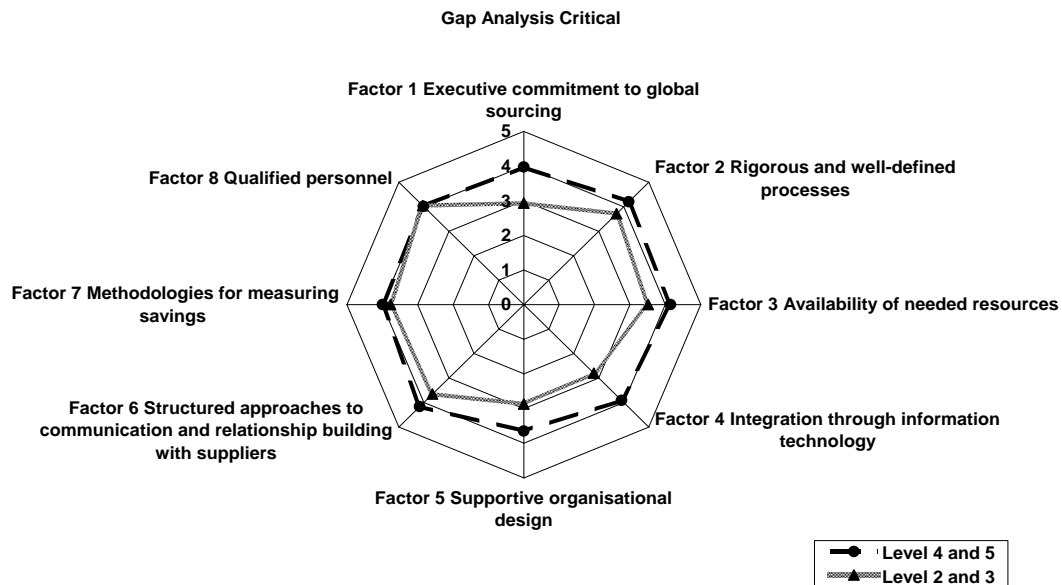
The largest gap is in Factor 2 (Rigorous and Well-Defined Processes) with a gap of 0.63, followed by Factor 3 (Availability of Needed Resources) with a gap of 0.62 and Factor 4 (Integration through Information Technology) with a gap of 0.61.

Looking at the top three largest gaps in companies that are in Level 2 and 3, the gaps are much greater than the gaps in companies that are in Level 4 and 5. The implication of this is that Level 2 and 3 companies have yet to implement the factors that they regard as critical in their implementation of the global sourcing strategy. Both groups have Factor 2 (Rigorous and Well-Defined Processes) as one of the largest gaps.

## **5.8 Comparison of how critical the two groups have rated the factors**

The reason the data was split into two groups is that there are differences between firms that implement global sourcing (Level 4 and 5) and international purchasing (Level 2 and 3) in terms of perceived critical success factors. According to Trent and Monczka (2003a), firms that engage in global sourcing rate certain factors as more critical to their sourcing efforts compared with firms that engage in international purchasing.

This point is reflected here where the respondents in companies in Level 4 and 5 had higher means for all of the factors that were considered as important in their implementation of the global sourcing strategy compared to the companies in Level 2 and 3, except Factor 8 (Qualified Personnel) with a marginal gap of just 0.03 (refer Figure 5.10).



**Figure 5.10: Gap Analysis Critical**

**Table 5.5: Mean Critical Sourcing Level 4&5 versus 2&3**

<b>Factor</b>	<b>Level 4&amp;5</b>	<b>Level 2&amp;3</b>	<b>Gap</b>
Factor 1: Executive commitment to global sourcing	3.97	2.93	1.04
Factor 2: Rigorous and well-defined processes	4.20	3.71	0.49
Factor 3: Availability of needed resources	4.15	3.52	0.63
Factor 4: Integration through information technology	3.91	2.8	1.11
Factor 5: Supportive organisational design	3.65	2.87	0.78
Factor 6: Structured approaches to communication and relationship building with suppliers	4.16	3.65	0.51
Factor 7: Methodologies for measuring savings	3.99	3.77	0.22
Factor 8: Qualified personnel	4.01	4.04	-0.03

The highest critical factor rated by companies that are in Level 4&5 is Factor 2 (Rigorous and well-defined processes) with a mean of 4.2, followed by Factor 6 (Structured approaches to communication and relationship building with suppliers) with a mean of 4.16 and Factor 3 (Availability of needed resources) with a mean of 4.15 (refer Table 5.5).

The highest critical factor rated by companies that are in Level 2&3 is Factor 8 (Qualified personnel) with a mean of 4.04, followed by Factor 7 (Methodologies for measuring savings) with a mean of 3.77 and Factor 2 (Rigorous and well-defined processes) with a mean of 3.71 (refer Table 5.5).

Factor 2 (Rigorous and well-defined processes) were rated very highly by both groups.

The largest gap is in Factor 4 (Integration through information technology) with a gap of 1.11, followed by Factor 1 (Executive commitment to global sourcing) with a gap of 1.04 and Factor 5 (Supportive organisational design) with a gap of 0.78 (refer Table 5.5).

In terms of criticality, the factors in descending order for companies in Level 4&5 are as below:

• Factor 2: Rigorous and well-defined processes
• Factor 6: Structured approaches to communication and relationship building with suppliers
• Factor 3: Availability of needed resources
• Factor 8: Qualified personnel
• Factor 7: Methodologies for measuring savings
• Factor 1: Executive commitment to global sourcing
• Factor 4: Integration through information technology
• Factor 5: Supportive organisational design

In terms of criticality, the factors in descending order for companies in Level 2&3 are as below:

• Factor 8: Qualified personnel
• Factor 7: Methodologies for measuring savings
• Factor 2: Rigorous and well-defined processes
• Factor 6: Structured approaches to communication and relationship building with suppliers
• Factor 3: Availability of needed resources
• Factor 1: Executive commitment to global sourcing
• Factor 5: Supportive organisational design
• Factor 4: Integration through information technology

## 5.9 Comparison the extent of actual practices of the two groups

The highest practices factor rated by companies that are in Level 4&5 is Factor 6 (Structured approaches to communication and relationship building with suppliers) with a mean of 3.86, followed by Factor 1 (Executive commitment to global sourcing) with a mean of 3.62 and Factor 2 (Rigorous and well-defined processes) with a mean of 3.57 (refer Table 5.6).

The highest practices factor rated by companies that are in Level 2&3 is Factor 6 (Structured approaches to communication and relationship building with suppliers) with a mean of 3.33, followed by Factor 3 (Availability of needed resources) with a mean of 3.02 and Factor 8 (Qualified Personnel) with a mean of 2.95 (refer Table 5.6).

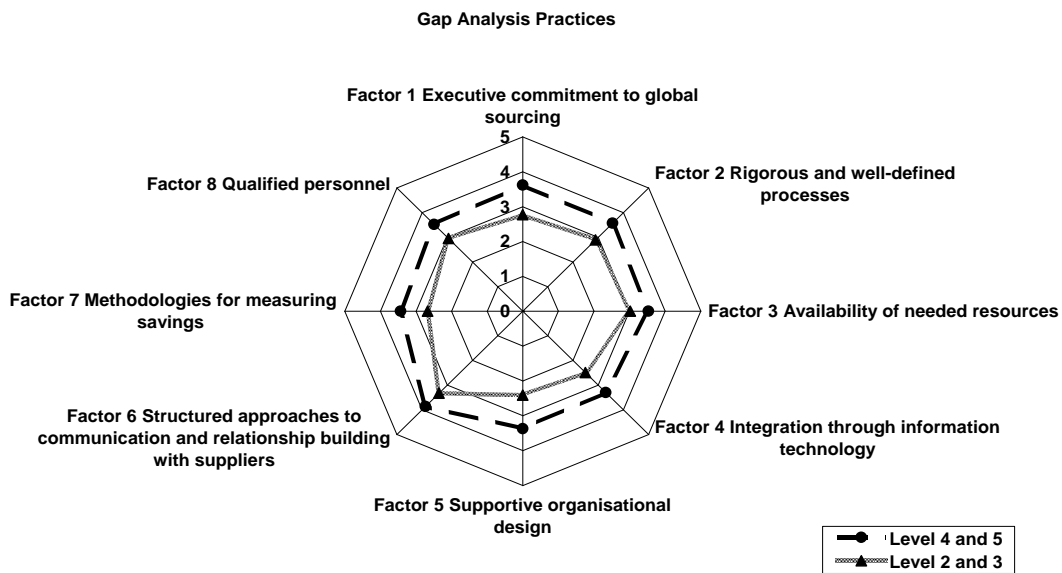


Figure 5.11: Gap Analysis Practices

Table 5.6: Mean Practices Sourcing Level 4&5 versus 2&3

Factor	Level 4&5	Level 2&3	Gap
Factor 1: Executive commitment to global sourcing	3.62	2.77	0.85
Factor 2: Rigorous and well-defined processes	3.57	2.89	0.68
Factor 3: Availability of needed resources	3.53	3.02	0.51
Factor 4: Integration through information technology	3.30	2.49	0.81
Factor 5: Supportive organisational design	3.37	2.41	0.96
Factor 6: Structured approaches to communication and relationship building with suppliers	3.86	3.33	0.53
Factor 7: Methodologies for measuring savings	3.43	2.67	0.76
Factor 8: Qualified personnel	3.52	2.95	0.57

Factor 6 (Structured approaches to communication and relationship building with suppliers) was rated as the top factor by both groups.

The largest gap is in Factor 5 (Supportive organisational design) with a gap of 0.96, followed by Factor 1 (Executive commitment to global sourcing) with a gap of 0.85 and Factor 7 (Methodologies for measuring savings) with a gap of 0.76 (refer Table 5.6).

Companies in Level 4&5 practice global sourcing more extensively in all factors compared to companies in Level 2&3. This is shown in Figure 5.11, where the mean scores for Level 4&5 were all higher than the mean scores for Level 2&3 companies.

In terms of practices, the factors in descending order for companies in Level 4&5 are:

• Factor 6: Structured approaches to communication and relationship building with suppliers
• Factor 1: Executive commitment to global sourcing
• Factor 2: Rigorous and well-defined processes
• Factor 3: Availability of needed resources
• Factor 8: Qualified personnel
• Factor 7: Methodologies for measuring savings
• Factor 5: Supportive organisational design
• Factor 4: Integration through information technology

In terms of practices, the factors in descending order for companies in Level 2&3 are:

• Factor 6: Structured approaches to communication and relationship building with suppliers
• Factor 3: Availability of needed resources
• Factor 8: Qualified personnel
• Factor 2: Rigorous and well-defined processes
• Factor 1: Executive commitment to global sourcing
• Factor 7: Methodologies for measuring savings
• Factor 4: Integration through information technology
• Factor 5: Supportive organisational design

From the practices ranking, both groups rated Factor 6 as the most broadly implemented factor. The next four top factors rated most broadly implemented were Factors 1, 2, 3 and 8. The least rated factors by both groups were Factors 7, 5 and 4.

In the development of the proposed framework, Factor 5 (Supportive organisational design) is split into Factor 5(i) (Supportive organisational design) and Factor 5(ii) (Foreign buying offices establishment and support) because through the survey findings, the ranking of practices shown in Table 5.7 illustrates that after the split, Factor 5(ii) in Level 2&3 falls last after Factor 4. This finding shows that companies in the lower sourcing levels have least emphasis on this factor. Companies that are in the higher sourcing levels recorded higher mean scores in terms of foreign buying offices establishment and support (Factor 5ii) compared to companies in the lower sourcing levels. According to Giunipero and Monczka (1990), companies “establish foreign buying offices as a signal of increasing commitment to international sourcing”. Hence, the establishment and support of foreign buying offices is considered more relevant to companies in Level 4&5.

**Table 5.7: Ranking Of Factors Before and After the Split of Factor 5**

Level 4&5		Level 2&3	
Ranking before split	Ranking after split	Ranking before split	Ranking after split
Factor 6	Factor 6	Factor 6	Factor 6
Factor 1	Factor 1	Factor 3	Factor 3
Factor 2	Factor 2	Factor 8	Factor 8
Factor 3	Factor 3	Factor 2	Factor 2
Factor 8	Factor 8	Factor 1	Factor 1
Factor 7	Factor 7	Factor 7	Factor 7
Factor 5	Factor 5(i)	Factor 4	Factor 5(i)
Factor 4	Factor 4 = Factor 5(ii)	Factor 5	Factor 4
			<b>Factor 5(ii)</b>

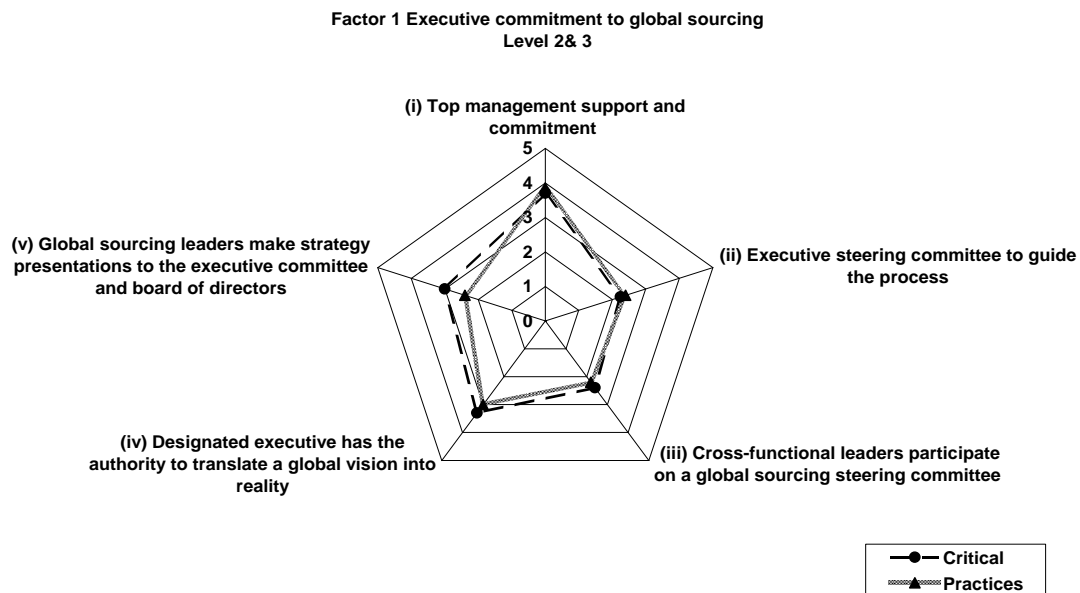
## 5.10 Identification of specific areas of gaps under each factor for Level 2&3 companies

This section explains the detailed gap analysis under each factor for companies that are in Level 2&3.

### 5.10.1 Factor 1 – Executive commitment to global sourcing

Companies in Level 2 and 3 rated Question (i), top management support and commitment and Question (ii), executive steering committee to guide the process, as being practiced more extensively compared to them being perceived as critical (refer Figure 5.12).

The item rated highest as being critical under Factor 1 is Question (i), top management support and commitment (refer Table 5.8). The item rated highest as being implemented under Factor 1 is also Question (i), top management support and commitment. The largest gap is for Question (v), global sourcing leaders make strategy presentations to the executive committee and board of directors. The smallest gaps are for Question (i), top management support and commitment and Question (ii), executive steering committee to guide the process.



**Figure 5.12: Gap Analysis for Companies in Level 2&3 – Factor 1**

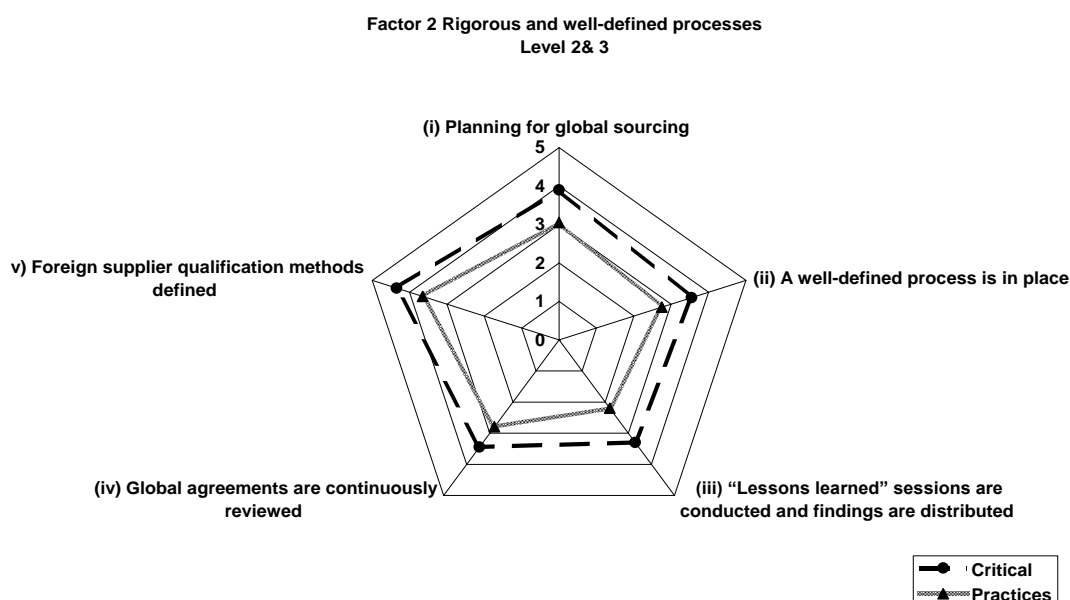


**Table 5.8: Mean all questions Level 2&3 – Factor 1**

<b>Factor 1</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Top management support and commitment	3.7	3.85	-0.15
Q(ii) Executive steering committee to guide the process	2.25	2.4	-0.15
Q(iii) Cross-functional leaders participate on a global sourcing steering committee	2.4	2.2	0.2
Q(iv) Designated executive has the authority to translate a global vision into reality	3.3	3.0	0.3
Q(v) Global sourcing leaders make strategy presentations to the executive committee and board of directors	3.0	2.4	0.6

### 5.10.2 Factor 2 – Rigorous and well-defined processes

For all the questions under Factor 2, companies in Level 2 and 3 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.13). The item rated highest as being critical under Factor 2 is for Question (v), foreign supplier qualification methods defined (refer Table 5.9). The item rated highest as being implemented under Factor 2 is for Question (v), foreign supplier qualification methods defined. The largest gap is for Question (iii), “lessons learned” sessions are conducted and findings are distributed. The smallest gap is for Question (iv), global agreements are continuously reviewed.



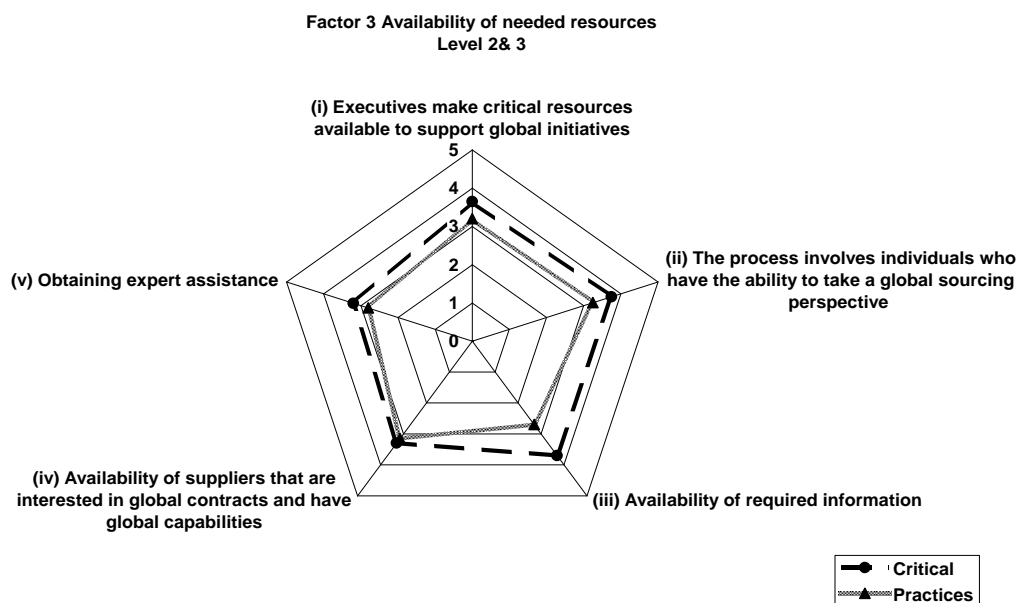
**Figure 5.13: Gap Analysis for Companies in Level 2&3 – Factor 2**

**Table 5.9: Mean all questions Level 2&3 – Factor 2**

<b>Factor 2</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Planning for global sourcing	3.9	3.05	0.85
Q(ii) A well-defined process is in place	3.55	2.75	0.8
Q(iii) “Lessons learned” sessions are conducted and findings are distributed	3.3	2.2	<b>1.1</b>
Q(iv) Global agreements are continuously reviewed	3.45	2.8	<b>0.65</b>
Q(v) Foreign supplier qualification methods defined	4.35	3.65	0.7

### 5.10.3 Factor 3 – Availability of needed resources

For all the questions under Factor 3, companies in Level 2 and 3 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.14). The item rated highest as being critical under Factor 3 is for Question (ii), the process involves individuals who have the ability to take a global sourcing perspective (refer Table 5.10). The item rated highest as being implemented under Factor 3 is for Question (ii), the process involves individuals who have the ability to take a global sourcing perspective. The largest gap is for Question (iii), availability of required information. The smallest gap is for Question (iv), availability of suppliers that are interested in global contracts and have global capabilities.



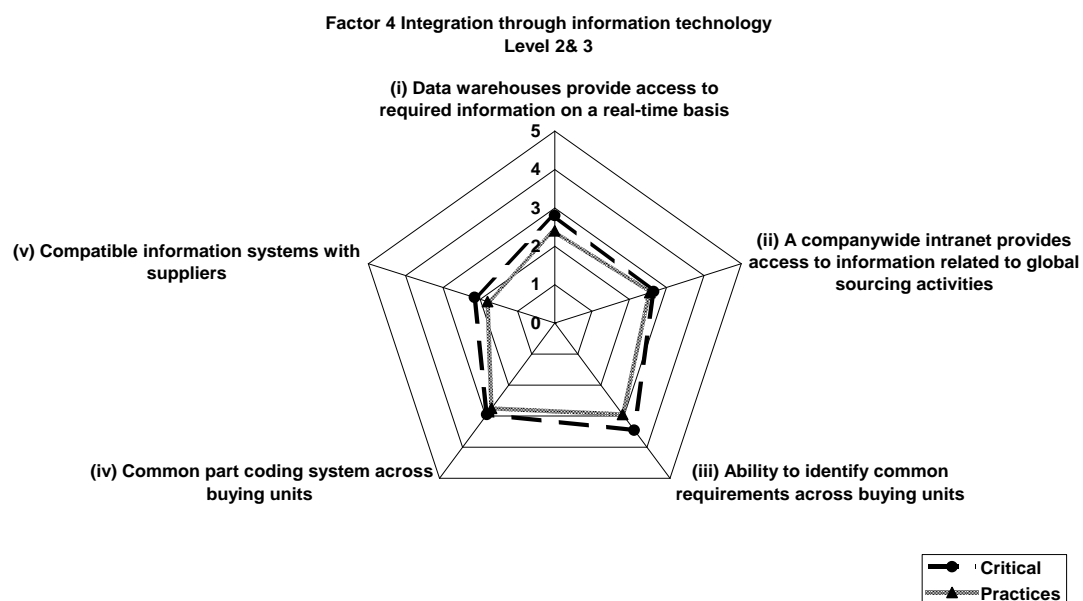
**Figure 5.14: Gap Analysis for Companies in Level 2&3 – Factor 3**

**Table 5.10: Mean all questions Level 2&3 – Factor 3**

<b>Factor 3</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Executives make critical resources available to support global initiatives	3.65	3.2	0.45
Q(ii) The process involves individuals who have the ability to take a global sourcing perspective	3.75	3.25	0.5
Q(iii) Availability of required information	3.7	2.7	<b>1.0</b>
Q(iv) Availability of suppliers that are interested in global contracts and have global capabilities	3.3	3.15	<b>0.15</b>
Q(v) Obtaining expert assistance	3.2	2.8	0.4

#### 5.10.4 Factor 4 – Integration through information technology

For all the questions under Factor 4, companies in Level 2 and 3 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.15). The item rated highest as being critical under Factor 4 is for Question (iii), ability to identify common requirements across buying units (refer Table 5.11). The item rated highest as being implemented under Factor 4 is for Question (iii), ability to identify common requirements across buying units. The largest gap is for Question (iii), ability to identify common requirements across buying units. The smallest gap is for Question (ii), a companywide intranet provides access to information related to global sourcing activities



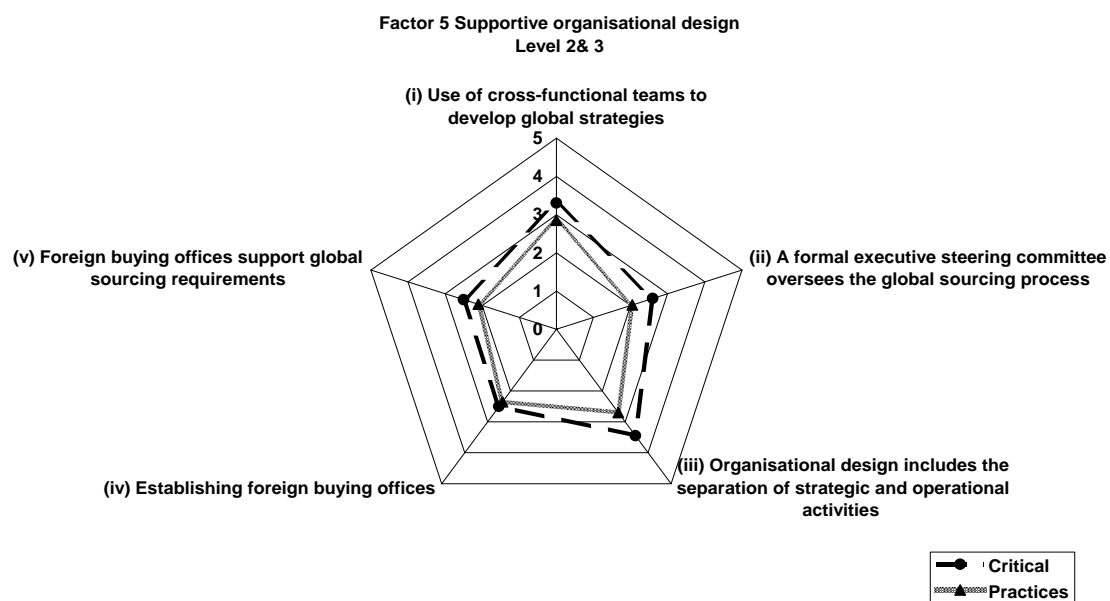
**Figure 5.15: Gap Analysis for Companies in Level 2&3 – Factor 4**

**Table 5.11: Mean all questions Level 2&3 – Factor 4**

<b>Factor 4</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Data warehouses provide access to required information on a real-time basis	2.8	2.4	0.4
Q(ii) A companywide intranet provides access to information related to global sourcing activities	2.65	2.55	<b>0.1</b>
Q(iii) Ability to identify common requirements across buying units	3.45	2.95	<b>0.5</b>
Q(iv) Common part coding system across buying units	2.95	2.75	0.2
Q(v) Compatible information systems with suppliers	2.15	1.8	0.35

### 5.10.5 Factor 5 – Supportive organisational design

For all the questions under Factor 5, companies in Level 2 and 3 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.16). The item rated highest as being critical under Factor 5 is for Question (iii), organisational design includes the separation of strategic and operational activities (refer Table 5.12). The item rated highest as being implemented under Factor 5 is for Question (i), use of cross-functional teams to develop global strategies. The largest gap is for Question (iii), organisational design includes the separation of strategic and operational activities. The smallest gap is for Question (iv), establishing foreign buying offices.



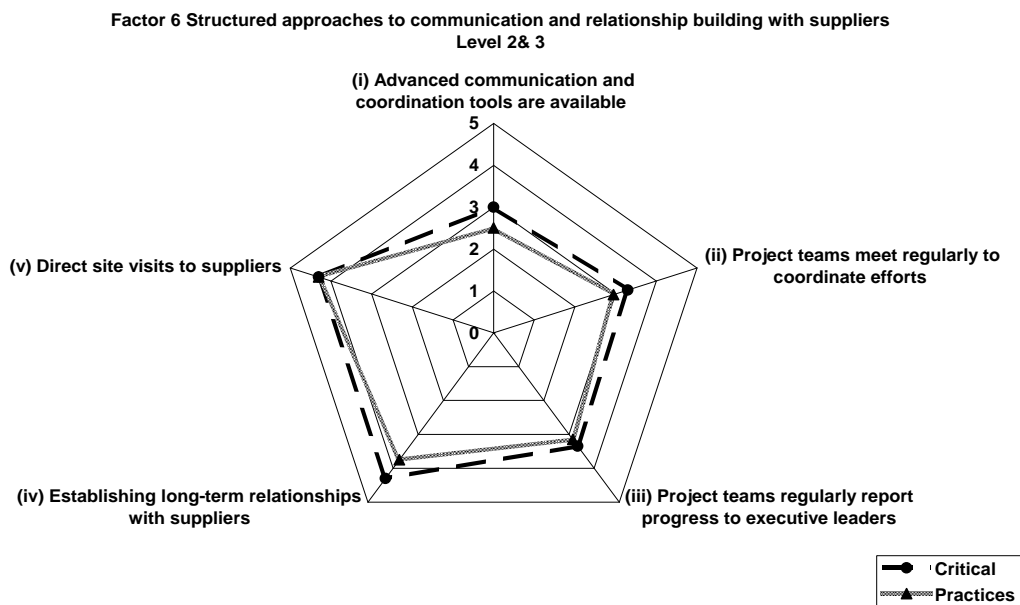
**Figure 5.16: Gap Analysis for Companies in Level 2&3 – Factor 5**

**Table 5.12: Mean all questions Level 2&3 – Factor 5**

<b>Factor 5</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Use of cross-functional teams to develop global strategies	3.3	2.85	0.45
Q(ii) A formal executive steering committee oversees the global sourcing process	2.6	2.05	0.55
Q(iii) Organisational design includes the separation of strategic and operational activities	3.45	2.7	0.75
Q(iv) Establishing foreign buying offices	2.5	2.35	0.15
Q(v) Foreign buying offices support global sourcing requirements	2.5	2.1	0.4

**5.10.6 Factor 6 – Structured approaches to communication and relationship building with suppliers**

For all the questions under Factor 6 except Question (v), companies in Level 2 and 3 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.17). Question (v), direct site visits to suppliers was rated equal in terms of being critical and practiced (refer Table 5.13). The items rated highest as being critical under Factor 6 are Question (iv), establishing long-term relationships with suppliers and Question (v), direct site visits to suppliers. The item rated highest as being implemented under Factor 6 is for Question (v), direct site visits to suppliers. The largest gap is for Question (iv), establishing long-term relationships with suppliers. The smallest gap is for Question (v), direct visit to suppliers.



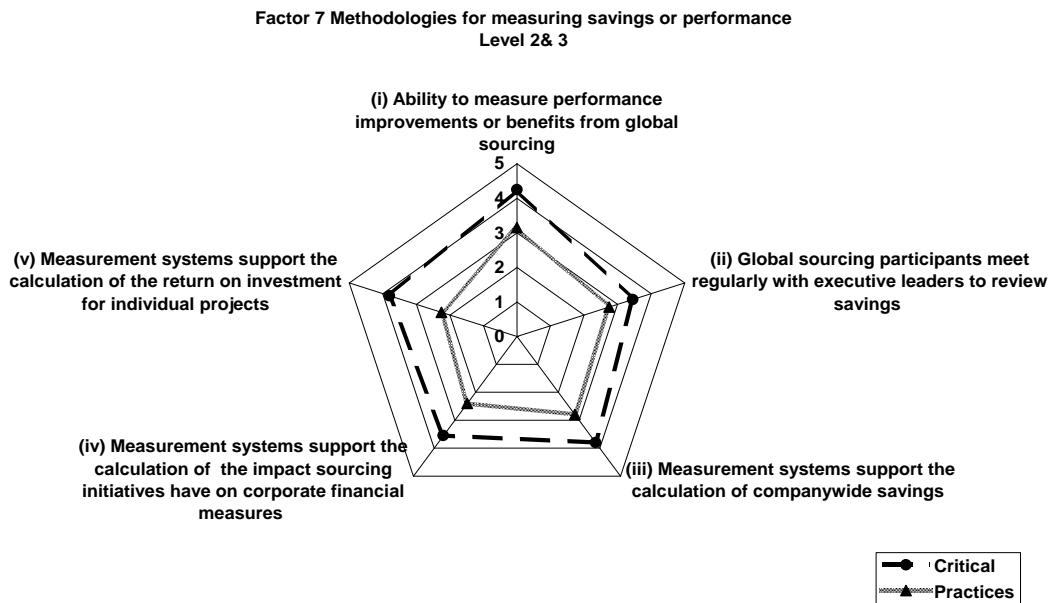
**Figure 5.17: Gap Analysis for Companies in Level 2&3 – Factor 6**

**Table 5.13: Mean all questions Level 2&3 – Factor 6**

<b>Factor 6</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Advanced communication and coordination tools are available	3.0	2.5	0.5
Q(ii) Project teams meet regularly to coordinate efforts	3.3	2.95	0.35
Q(iii) Project teams regularly report progress to executive leaders	3.35	3.15	0.2
Q(iv) Establishing long-term relationships with suppliers	4.3	3.75	0.55
Q(v) Direct site visits to suppliers	4.3	4.3	0

**5.10.7 Factor 7 – Methodologies for measuring savings or performance**

For all the questions under Factor 7, companies in Level 2 and 3 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.18). The item rated highest as being critical under Factor 7 is for Question (i), ability to measure performance improvements or benefits from global sourcing (refer Table 5.14). The item rated highest as being implemented under Factor 7 is for Question (i), ability to measure performance improvements or benefits from global sourcing. The largest gap is for Question (v), measurement systems support the calculation of the return on investment for individual projects. The smallest gap is for Question (ii), global sourcing participants meet regularly with executive leaders to review savings.



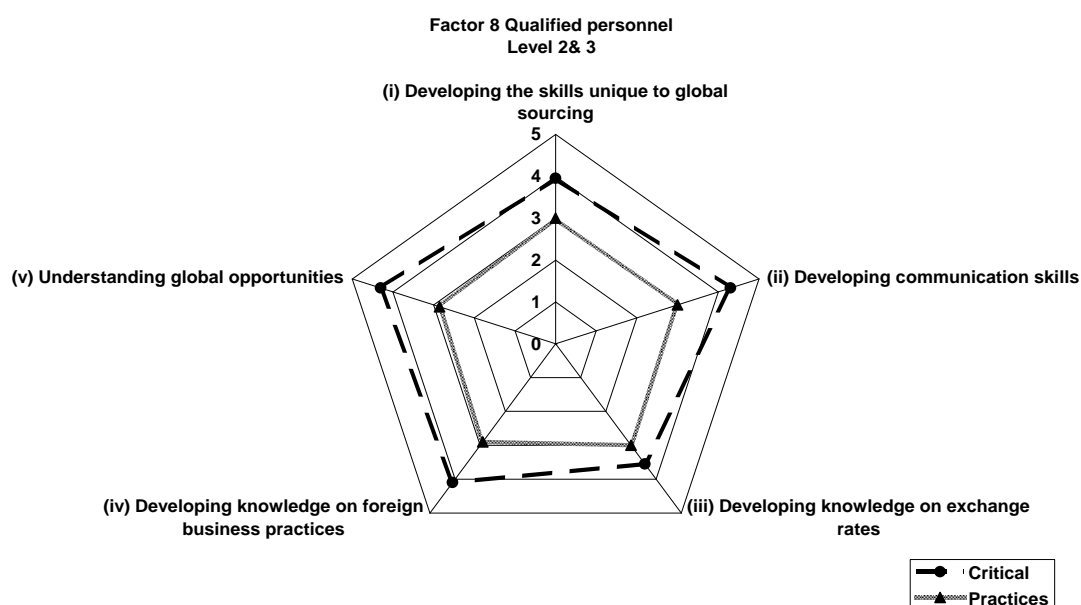
**Figure 5.18: Gap Analysis for Companies in Level 2&3 – Factor 7**

**Table 5.14: Mean all questions Level 2&3 – Factor 7**

<b>Factor 7</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Ability to measure performance improvements or benefits from global sourcing	4.25	3.15	1.1
Q(ii) Global sourcing participants meet regularly with executive leaders to review savings	3.45	2.75	<b>0.7</b>
Q(iii) Measurement systems support the calculation of companywide savings	3.8	2.8	1.0
Q(iv) Measurement systems support the calculation of the impact sourcing initiatives have on corporate financial measures	3.55	2.4	1.15
Q(v) Measurement systems support the calculation of the return on investment for individual projects	3.8	2.25	<b>1.55</b>

### 5.10.8 Factor 8 – Qualified personnel

For all the questions under Factor 8, companies in Level 2 and 3 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.19). The items rated highest as being critical under Factor 8 are Question (ii), developing communication skills and Question (v), understanding global opportunities (refer Table 5.15). The items rated highest as being implemented under Factor 8 are Question (i), developing the skills unique to global sourcing, Question (ii), developing communication skills and Question (iii), developing knowledge of exchange rates. The largest gap is for Question (v), understanding global opportunities. The smallest gap is for Question (iii), developing knowledge on exchange rates.



**Figure 5.19: Gap Analysis for Companies in Level 2&3 – Factor 8**

**Table 5.15: Mean all questions Level 2&3 – Factor 8**

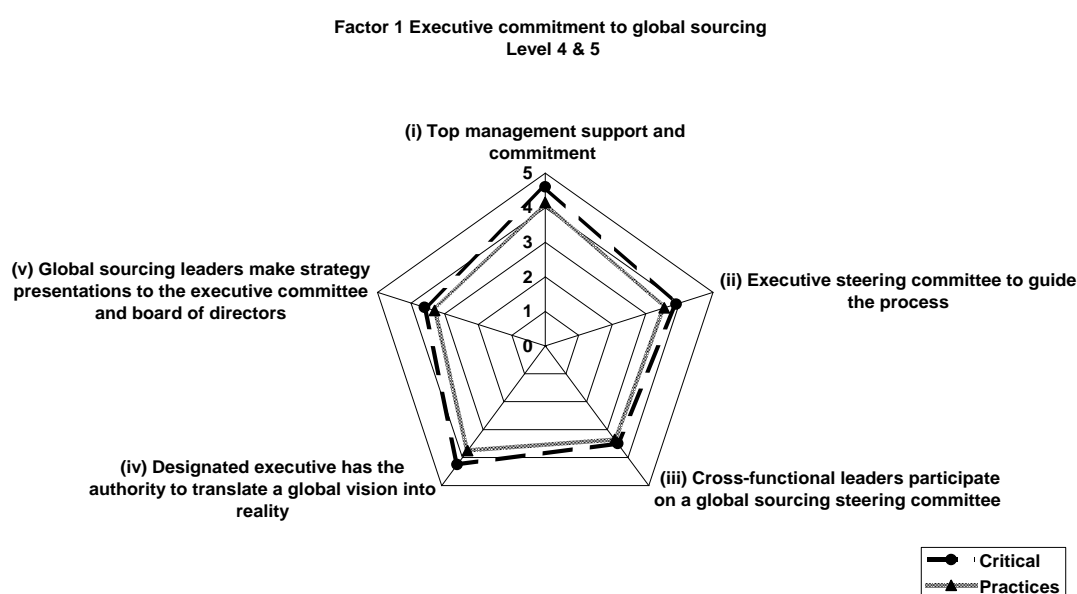
<b>Factor 8</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Developing the skills unique to global sourcing	3.95	3.0	0.95
Q(ii) Developing communication skills	4.3	3.0	1.3
Q(iii) Developing knowledge on exchange rates	3.55	3.0	<b>0.55</b>
Q(iv) Developing knowledge on foreign business practices	4.1	2.9	1.2
Q(v) Understanding global opportunities	4.3	2.85	<b>1.45</b>

### 5.11 Identification of specific areas of gaps under each factor for Level 4&5 companies

This section explains the detailed gap analysis under each factor for companies that are in Level 4&5.

#### 5.11.1 Factor 1 – Executive commitment to global sourcing

For all the questions under Factor 1, companies in Level 4 and 5 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.20). The item rated highest as being critical under Factor 2 is for Question (i), top management support and commitment (refer Table 5.16). The item rated highest as being implemented under Factor 2 is for Question (i), top management support and commitment. The largest gap is for Question (iv), designated executive has the authority to translate a global vision into reality. The smallest gap is for Question (iii), cross-functional leaders participate on a global sourcing steering committee.



**Figure 5.20: Gap Analysis for Companies in Level 4&5 – Factor 1**

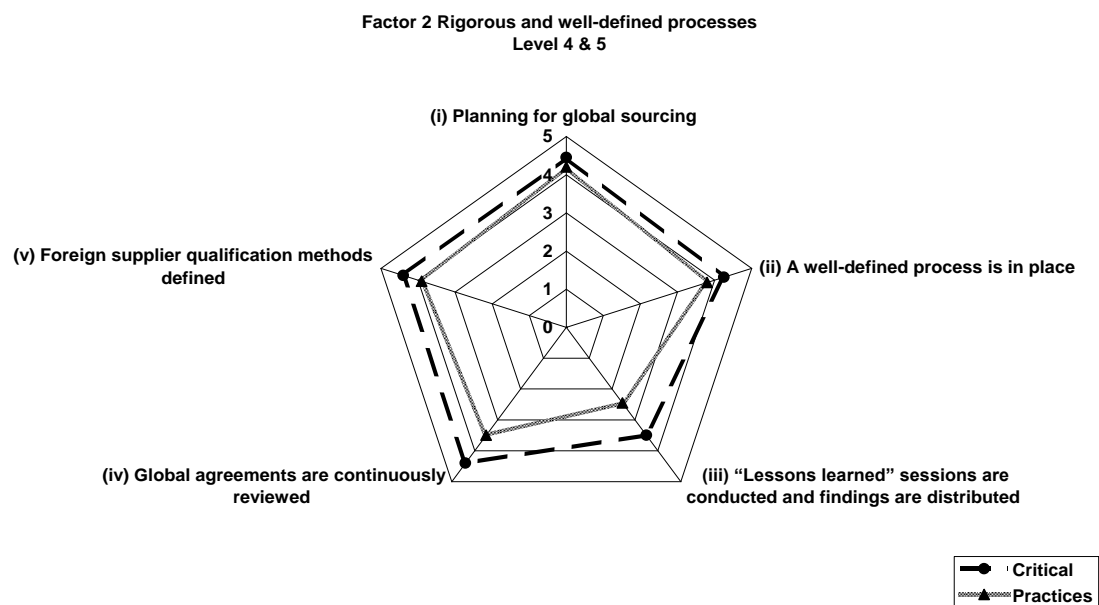


**Table 5.16: Mean all questions Level 4&5 – Factor 1**

<b>Factor 1</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Top management support and commitment	4.6	4.15	0.45
Q(ii) Executive steering committee to guide the process	3.9	3.55	0.35
Q(iii) Cross-functional leaders participate on a global sourcing steering committee	3.5	3.35	<b>0.15</b>
Q(iv) Designated executive has the authority to translate a global vision into reality	4.25	3.75	<b>0.5</b>
Q(v) Global sourcing leaders make strategy presentations to the executive committee and board of directors	3.6	3.3	0.3

### 5.11.2 Factor 2 – Rigorous and well-defined processes

For all the questions under Factor 2, companies in Level 2 and 3 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.21). The item rated highest as being critical under Factor 2 is for Question (i), planning for global sourcing (refer Table 5.17). The item rated highest as being implemented under Factor 2 is for Question (i), planning for global sourcing. The largest gap is for Question (iii), “lessons learned” sessions are conducted and findings are distributed. The smallest gap is for Question (i), planning for global sourcing.



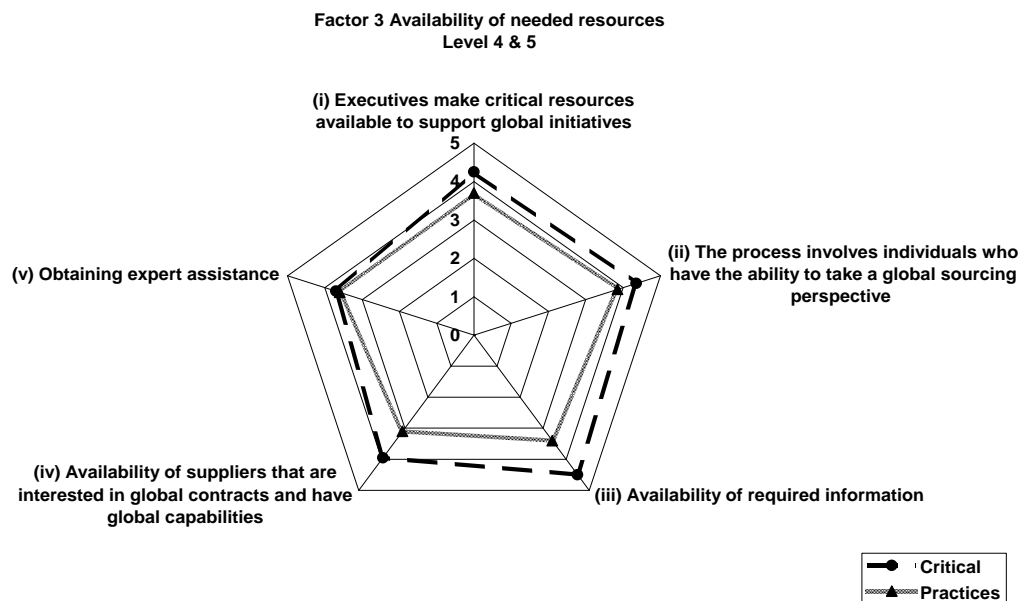
**Figure 5.21: Gap Analysis for Companies in Level 4&5 – Factor 2**

**Table 5.17: Mean all questions Level 4&5 – Factor 2**

Factor 2	Mean Critical	Mean Practices	Gap
Q(i) Planning for global sourcing	4.45	4.2	0.25
Q(ii) A well-defined process is in place	4.25	3.8	0.45
Q(iii) “Lessons learned” sessions are conducted and findings are distributed	3.5	2.45	1.05
Q(iv) Global agreements are continuously reviewed	4.4	3.5	0.9
Q(v) Foreign supplier qualification methods defined	4.4	3.9	0.5

### 5.11.3 Factor 3 – Availability of needed resources

For all the questions under Factor 3, companies in Level 4 and 5 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.22). The item rated highest as being critical under Factor 3 is for Question (iii), availability of required information (refer Table 5.18). The item rated highest as being implemented under Factor 3 is for Question (ii), the process involves individuals who have the ability to take a global sourcing perspective. The largest gap is for Question (iii), availability of required information. The smallest gap is for Question (v), obtaining expert assistance.



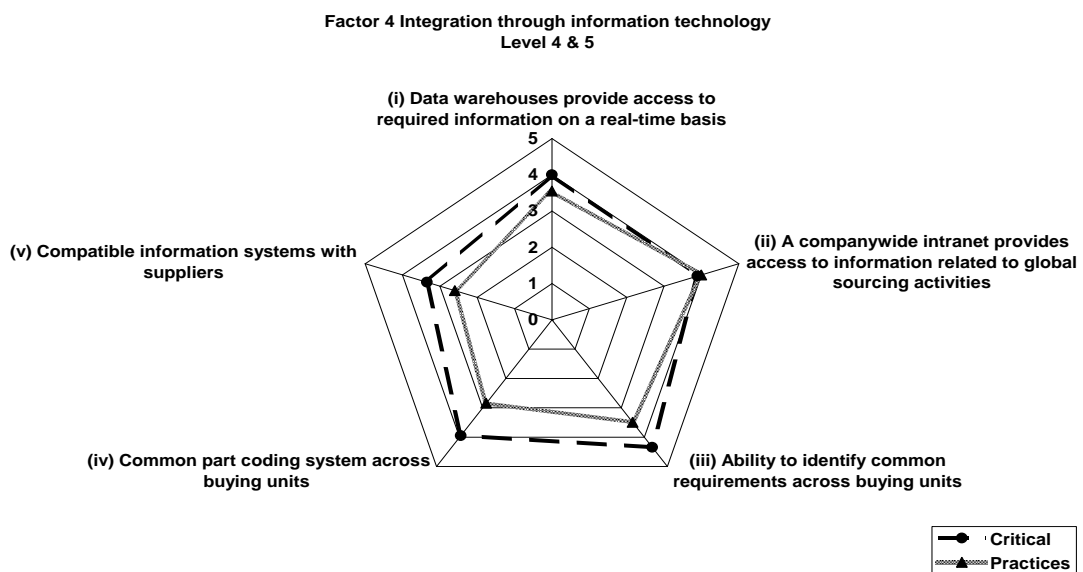
**Figure 5.22: Gap Analysis for Companies in Level 4&5 – Factor 3**

**Table 5.18: Mean all questions Level 4&5 – Factor 3**

<b>Factor 3</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Executives make critical resources available to support global initiatives	4.25	3.7	0.55
Q(ii) The process involves individuals who have the ability to take a global sourcing perspective	4.35	3.85	0.5
Q(iii) Availability of required information	4.5	3.4	1.1
Q(iv) Availability of suppliers that are interested in global contracts and have global capabilities	3.95	3.1	0.85
Q(v) Obtaining expert assistance	3.7	3.6	0.1

**5.11.4 Factor 4 – Integration through information technology**

For all the questions under Factor 4 except Question (ii), companies in Level 4 and 5 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.23). Companies in Level 4 and 5 rated higher for Question (ii), a companywide intranet provides access to information related to global sourcing activities, as being practiced more extensively compared to them being perceived as critical (refer Table 5.19). The item rated highest as being critical under Factor 4 is Question (iii), ability to identify common requirements across buying units. The item rated highest as being implemented under Factor 4 is Question (ii), a companywide intranet provides access to information related to global sourcing activities. The largest gap is for Question (iv), common part coding system across buying units. The smallest gap is for Question (ii), a companywide intranet provides access to information related to global sourcing activities.



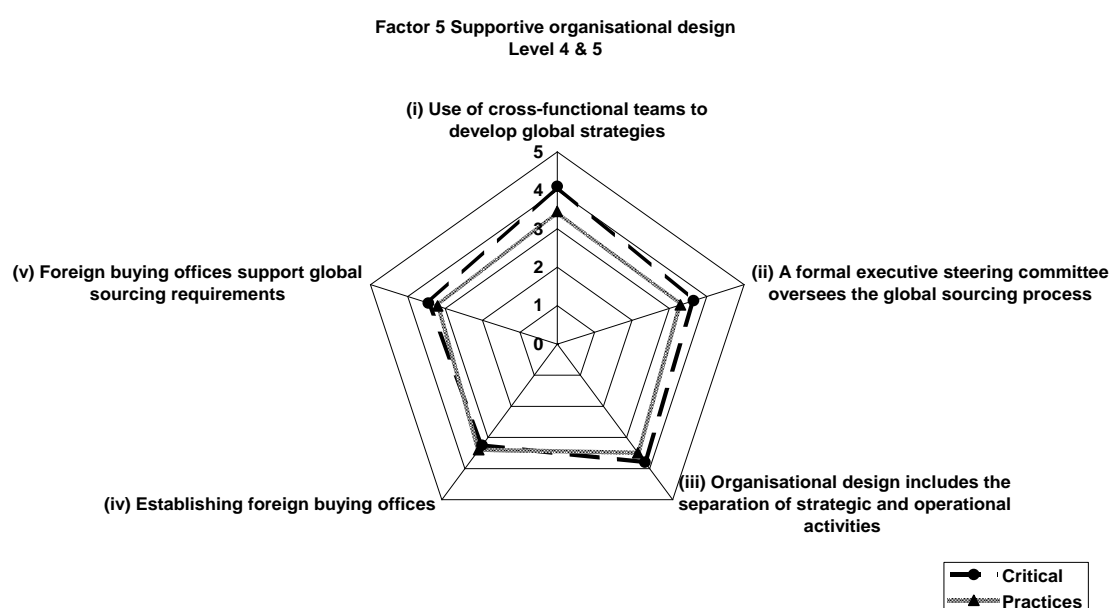
**Figure 5.23: Gap Analysis for Companies in Level 4&5 – Factor 4**

**Table 5.19: Mean all questions Level 4&5 – Factor 4**

Factor 4	Mean Critical	Mean Practices	Gap
Q(i) Data warehouses provide access to required information on a real-time basis	4.0	3.55	0.45
Q(ii) A companywide intranet provides access to information related to global sourcing activities	3.9	4.0	-0.1
Q(iii) Ability to identify common requirements across buying units	4.35	3.5	0.85
Q(iv) Common part coding system across buying units	3.95	2.85	1.1
Q(v) Compatible information systems with suppliers	3.35	2.6	0.75

### 5.11.5 Factor 5 – Supportive organisational design

For all the questions under Factor 5 except Question (iv), companies in Level 4 and 5 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.24). Companies in Level 4 and 5 rated higher for Question (iv), establishing foreign buying offices, as being practiced more extensively compared to them being perceived as critical (refer Table 5.20). The item rated highest as being critical under Factor 5 is for Question (i), use of cross-functional teams to develop global strategies. The item rated highest as being implemented under Factor 5 is for Question (iii), organisational design includes the separation of strategic and operational activities. The largest gap is for Question (i), use of cross-functional teams to develop global strategies. The smallest gap is for Question (iv), establishing foreign buying offices.



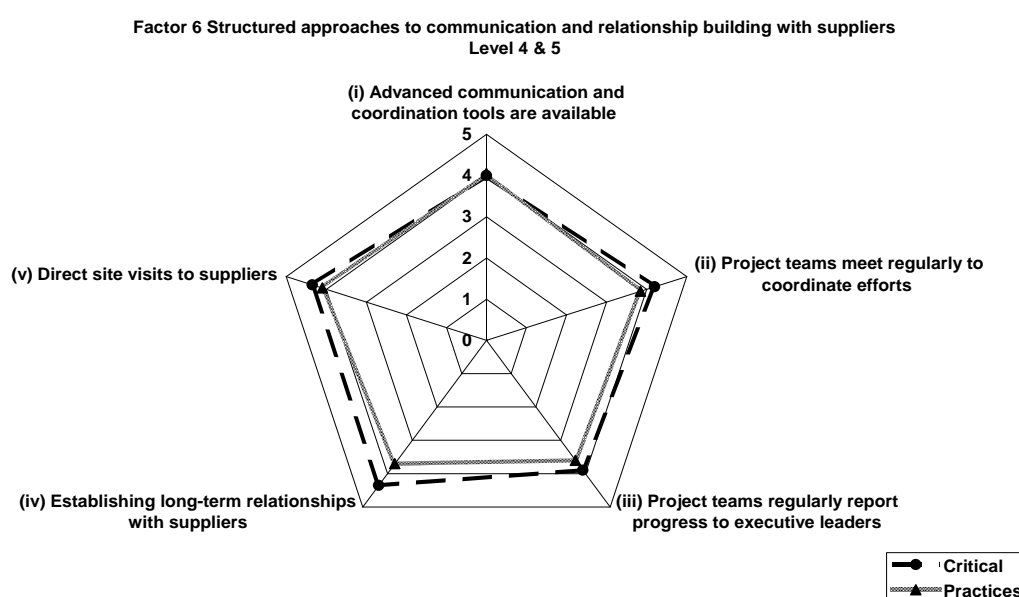
**Figure 5.24: Gap Analysis for Companies in Level 4&5 – Factor 5**

**Table 5.20: Mean all questions Level 4&5 – Factor 5**

Factor 5	Mean Critical	Mean Practices	Gap
Q(i) Use of cross-functional teams to develop global strategies	4.1	3.45	0.65
Q(ii) A formal executive steering committee oversees the global sourcing process	3.65	3.3	0.35
Q(iii) Organisational design includes the separation of strategic and operational activities	3.8	3.5	0.3
Q(iv) Establishing foreign buying offices	3.25	3.4	-0.15
Q(v) Foreign buying offices support global sourcing requirements	3.45	3.2	0.25

### 5.11.6 Factor 6 – Structured approaches to communication and relationship building with suppliers

For all the questions under Factor 6 except Question (i), companies in Level 4 and 5 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.25). Companies in Level 4 and 5 rated higher for Question (i), advanced communication and coordination tools are available, as being practiced more extensively compared to them being perceived as critical (refer Table 5.21). The items rated highest as being critical under Factor 6 are Question (iv), establishing long-term relationships with suppliers and Question (v), direct site visits to suppliers. The item rated highest as being implemented under Factor 6 is for Question (v), direct site visits to suppliers. The largest gap is for Question (iv), establishing long-term relationships with suppliers. The smallest gap is for Question (i), advanced communication and coordination tools are available.



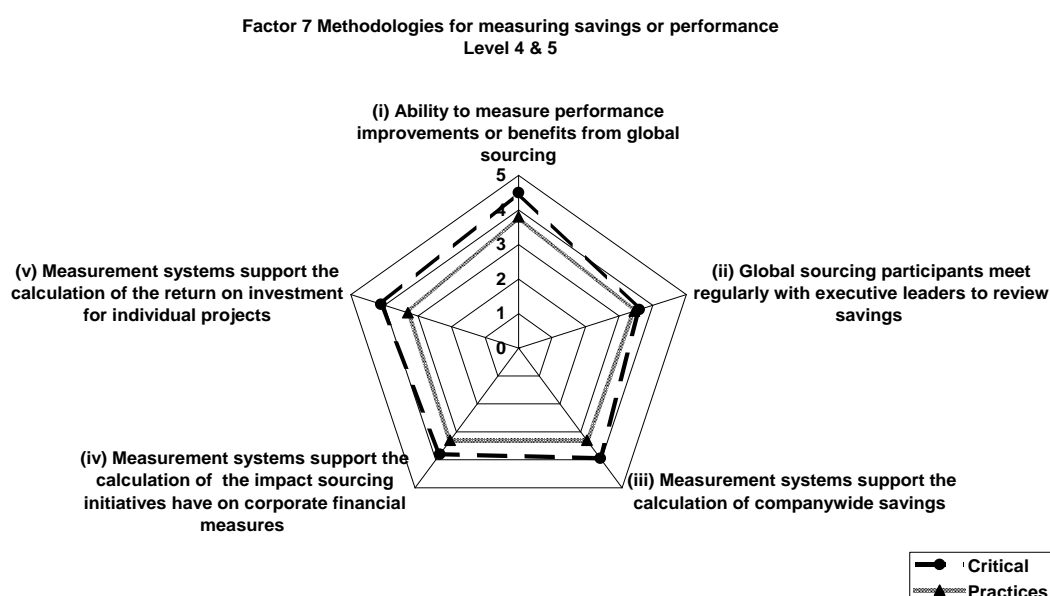
**Figure 5.25: Gap Analysis for Companies in Level 4&5 – Factor 6**

**Table 5.21: Mean all questions Level 4&5 – Factor 6**

<b>Factor 6</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Advanced communication and coordination tools are available	4.0	4.05	<b>-0.05</b>
Q(ii) Project teams meet regularly to coordinate efforts	4.2	3.85	0.35
Q(iii) Project teams regularly report progress to executive leaders	3.9	3.6	0.3
Q(iv) Establishing long-term relationships with suppliers	4.35	3.7	<b>0.65</b>
Q(v) Direct site visits to suppliers	4.35	4.1	0.25

### 5.11.7 Factor 7 – Methodologies for measuring savings or performance

For all the questions under Factor 7, companies in Level 4 and 5 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.26). The item rated highest as being critical under Factor 7 is for Question (i), ability to measure performance improvements or benefits from global sourcing (refer Table 5.22). The item rated highest as being implemented under Factor 7 is for Question (i), ability to measure performance improvements or benefits from global sourcing. The largest gap is for Question (v), measurement systems support the calculation of the return on investment for individual projects. The smallest gap is for Question (ii), global sourcing participants meet regularly with executive leaders to review savings.



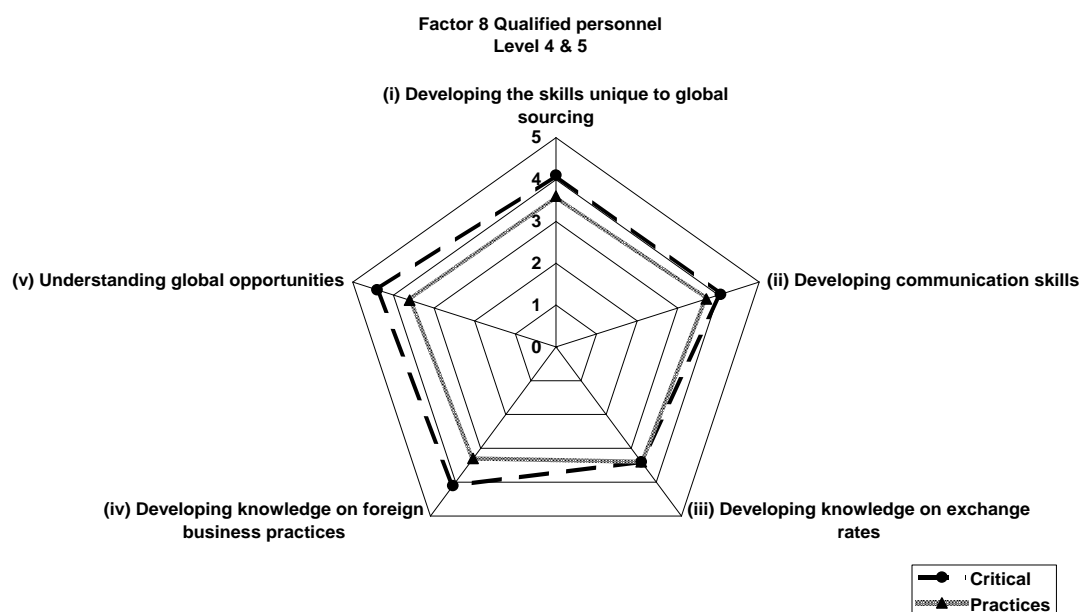
**Figure 5.26: Gap Analysis for Companies in Level 4&5 – Factor 7**

**Table 5.22: Mean all questions Level 4&5 – Factor 7**

<b>Factor 7</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Ability to measure performance improvements or benefits from global sourcing	4.5	3.8	0.7
Q(ii) Global sourcing participants meet regularly with executive leaders to review savings	3.6	3.45	<b>0.15</b>
Q(iii) Measurement systems support the calculation of companywide savings	3.95	3.3	0.65
Q(iv) Measurement systems support the calculation of the impact sourcing initiatives have on corporate financial measures	3.8	3.3	0.5
Q(v) Measurement systems support the calculation of the return on investment for individual projects	4.1	3.3	<b>0.8</b>

### 5.11.8 Factor 8 – Qualified personnel

For all the questions under Factor 8 except Question (iii), companies in Level 4 and 5 rated higher for the items being critical compared to the extent that they are practiced (refer Figure 5.27). Question (iii), developing knowledge on exchange rates was rated equal in terms of being critical and practiced (refer Table 5.23). The item rated highest as being critical under Factor 8 is for Question (v), understanding global opportunities. The item rated highest as being implemented under Factor 6 is for Question (ii), developing communication skills. The largest gap is for Question (iv), developing knowledge on foreign business practices and Question (v), understanding global opportunities. The smallest gap is for Question (iii), developing knowledge on exchange rates.



**Figure 5.27: Gap Analysis for Companies in Level 4&5 – Factor 8**

**Table 5.23: Mean all questions Level 4&5 – Factor 8**

<b>Factor 8</b>	<b>Mean Critical</b>	<b>Mean Practices</b>	<b>Gap</b>
Q(i) Developing the skills unique to global sourcing	4.1	3.6	0.5
Q(ii) Developing communication skills	4.05	3.7	0.35
Q(iii) Developing knowledge on exchange rates	3.4	3.4	0
Q(iv) Developing knowledge on foreign business practices	4.1	3.3	0.8
Q(v) Understanding global opportunities	4.4	3.6	0.8

## 5.12 Similarities between the two groups from the gap analysis

This section explains the similarities between the two groups, Level 2&3 and Level 4&5 companies, from the gap analysis.

Under Factor 1, both groups considered Question (i), top management support and commitment, as most critical and most implemented. Under Factor 2, both groups rated Question (iii), “lessons learned” sessions are conducted and findings are distributed, as the largest gap.

Under Factor 3, both groups considered Question (ii), the process involves individuals who have the ability to take a global sourcing perspective, as being most implemented. Both groups also rated Question (iii), availability of required information, as the largest gap by both groups. Under Factor 4, both groups considered Question (iii), ability to identify common requirements across buying units, as most critical. Both groups rated Question (ii), a companywide intranet provides access to information related to global sourcing activities, as the smallest gap.

Under Factor 5, both groups rated Question (iv), establishing foreign buying offices, as the smallest gap. Under Factor 6, both groups considered Question (iv), establishing long-term relationships with suppliers and Question (v), direct visits to suppliers, as being most critical. Both groups also considered Question (v), direct visits to suppliers, as being most implemented. Question (iv), establishing long-term relationships with suppliers, was considered the largest gap by both groups.



Under Factor 7, both groups considered Question (i), ability to measure performance improvements or benefits from global sourcing, as most critical and most implemented. Both groups also considered Question (v), measurement systems support the calculation of the return on investment for individual projects, as the largest gap. Both groups rated Question (ii), global sourcing participants meet regularly with executive leaders to review savings, as the smallest gap. Factor 7 is the only factor that both groups had scored the same for items in the highest critical factor, most broadly implemented factor, largest gap and smallest gap.

Under Factor 8, both groups considered Question (v), understanding global opportunities, as most critical. Both groups also considered Question (ii), developing communication skills, as most implemented. Question (v), understanding global opportunities, was considered the largest gap. Both groups rated Question (iii), developing knowledge on exchange rates, as the smallest gap.

### **5.13 How to define a gap as significant?**

A gap in this research represents the difference in rating between critical and practices. To identify a gap as significant, the Wilcoxon test was used. The Wilcoxon test is used when there are two samples of scores and the research seeks to identify “whether the difference between sample averages is significant” (Kinnear and Gray, 2004). The Wilcoxon test was chosen because the survey data was tested using two related samples (Level 2&3 and Level 4&5 and was nonparametric (there is no specific assumptions about the population distribution). The decision to use the Wilcoxon test was based on the flowchart showing the selection of suitable tests by Kinnear and Gray (2004) (refer Appendix 10).

From the Wilcoxon test results, the lowest cut off point where the gaps were found to be significant was for the gap scores that were more or equal to 0.4 (refer Appendix 11). For companies in Level 2&3, 55% of the questions had gap scores of more or equal to 0.4 and was found to be significant. For companies in Level 4&5, 40% of the questions had gap scores of more or equal to 0.4 and was found to be significant.

In contrast, for companies in Level 2&3, 15% of the questions that have gap scores of more than 0.4 were found to be not significant. For companies in Level 4&5, 17.5% of the questions that have gap scores of more than 0.4 were found to be not significant.

The findings from this test did not give a conclusive and clear cut result on the gap score that is considered significant. However, the output from this test provided a gap score that can be used to identify a gap as significant for guidance purposes.

### **5.14 Chapter summary**

Previous studies have focused on how critical certain factors are to companies implementing worldwide sourcing. Monczka and Giunipero (1984) and Trent and Monczka (2005) have listed factors that are important in implementing a successful worldwide sourcing strategy. Studies by Birou and Fawcett (1993); Rajagopal and Bernard (1994) and Trent and Monczka (2003b) ranked how important the critical success factors were in the implementation of worldwide sourcing. There were two past studies that compared differences between companies that implemented worldwide sourcing. Scully and Fawcett (1994) focused on the differences in terms of size of the company, between small and large companies, whereas Trent and Monczka (2003a) focused on the differences in terms of sourcing levels, between firms that engage in global sourcing and international purchasing.

This research has formulated a similar approach to Trent and Monczka (2003a) in looking at the differences in terms of how critical certain factors are to companies implementing worldwide sourcing. Companies in Level 4&5 had higher means for the majority of the factors that were considered as important in their implementation of the worldwide sourcing strategy compared to the companies in Level 2&3. This finding was coherent with the findings from the study by Trent and Monczka (2003a). The least critical factors that were rated by both groups are the same as the three largest gaps of the critical score of Level 4&5 versus Level 2&3 companies. This finding shows that factors which were considered least critical were the factors that were focused on less by the companies.

Besides looking at the differences of how critical the factors are in companies between the different sourcing levels, this study has also identified the differences of the actual implementation of these companies. Companies in Level 4&5 practiced global sourcing more extensively in all the factors compared to companies in Level 2&3. This finding shows that companies in the higher sourcing levels, which were mostly large companies, practiced global sourcing more extensively. It was not the purpose of this study to find the relationship between the size of company and the selection of sourcing strategies, but the findings from this study supports the observation made in the past, where companies that pursue global sourcing regard their implementation as more extensive compared to companies that pursue international purchasing. As 76.2% of the sample consisted of large companies, the capabilities of these firms to master the critical success factors of global sourcing is more apparent as these firms have more resources and capabilities to implement those factors compared to small and medium companies. This finding is supported by Akesson et al. (2007) where they found that the size of company influences sourcing strategies. Trent and Monczka (2003) explained that larger firms would be more likely to pursue global sourcing activities.

This study has also identified that there is a pattern in the sequence of factors that the companies focus on most. The scores from both groups showed that emphasis on the factors can be explained by their sourcing level. Both groups rated Factor 6 (Structured approaches to communication and relationship building with suppliers) as the most broadly implemented practice. The next two factors that companies in Level 4&5 rated are Factor 1 (Executive commitment to global sourcing) and Factor 2 (Rigorous and well-defined processes). Companies in Level 4&5 which practice global sourcing require more involvement and support from top management and a well-defined process because of the complexity of the global sourcing process. Trent and Monczka (2002) acknowledge that global sourcing and international purchasing differs in terms of scope and complexity. The integration and coordination of sourcing activities make global sourcing more complex compared to international purchasing.

The next two factors rated by Level 4&5 companies following Factor 1 and 2 are Factor 3 (Availability of needed resources) and Factor 8 (Qualified personnel). By contrast, companies in Level 2&3 rated Factor 3 (Availability of needed resources) and Factor 8 (Qualified personnel) as the most implemented after Factor 6, followed by Factor 2 and Factor 1. Companies in Level 2&3 which practice international purchasing would put more emphasis on building their resources and qualified personnel because they are in the process of establishing their worldwide sourcing process and strategy. Trent and Monczka (2003b) explained that Level 2 companies engage in international purchasing as a reactive process to competition, whereas Level 3 companies engage in international purchasing as they have recognised the need to properly define and execute a worldwide sourcing strategy.

The least broadly implemented factors in both groups are Factor 7 (Methodologies for measuring savings), Factor 5 (Supportive organisational design) and Factor 4 (Integration through information technology). Even though these factors were rated as not broadly implemented and least critical, these factors still need to be addressed. What these findings have shown is that there is a sequence of factors that needs to be addressed first before others.

This study has also identified the gaps between how critical companies rate the factors and the extent of implementation through a gap analysis. Looking at the top three largest gaps in companies that are in Level 2&3, the gaps are much greater than the gaps in Level 4&5 companies. This finding suggests that companies in Level 2&3 have a lot more areas for improvement in order to achieve their desired sourcing level. These gaps may be contributed to by the challenges that the companies face when sourcing globally. Examples of the challenges that companies face when sourcing globally include fluctuations in currency exchange rates, lack of knowledge on foreign business practices, finding qualified foreign sources and logistics support for longer supplier lines (Birou and Fawcett, 1993; Scully and Fawcett, 1994).

This chapter has presented the findings from the survey. The next chapter will discuss the development of the framework using the input from literature review, case studies and survey.

## **6 Development and description of the framework**

### **6.1 Introduction**

This chapter will explain the need to develop the framework, the purpose and the development process of the global sourcing framework. The framework was developed based on the literature review, findings from the case studies and survey. The framework consists of a conceptual model and the tools behind it. The description of the framework will cover the process under each step in the conceptual model and the development of the tools.

### **6.2 The identification of the need to develop a global sourcing framework**

As more and more studies create awareness of the critical success factors that are important in implementing a global sourcing strategy, there is a need to develop a global sourcing framework to help companies identify areas they can improve in terms of implementation of the sourcing strategy. The identification of existing frameworks throughout the literature revealed that there is little emphasis placed on the development of a framework to improve the implementation of global sourcing. The proposed framework was developed following the identification of the worldwide sourcing assessment process suggested by Monczka and Trent (1992) to improve the execution of worldwide sourcing (refer Figure 2.9). The worldwide sourcing assessment process that was suggested by Monczka and Trent (1992) did not suggest details about how companies can evaluate their global sourcing implementation. None of the frameworks or models in literature has detailed methods to identify gaps between a company's requirements and their actual capabilities.

The framework that is proposed in this research is positioned under the "gap definition" step of the Monczka and Trent (1992) study. This framework will suggest a detailed process on how companies can identify the gaps and devise an action plan to reduce the gaps. The proposed framework can be used as a tool to identify the gaps between the company's requirements to maintain or progress to a higher sourcing level and the company's current capabilities.

However, the proposed framework is considered exploratory because the data used to develop the framework was based on exploratory research data. The actual applicability of the framework to work in companies was not tested. The feedback on the framework was only obtained based on the views of the interviewees. Hence, it is important to note that while this framework provides a foundation on how companies can improve their sourcing strategy implementation the framework may need more in-depth study to assess its applicability to different organisations.

### **6.3 The purpose of the framework**

The proposed framework will be put forward to help companies identify areas to improve their global sourcing strategy implementation. The application of this framework is specifically for companies that are already sourcing globally. This framework will help companies identify problem areas and opportunities for improvement, which will then allow for better management of the global sourcing process internally.

#### The purpose of the framework:

1. To assess the current sourcing level of companies (current state).
2. To provide guidance for companies to identify the areas for improvement in their approach to global sourcing (gap analysis).
3. To help companies determine where they are and where they need to be in terms of their sourcing strategy (future state).
4. To allow companies to identify their strengths, as well as pointing out the areas for improvement.

#### Before using the framework, companies need to be aware that:

- This framework is only applicable to companies that are already involved in sourcing globally, either implementing international purchasing or global sourcing.
- The critical success factor list is not in order of priority.

The framework does not cover:

- The strategy development process.
- Companies in Level I (Domestic sourcing only).
- The decision to outsource or not.
- The supplier selection process.
- Decision of where to source from.
- Performance measurement.
- Factors that are not in a company's control or jurisdiction such as political stability, global economy and rate of change of technology.

#### **6.4 The initial development process of the framework**

A proposed framework has been devised as part of the deliverables of this research project. The details of the framework have been developed based on the literature review, case studies and survey findings. The initial ideas on the framework were devised based on a brainstorming process with academics.

First, in order to identify the gaps in implementation, companies needed to identify at which sourcing level they currently stand and determine whether they needed to improve their current implementation. Following this, the definition of the sourcing levels was compiled and the critical success factors which were identified in past research were used as a starting point to identify a company's current practices.

After companies have identified their need to improve their implementation, they will then need to have an assessment tool to identify the gaps in their implementation. The development of the tool to assess the gaps in implementation incorporated a lot of details from the questionnaire for the survey in the data collection process. The tool used critical success factors identified in past research, the gap analysis method used in the analysis process of the survey and the leading practices score that was calculated based on the responses from the survey. The assessment tool was thought to have a more user-friendly interface and be accessible to users in a company if it was developed in Microsoft Excel.

The Microsoft Excel software is widely used and accessible to any users that have a computer. The files can be emailed, printed and shared easily across a company. This software was also chosen because of the ability to generate the radar charts for the gap analysis.

The next process after the identification of gaps in implementation was data validation. The data validation process is essential based on the observations from the survey data where companies that state that they practice at a certain sourcing level, may not practice at the stated level for all the critical success factors that were measured. In addition, as the application of the assessment tool required the involvement of several people, data validation was considered important in order to assure the consistency and reliability of the data.

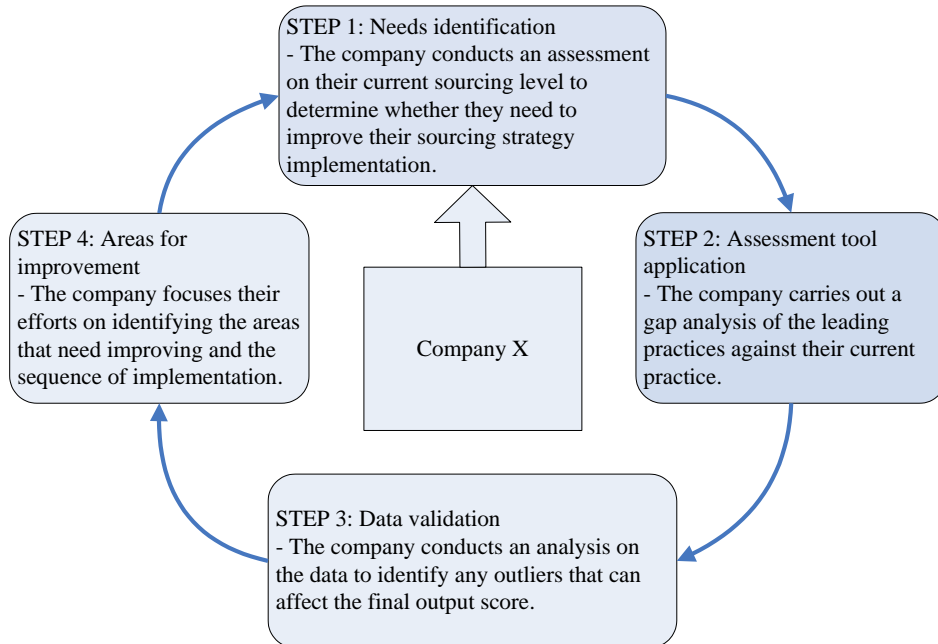
After the data validation process, companies then needed to have a method to identify the specific areas to be improved and also to prioritise the plan of action. The survey finding on the ranking of practices proved that there is a pattern in the sequence of factors that the companies focused on most and needed to be addressed first before others. This finding was used to develop a timeline guide in order to point out which factors should be worked on first. Following this, companies should have a tool to identify the specific areas under each factor that needed immediate attention. In order to prioritise the different problem areas, an assessment matrix was developed. The assessment matrix would prioritise the problem areas based on a few assessment criteria.

The detailed description the framework and how the tools were developed are explained further in the following sections.



### 6.4.1 The description of the conceptual model

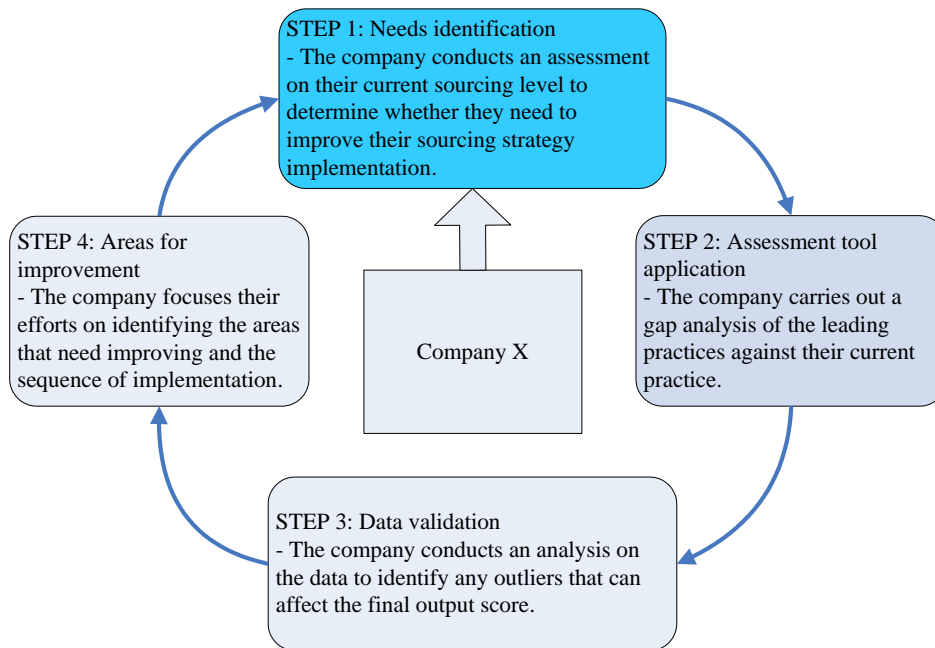
The framework consists of the conceptual model and the tools behind it. Figure 6.1 depicts the conceptual model.



**Figure 6.1: Conceptual Model**

The conceptual model consists of four steps. The model starts with Step 1 – Needs Identification, followed by Step 2 – the Assessment Tool Application, Step 3 – Data Validation and Step 4 – Areas for Improvement. Companies can repeat the cycle of steps over and over again.

## 6.5 Description of Step 1: Need identification



**Figure 6.2: Step 1 - Needs Identification**

The first step in the conceptual model is called Needs Identification (refer Figure 6.2). The company conducts an assessment on their current sourcing level to determine whether they need to improve their sourcing strategy implementation. The purpose of this step is to identify if the company needs to assess their strategy implementation in order to proceed to the next step. This step is carried out by the process owner of the global sourcing strategy.

According to Monczka et al. (2008), a process owner is a person that assumes ownership for conducting lessons learned sessions at the end of each sourcing initiative, forwards the results to all global participants and works to secure the participation of different functional groups when crafting global sourcing agreements. The process owner is responsible for the performance of the sourcing strategy implementation and has the authority to revise the strategy.

Trent and Monczka (2005) explained that part of a company's strategic planning process should include determining an appropriate sourcing level. Hence, in this framework, before the process owner assesses the company's sourcing strategy implementation, the process owner should first determine the appropriate sourcing level at which the company wants to operate.

The input to this step is the background information of the company. The background information is provided by the process owner. The tool that is used is the set of questions to identify the company's current sourcing level. The outputs from this step:

- (1) the process owner has identified their current sourcing level of the company
- (2) the process owner has identified that the company needs to assess their strategy implementation.

### **6.5.1 The process in Step 1**

The assessment of the company's current sourcing level is done through a questionnaire. First, the process owner identifies the company's current sourcing level according to the generic description of each level. The categorisation levels are:

- Level 1 (engage in domestic purchasing only)
- Level 2 (engage in international purchasing as needed)
- Level 3 (engage in international purchasing as part of sourcing strategy)
- Level 4 (engage in the integration and coordination of global sourcing strategies across worldwide locations)
- Level 5 (engage in the integration and coordination of global sourcing strategies with other functional groups).

For this step, the process owner would start off with using Tool 1.1: Questions to identify the company's sourcing level (refer Table 6.1).

**Table 6.1: Identification of the Overall Sourcing Level (Section 1 of Tool 1.1)**

<p><b><u>IDENTIFICATION OF THE OVERALL SOURCING LEVEL (TOOL 1.1)</u></b></p> <p><b>Instructions:</b></p> <p><b>1. Identify the company's current sourcing level according to the generic description of each level.</b></p> <p><b>2. If company not in Level 1, proceed to Section (2) to identify the company's current sourcing level according to each global sourcing practice.</b></p> <p><b><u>SECTION (1) – OVERALL SOURCING LEVEL (please tick one box only):</u></b></p> <p><input type="checkbox"/> <b>Level 1: Engage in domestic purchasing only</b></p> <ul style="list-style-type: none"><li>• No direct worldwide purchasing as there is no need to buy internationally, lack expertise to buy internationally.</li><li>• Purchase from domestic suppliers or distributors that are involved in worldwide sourcing.</li></ul> <p><input type="checkbox"/> <b>Level 2: Engage in international purchasing as-needed</b></p> <ul style="list-style-type: none"><li>• Progress to this level when the company is confronted with a requirement such as no suitable domestic supplier exists, emergence of worldwide competitors or if there is a supply disruption.</li></ul> <p><input type="checkbox"/> <b>Level 3: International purchasing as part of sourcing strategy</b></p> <ul style="list-style-type: none"><li>• Progress to this level as the company recognises that lower purchase prices and other performance improvements may result from worldwide sourcing.</li><li>• Procurement strategies are not well coordinated across worldwide buying locations, operating centres or business units.</li></ul> <p><input type="checkbox"/> <b>Level 4: Integration and coordination of global sourcing strategies across worldwide locations</b></p> <ul style="list-style-type: none"><li>• At this level, the company integrates and coordinates material and service requirements, usually through central coordination, across worldwide divisions or business unit locations.</li></ul> <p><input type="checkbox"/> <b>Level 5: Integration and coordination of global sourcing strategies with other functional groups</b></p> <ul style="list-style-type: none"><li>• At this level, the company proactively integrates and coordinates common items, processes, designs, technologies and suppliers across worldwide purchasing centres and with other functional groups, particularly engineering, operations and marketing.</li></ul>
---

In the next section of the tool, if the process owner has identified that the company is not in Level 1, the process owner then identifies the company's current sourcing level for all eight of the global sourcing practices. For this step, the process owner is still using Tool 1.1: Questions to identify the company's sourcing level for the global sourcing practices. Refer Table 6.2 for the sample of this section. The whole document can be referred to in Appendix 12.

**Table 6.2: Identification of the Overall Sourcing Level (Section 2 Sample of Tool 1.1)**

<b>SECTION (2) –GLOBAL SOURCING PRACTICES FOR EACH LEVEL</b>				
<b>(please tick only one box in each practice):</b>				
<b>(1) Executive commitment to global sourcing</b>	<b>Level 2:</b> Limited commitment to purchase internationally.	<b>Level 3:</b> Top management support of international purchasing emerges.	<b>Level 4:</b> There are designated executive leaders appointed to coordinate global sourcing efforts.	<b>Level 5:</b> Cross-functional leaders participate on a global sourcing steering committee to coordinate global sourcing efforts.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(2) Rigorous and well-defined process</b>	<b>Level 2:</b> Informal international purchasing process exists.	<b>Level 3:</b> Decentralised international purchasing process exists, where different groups use their own tailored process.	<b>Level 4:</b> A common global sourcing process exists across worldwide locations.	<b>Level 5:</b> A well-defined process is in place that requires global participants to establish goals, meet milestones and report progress to executive leaders.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(3) Availability of needed resources</b>	<b>Level 2:</b> Limited resources are allocated for international purchasing activities.	<b>Level 3:</b> Resources can be made available should a new opportunity arises.	<b>Level 4:</b> Trade-offs are made on resources between worldwide locations.	<b>Level 5:</b> Executive leaders make critical resources (such as budgets and personnel) available to support global initiatives.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(4) Integration through information technology</b>	<b>Level 2:</b> Limited need for integration through technology.	<b>Level 3:</b> Some form of information system exists to facilitate exchanges of information.	<b>Level 4:</b> An integrated information system has been established to facilitate global sourcing initiatives.	<b>Level 5:</b> A fully integrated information system links sourcing activities with other functional groups (new product development, engineering, operations, marketing) from worldwide locations.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

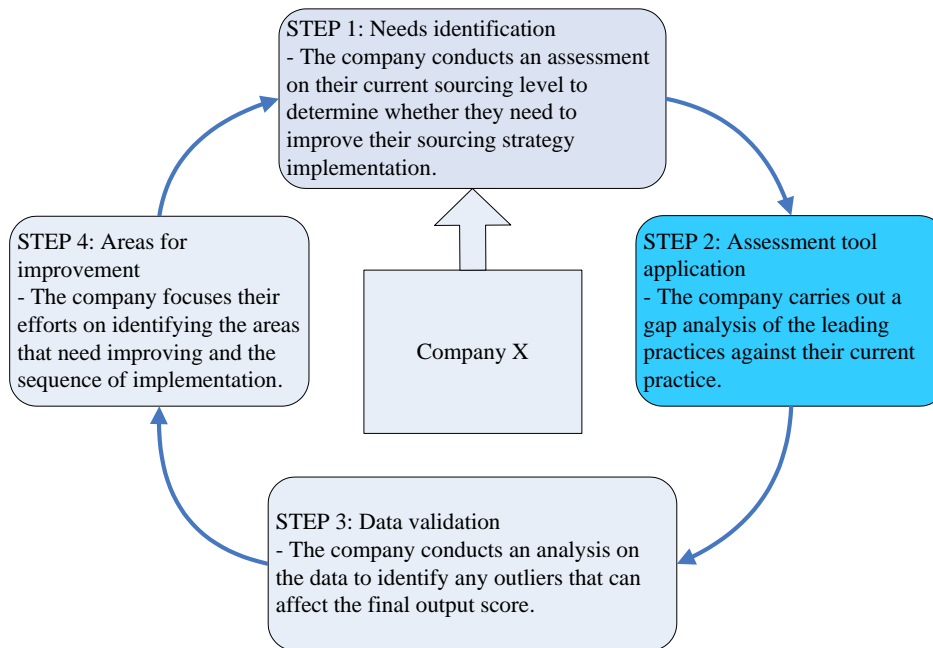
According to the answers in Tool 1.1, the process owner assesses whether the current sourcing level and current sourcing practices are aligned with company strategy. If there is a gap, then the process owner can proceed to the next step.

### **6.5.2 Development of tool in Step 1**

This section explains how Tool 1.1: Questions to identify the company's sourcing level was developed. The questions in this tool are similar to the questions used in the questionnaire that was used to collect data through survey. Some amendments were made in terms of layout and the description on each of the sourcing levels in general. Section (1), the five sourcing levels are taken from the study by Trent and Monczka (2003b). The explanation for each level was taken from the study by Trent and Monczka (2002).

In section (2), the seven characteristics of global sourcing excellence were derived from Trent and Monczka (2005) and adding on another factor that was regarded as important in the literature (qualified personnel). The descriptions under each factor correspond to each of the sourcing levels, Level II, III, IV and V. Level I (engage in domestic purchasing only) was not included in this set of questions because the focus of the research is for companies that source globally. The descriptions under each factor for Level V were derived from Trent and Monczka (2005). The descriptions for the rest of levels were developed by the researcher's understanding on the differences between the levels for each factor from the literature.

## 6.6 Description of Step 2: Assessment tool application



**Figure 6.3: Step 2 - Assessment Tool Application**

The second step in the conceptual model is called Assessment Tool Application (refer Figure 6.3). The company carries out a gap analysis of the leading practice against their current practice. The purpose of this step is to identify gaps in the sourcing strategy implementation. This step is carried out by the process owner of the global sourcing strategy and employees that have insight into company-wide sourcing strategies. Potential candidates include purchasing managers, supply chain management managers, sourcing team members/leaders, executive steering committee members and those who are closely involved with global sourcing such as logistics representatives. The input to this step is the knowledge of employees on the company's current sourcing implementation. The tool that is used is the questionnaire and Master Excel Sheet. The outputs from this step are (1) completed questionnaires (2) input all answers in Master Excel Sheet (3) gap analysis charts.

### 6.6.1 The process in Step 2

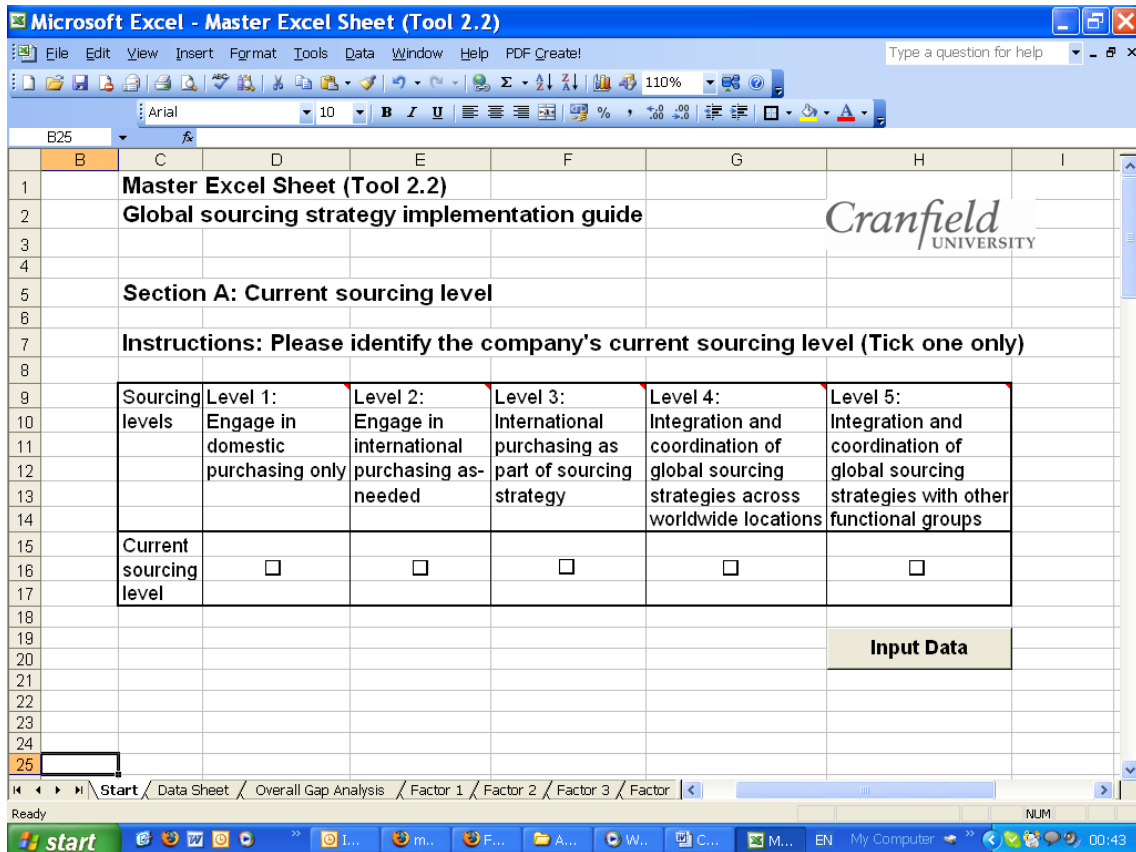
- (1) The process owner identifies survey respondents (maximum 10 people).
- (2) The process owner distributes the questionnaire either through email or hardcopy of Tool 2.1 – Global sourcing practices questionnaire (refer Table 6.3 for the sample). The whole questionnaire can be referred to in Appendix 13.

**Table 6.3: Global Sourcing Practices Questionnaire Sample (Tool 2.1)**

<b>GLOBAL SOURCING PRACTICES QUESTIONNAIRE (TOOL 2.1)</b>					
<b>Instruction:</b> Please read each item carefully, and then <u>circle the answer</u> that best represents your opinion.					
<b>1. Executive commitment to global sourcing</b>	Please indicate the degree to which your firm currently has implemented the following practices.				
	<b>Not Implemented</b>				<b>Broadly Implemented</b>
(i) Top management support and commitment to source worldwide	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
(ii) An executive steering committee to guide the process	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
(iii) Cross-functional leaders participate on a global sourcing steering committee or council	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
(iv) A designated executive has the authority to translate a global vision into reality	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
(v) Global sourcing leaders make strategy presentations to the executive committee and to the board of directors	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

- (3) The respondents answer the questionnaire. For this step, the survey respondents would be using Tool 2.1 – Global sourcing practices questionnaire.
- (4) Questionnaires are collected by the process owner.
- (5) The process owner would then administer the process of entering the answers from the questionnaire into the Master Excel Sheet. For this step, Tool 2.2 – Master Excel Sheet will be used. In the Start Page (refer Figure 6.4), the process owner identifies the company’s current sourcing level by clicking in of the boxes. Next the process owner can move to the data sheet by clicking on the Input Data button on the Start Page.





**Figure 6.4: Tool 2.2 – Master Excel Sheet (Start Page)**

In the Data Sheet page, the process owner will need to fill in the answers from the questionnaires that have been collected by the survey respondents (refer Figure 6.5). The researcher limited the amount of respondents to a maximum of 10 survey respondents because including more than 10 people would make the execution of the framework difficult for the next step in the framework where the process owner and the team need to come together to discuss the gaps that have been identified. After the data sheet has been completed, the process owner can generate the gap analysis charts by clicking the Generate Chart button (refer Figure 6.6).

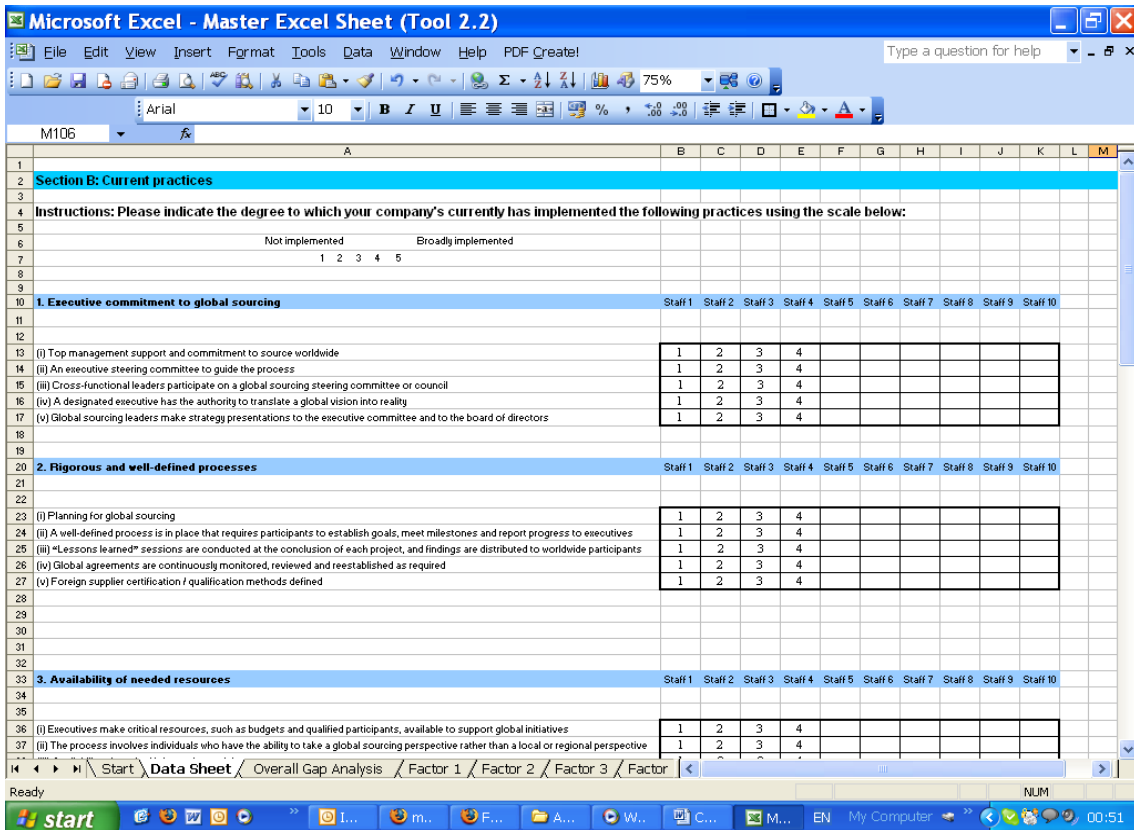


Figure 6.5: Master Excel Sheet (Data Sheet – Top Section of Tool 2.2)

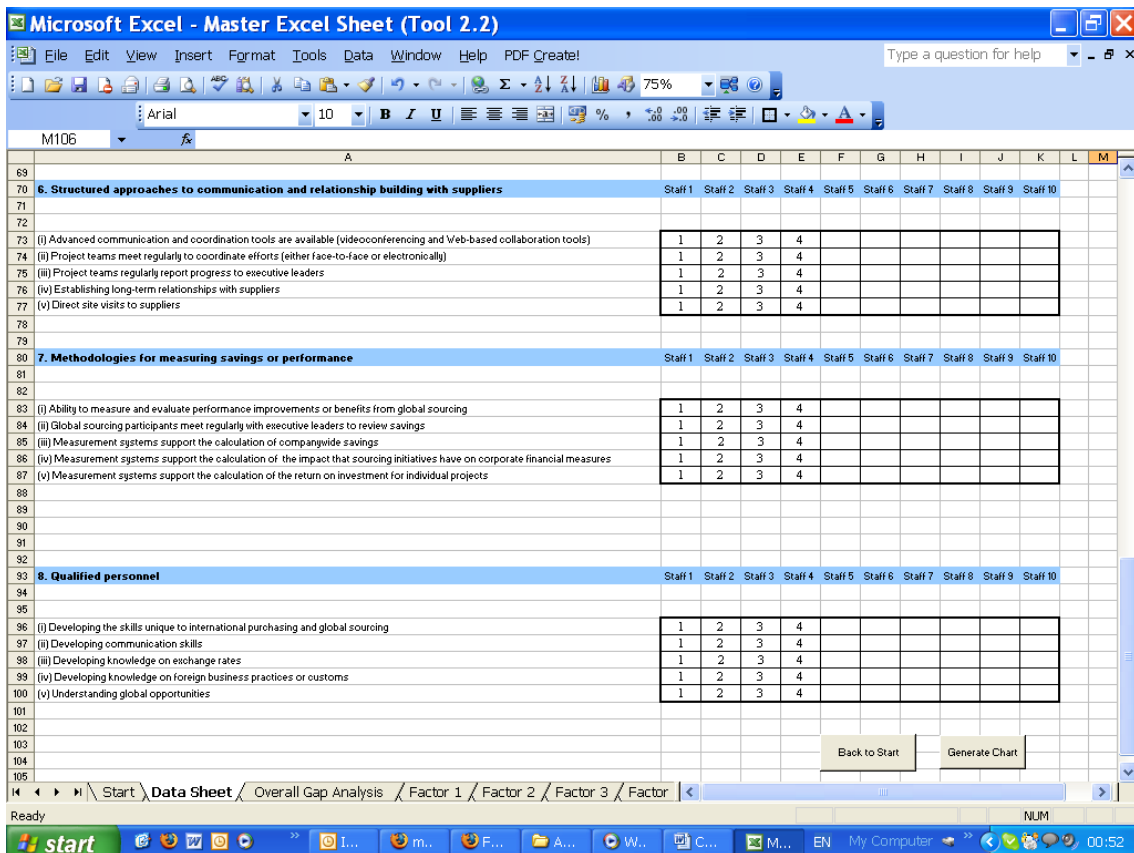


Figure 6.6: Master Excel Sheet (Data Sheet – Bottom Section of Tool 2.2)

(6) The process owner generates the gap analysis charts in the Master Excel Sheet and identifies any gaps. Figure 6.7 depicts an example of a gap analysis.

Figure 6.7 shows the eight practices that were identified to be critical in the implementation of the global sourcing strategy. The ranking of each practice is done through the questionnaire in the previous step. The company's current practices are plotted on the map (dotted lines). The map also has ranks of the leading practices of the global sourcing strategy from the data collected through survey for this research (straight lines). After all the practices are plotted, the gaps can be identified. In this example, one gap is in supportive organisational design and has been highlighted with a circle. This method helps visualise the gaps of areas which the company can improve in order to achieve the desired sourcing level.

### EXAMPLE OF A GAP ANALYSIS

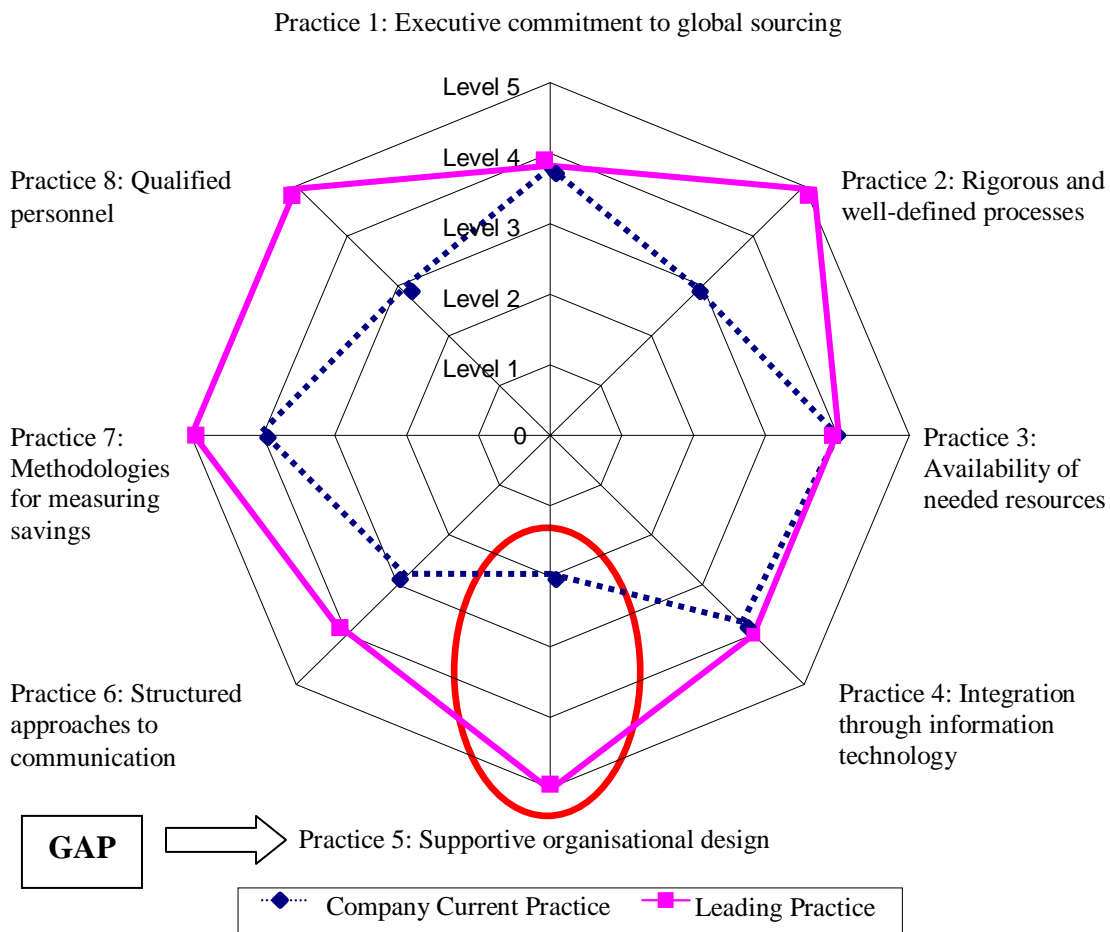
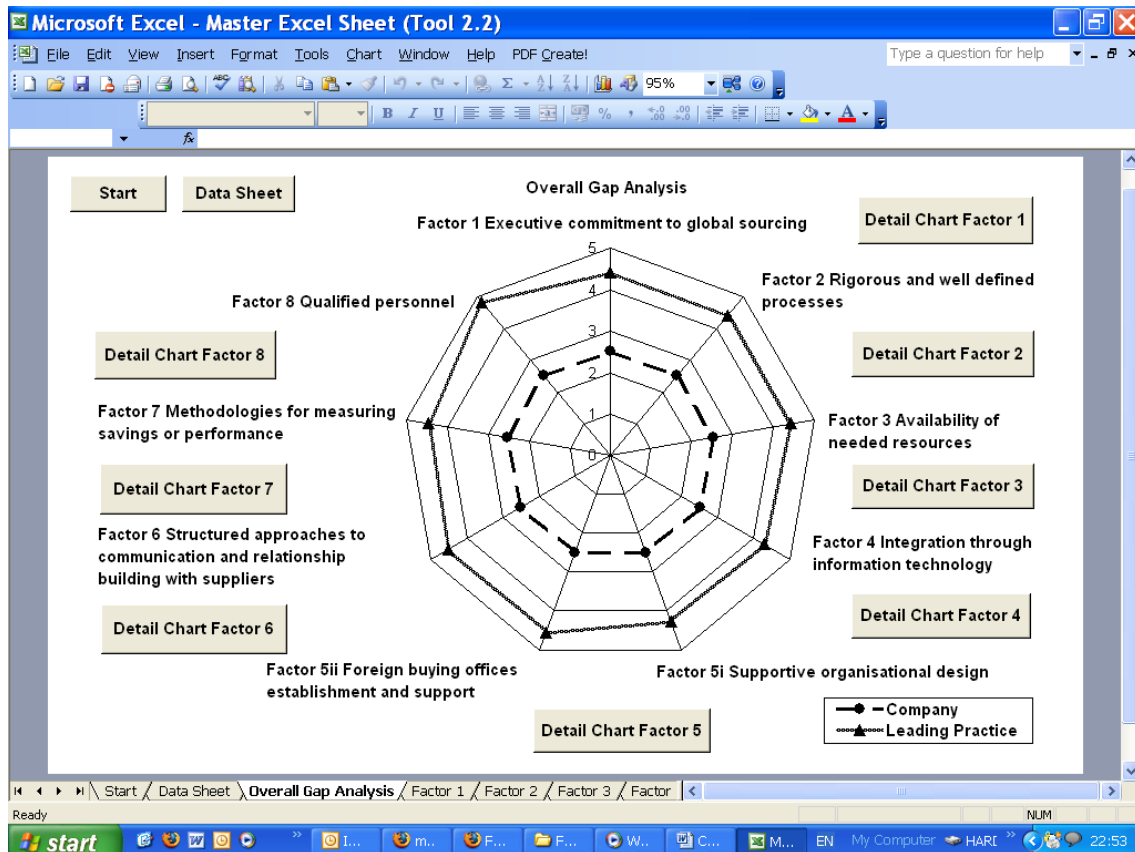


Figure 6.7: Example of a Gap Analysis

Figure 6.8 shows the Overall Gap Analysis that is generated in the Master Excel Sheet. In this Overall Gap Analysis, the focus is on the eight critical success factors. At this stage, being able to identify which factor needs attention is the focal point before the identification of the specific problem areas under each factor.



**Figure 6.8: Master Excel Sheet (Overall Gap Analysis)**

Other than looking at the gaps with an overall view of the eight factors, the gaps can also be viewed in a more detailed analysis under each factor. The Master Excel Sheet has been designed for the users to not only look at the overall gap analysis, but also at the detailed gaps under each factor. This can be done by clicking on the Detail Chart buttons next to each factor (refer Figure 6.8). In addition, on this Overall Gap Analysis page, users can also go back to make changes if necessary in the Data Sheet or Start page by clicking on the respective buttons on the top left of the page.

Figure 6.9 shows an example of the detailed gap analysis chart, in this case, for Factor 1 (Executive commitment to global sourcing). The detailed gap analysis looks at the specific practices under each factor. Here, users are able to pinpoint which specific practices that need to be dealt with from looking at the gaps. Again, the company scores are depicted with dotted lines and the leading practices scores with straight lines.

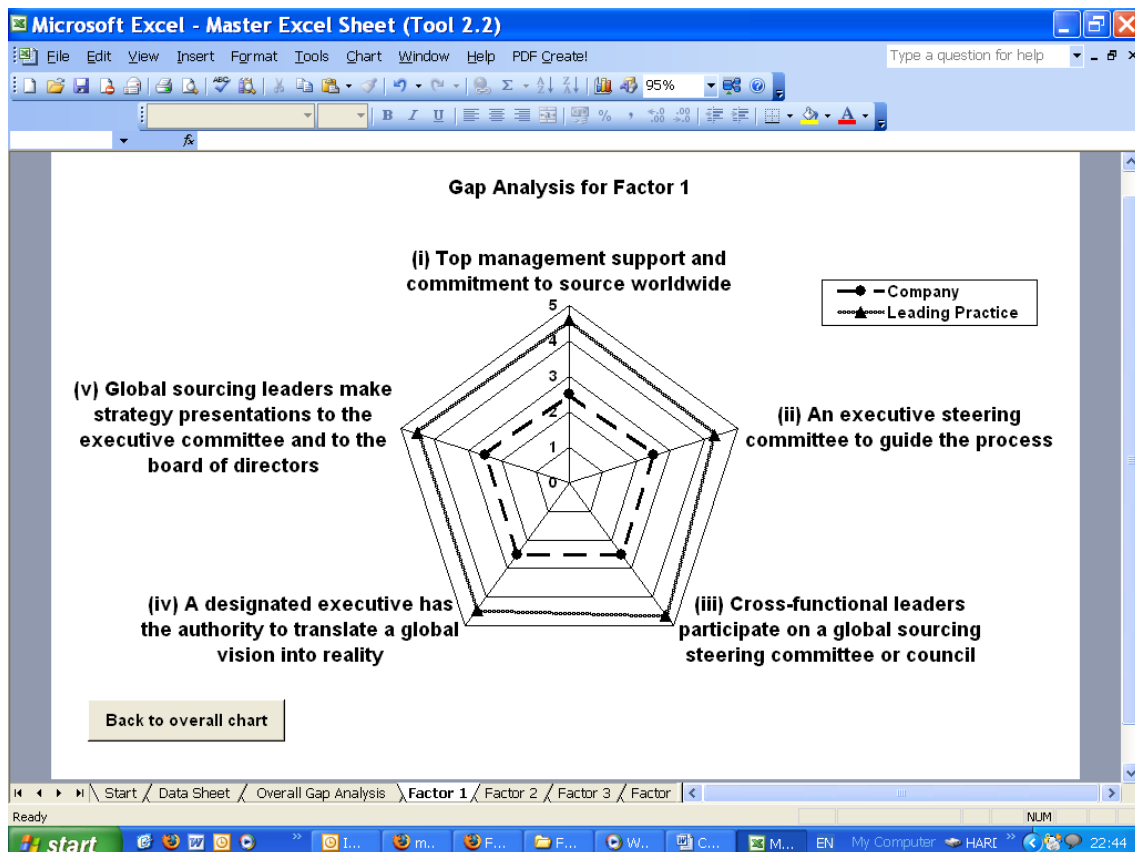


Figure 6.9: Master Excel Sheet (Gap Analysis for Factor 1)

In this page, users can quickly go back and forth from the detailed factor gap analysis chart to the Overall Gap Analysis page by clicking on the Back to overall chart button, such as depicted on the bottom left of Figure 6.9.

### **6.6.2 Development of tool in Step 2**

This section explains how the tools in Step 2 were developed. The first tool, Tool 2.1: Global sourcing practices questionnaire was developed using the same questions in the questionnaire that were used to collect data through survey. Tool 2.1 focuses on the eight critical success factors of implementing international purchasing and global sourcing strategy. The seven characteristics of global sourcing excellence were derived from Trent and Monczka (2005) and another factor that was regarded as important in the literature was added (qualified personnel). The eight categories of critical success factors are:

1. Executive commitment to global sourcing
2. Rigorous and well-defined processes
3. Availability of needed resources
4. Integration through information technology
5. Supportive organisational design
6. Structured approaches to communication and relationship building with suppliers
7. Methodologies for measuring savings and performance
8. Qualified personnel

Under each category of critical success factor, there are five sub factors. Five factors that best explain each category were chosen to be included in the questionnaire. The rationale for choosing which sub factors to be included in the questionnaire:

1. Factors that have the most references in each category.
2. Factors from the study by Trent and Monczka (2005) were included since the study had a comprehensive view, where the data collected were based on site visits and quantitative data (survey).

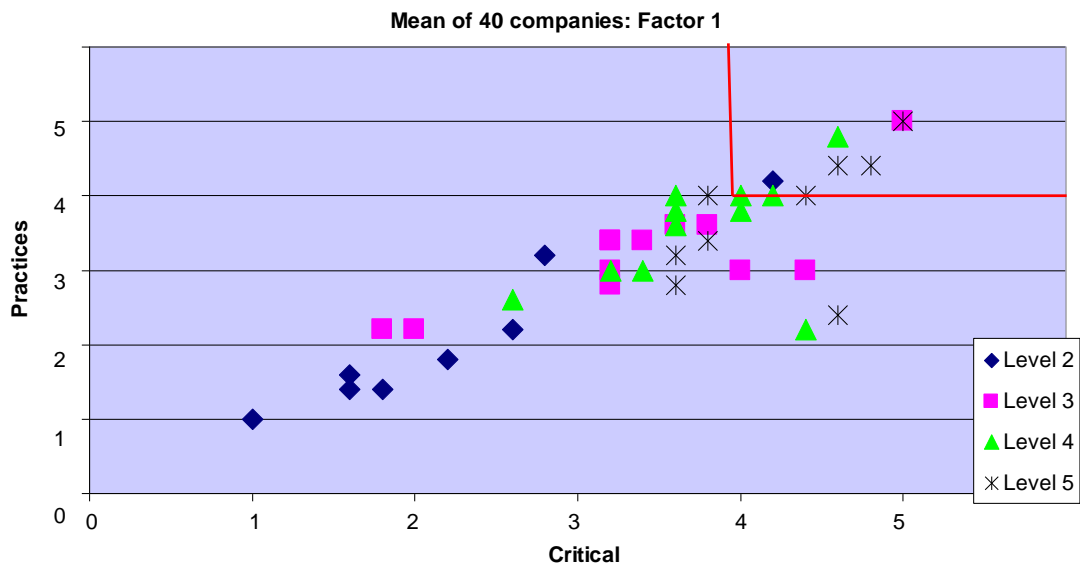
These items are measured using a five-point Likert Scale. The scale requests respondents to rate the degree to which they perceive the items have been implemented in their firm. The rating scale used is 1=Not Implemented and 5=Broadly Implemented.

The second tool, Tool 2.2: Master Excel Sheet was developed in Microsoft Excel. There are three calculations that are important to produce the gap analysis charts, the company practices scores in the overall gap analysis chart, the leading practices scores in the overall gap analysis chart and the leading practices scores in the detailed gap analysis chart for each factor.

The first calculation is for company practices scores in the overall gap analysis chart. For each factor, the calculation required is a cumulative mean of all the answers from all the respondents. First, the mean for the answers for each sub factor is calculated. Then the cumulative mean is calculated from the mean of all the sub factors under the factor.

The second calculation is for leading practices scores in the overall gap analysis chart. There were a few options that were considered in choosing the score:

1. using the score of 5 – This method was not chosen because it's too simplistic and the data that have been collected are not fully utilised for the purpose of this analysis.
2. using the mean score of all Level V companies. This method was not chosen because according to the survey finding, even though generally they are at level 5, this is not the case for every critical success factor.
3. using the mean score of companies that rated 4 and above for critical and broadly implemented (refer Figure 6.10). This method was chosen using data collected through survey. The rationale to this method is taking the mean score of companies that are leading in each factor. Through the survey findings, one company may not be leading in every factor. This finding has influenced the selection by taking the score of a group of companies that are leading in every factor.



**Figure 6.10: Mean of 40 companies for Factor 1**

Hence, in order to calculate the leading practices scores, first calculate the mean score of sub factors under each factor for each company. An example of the mean scores of sub factors under Factor 1 for each company is plotted on a scatter chart in Figure 6.10. The red line on the top right corner of the scatter chart shows the companies that are considered leading in practice for Factor 1, where these companies rated 4 and above for both critical and broadly implemented.

Calculate the mean of the practices score from companies that rated 4 and above for critical and broadly implemented for each factor to get the leading practices score. The calculation is as below:

$$\text{Leading practices score for Factor 1} = \frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{39.8}{9} = 4.42$$

The leading practices scores for Factor 2 to 8 can be referred to in Appendix 14. These leading practices scores are used to generate the Radar Chart for the gap analysis.



The weakness of using this method is that it is only based on a certain population at a certain point in time. The companies that have taken part in the survey will evolve overtime and the scores will change as time progresses. The way to overcome this weakness is to have the leading practices score updated in a database. Any company that participates in the framework will have their scores updated in the database and also have their scores benchmarked against the other companies who have participated. This will ensure that the scores are robust and stand the test of time.

The third calculation is for the leading practices score in the detailed gap analysis chart for each factor. This score is calculated through the mean score of companies that rated 4 and above for critical and broadly implemented for each sub factor.

Through Microsoft Excel, the gap analysis charts are generated through the Radar Chart function. The Master Excel Sheet was developed with buttons that have macros to automatically bring users back and forth to different sections in the Master Excel Sheet.

### 6.7 Description of Step 3: Data validation

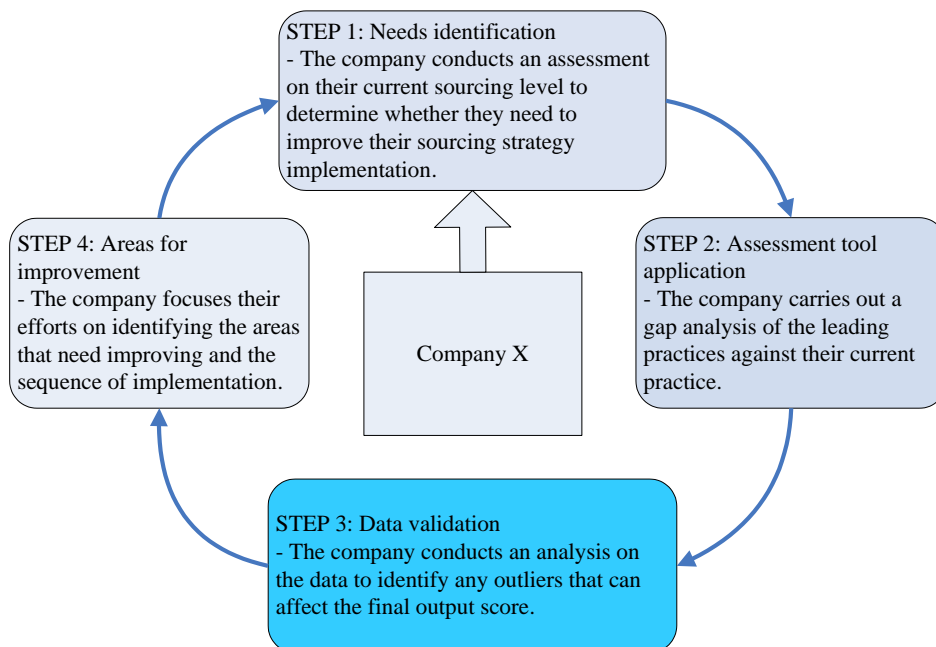


Figure 6.11: Step 3 - Data validation

The third step in the conceptual model is called Data Validation (refer Figure 6.11). The company validates the data that were collected in Step 2. The purpose of this step is to validate the data from any outliers that can influence the final output score.

What is an outlier? An outlier is an extreme score. An example of a scenario where an outlier exists is when a company that is in Level V rated an extreme score of 1 for the factors which are considered critical in their global sourcing strategy implementation.

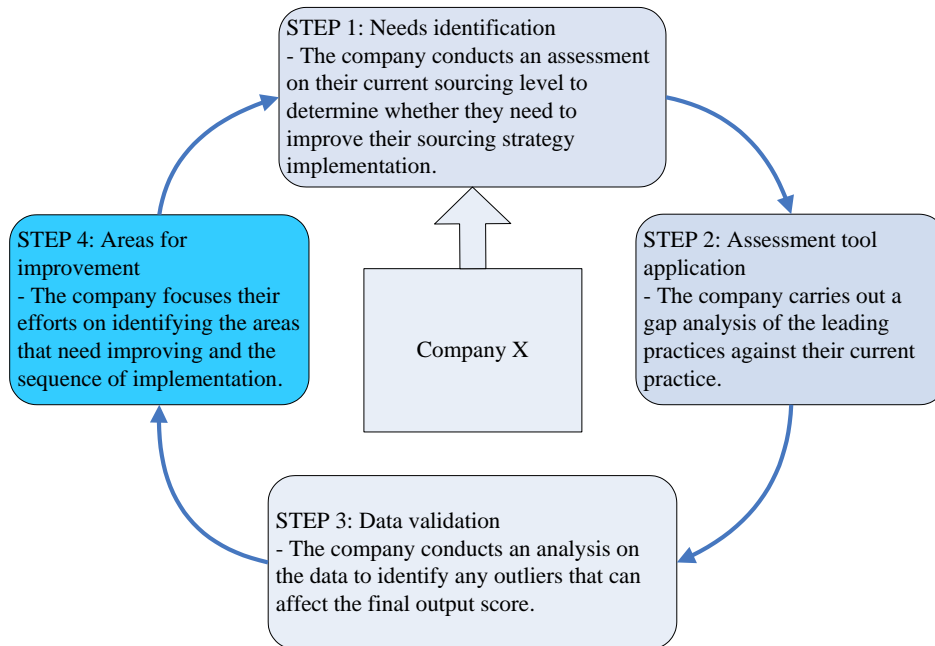
The global sourcing practices questionnaire is answered individually so the answers are based on one person's perception of the company's current situation. The framework involves the responses of more than one person, hence there needs to be a discussion to decide on the overall score for the company.

This step is facilitated by the process owner of the global sourcing strategy and employees that participated in the previous step. The input to this step is the answers from the questionnaire in the Master Excel Sheet and gap analysis charts. The tool that is used is the Master Excel Sheet. The outputs from this step are (1) finalised answers in the Master Excel Sheet and (2) finalised gap analysis charts.

### **6.7.1 *The process in Step 3***

Using the Master Excel Sheet and gap analysis charts, the process owner and employees discuss if there are any outliers. The tool that is used here is Tool 2.2 – Master Excel Sheet. The answers are then updated if necessary, by the process owner, and the finalised charts are produced. The tool that is used here is also Tool 2.2 – Master Excel Sheet.

## 6.8 Description of Step 4: Areas for improvement



**Figure 6.12: Step 4 - Areas for Improvement**

The fourth step in the conceptual model is called Areas for Improvement (refer Figure 6.12). The company focuses their efforts on identifying the areas that need improving and the sequence of implementation. The purpose of this step is to identify areas for improvement and determine the sequence of implementation. This step is carried out by the process owner of the global sourcing strategy and employees that participated in the previous steps. The input to this step is the Master Excel Sheet and finalised gap analysis charts. The tool that is used is the Timeline Guide and Assessment Matrix. The outputs from this step are (1) prioritised list of the action plan and (2) recommend the action plan to top management for approval.

### **6.8.1 *The process in Step 4***

The team discusses the gaps and identify specific areas for improvement. The team takes into account the sourcing level that the company wants to operate. The discussion will be focused on aligning the sourcing strategy with the corporate strategy. The sourcing strategy should fit the requirements of the company's corporate strategy, as the higher the sourcing level, the more resources will be tied down to support the sourcing strategy. The team then compiles a list of areas that they need to improve. The tool that is used here is Tool 2.2 – Master Excel Sheet.

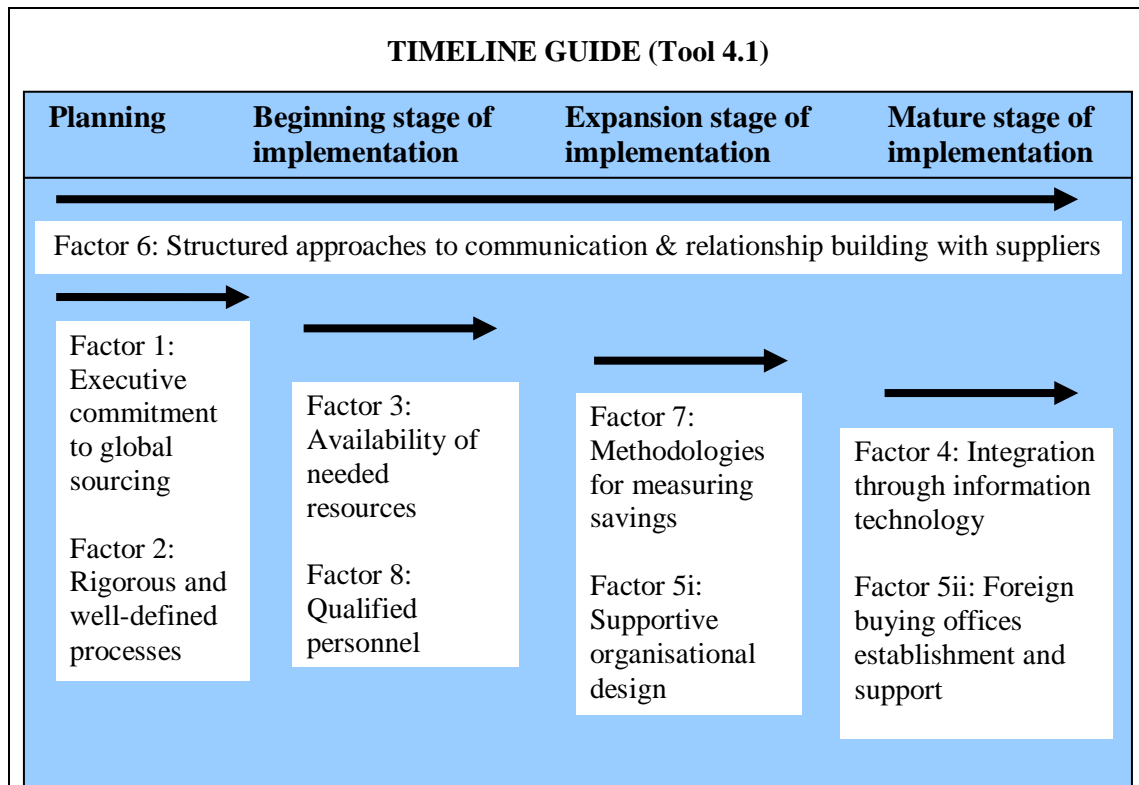
The team then prioritises the list of areas that they need to improve. The tool that is used here is Tool 4.1 – Timeline Guide and Tool 4.2 – Assessment Matrix.

### **6.8.2 *Development of tool in Step 4***

This section explains how the tools in Step 4 were developed. The first tool, Tool 4.1: Timeline Guide was developed from the survey finding, using the ranking score of practices that were broadly implemented (refer Table 6.4).

The timeline guide is divided into four stages, planning, beginning, expansion and mature stage of implementation (extensive activities in sourcing). Both groups of companies, lower levels (Level II and III) and higher levels (Level IV and V) ranked Factor 6 as the most broadly implemented. Factor 6 is implemented from the start, all the way through to the mature stage of implementation. This is because it is important for the company to communicate activities throughout the whole company from commencement and as the company move along the stages, and being more mature, the company would develop long term relationship building with suppliers.

**Table 6.4: Timeline Guide (Tool 4.1)**



Following Factor 6, the next top 4 factors that were rated in both groups of companies were Factors 1, 2, 3 and 8. In the planning stage, the company would have vision and direction from its top level, then there would be the planning process, followed by allocating resources and having qualified people in place in the beginning stage. The sequence of this timeline is supported by case studies findings where the top factors that were rated as important were Factors 1, 2, 6 and 8.

This is followed by Factors 7, 5 and 4. In the expansion stage, the company should focus on methodologies for measuring savings (Factor 7) and supportive organisational design (Factor 5i), where there are cross functional teams, a formal executive steering committee oversees the process and the organisational design includes the separation of strategic and operational activities.

In the mature stage, this is then followed by integration through information technology (Factor 4) and foreign buying offices (Factor 5ii). In terms of integration through information technology, companies in the mature stage would integrate with the suppliers with whom they have had a long term relationship. In terms of foreign buying offices, from the survey findings, the lower level companies rated this factor low as these companies did not broadly implement this factor.

The second tool, Tool 4.2: Assessment Matrix was developed in Microsoft Word and Excel (refer to Table 6.5 for the sample). The full document of the Assessment Matrix can be referred to in Appendix 15. The purpose of developing the assessment matrix is to have a plan of action by prioritising the list of areas that needs to be improved according to cost, ease of implementation and which are business critical. Priority is given to the lower scored activities. However, if there is an activity that is business critical, it can be prioritised even though it scored as high or hard to implement.

**Table 6.5: Assessment Matrix Sample (Tool 4.2)**

<b>ASSESSMENT MATRIX (TOOL 4.2)</b>									
Instructions:									
(1) Please assess the following factors using the scores below:									
0	1	2	3						
Not relevant	Low cost	Moderately cost	High cost						
	Easy to implement	Moderately easy to implement	Hard to implement						
	Business critical	Moderately critical	Not business critical						
(2) Add up the score for total per activity to get a subtotal for each factor.									
Decision criteria: Give priority on the lower scored activities. However, if there is an activity that is business critical, it can be prioritised even though it is scored as high cost or hard to implement.									
Factors	Factor 1				Factor 2				
	Top mgmt support and commitment to source worldwide	An executive steering committee to guide the process	Cross-functional leaders participate on a global sourcing steering committee	A designated executive has the authority to translate a global vision into reality	Global sourcing leaders make strategy presentations to the executive committee and to the board of directors	Planning for global sourcing	A well-defined process is in place that requires participants to establish goals, meet milestones and report progress to executives	“Lessons learned” sessions are conducted at the conclusion of each project, and findings are distributed to worldwide participants	Global agreements are continuously monitored and reviewed as required
<b>Assessment criteria</b>									
Cost to implement									
Ease to implement									
Business critical									
<b>Total per activity</b>									
<b>SUBTOTAL</b>									

The last action at this stage is to recommend the action plan for top management approval. The company can then repeat the whole process to reassess their current position and further improve their implementation of the global sourcing strategy.

## 6.9 Chapter summary

This chapter has explained the purpose and the development process of the global sourcing framework. The global sourcing strategy implementation framework consists of a four step conceptual model and the tools behind it. This framework seeks to help companies gain a comprehensive view of their sourcing strategy implementation. This framework was refined through a feedback process that will be discussed in the next chapter. Table 6.6 summarises the purpose of each step and the tools that were developed for each step in the conceptual model.

**Table 6.6: The List of Tools That Were Developed For Each Step**

Step	Purpose	Tools developed under each step
Step 1: Needs identification	<ul style="list-style-type: none"> <li>Identify the company's current sourcing level</li> </ul>	<ul style="list-style-type: none"> <li>Tool 1.1 – Identification of the overall sourcing level</li> </ul>
Step 2: Assessment tool application	<ul style="list-style-type: none"> <li>Identify gaps in the sourcing strategy implementation.</li> </ul>	<ul style="list-style-type: none"> <li>Tool 2.1 – Global sourcing practices questionnaire</li> <li>Tool 2.2 – Master Excel Sheet</li> </ul>
Step 3: Data validation	<ul style="list-style-type: none"> <li>Validate the data from any outliers that can influence the final output score.</li> </ul>	<ul style="list-style-type: none"> <li>Tool 2.1 – Global sourcing practices questionnaire</li> </ul>
Step 4: Areas for improvement	<ul style="list-style-type: none"> <li>Identify areas for improvement and determine the sequence of implementation.</li> </ul>	<ul style="list-style-type: none"> <li>Tool 4.1 – Timeline guide</li> <li>Tool 4.2 – Assessment matrix</li> </ul>



## **7 Feedback on the framework**

### **7.1 Introduction**

This chapter will explain the feedback process of the framework developed in the previous chapter and the results from the feedback process. From the results of the feedback, the framework was refined and presented at the end of this chapter.

The objectives of obtaining feedback on the framework were:

1. To determine the applicability and reliability of the framework to work in real life situations.
2. To obtain response on the strengths, weaknesses and limitations of the framework.
3. To confirm that the framework meets the purpose of its development.
4. To determine improvements and changes which could be made on the framework.

### **7.2 The feedback process**

The feedback process was initially planned to be conducted through a workshop, but it was found to be difficult to arrange such a meeting. Hence, instead of conducting a workshop, a one-to-one semi-structured interview method was chosen to conduct the feedback process of the framework. The three types of interviews considered in this research were structured, semi-structured and unstructured interviews. The semi-structured interview method was chosen because it gave the researcher the flexibility to ask additional related questions in order to obtain the feedback on the feasibility, usability and usefulness of the framework if it were implemented in their company. The characteristics of a semi-structured interview were explained by Robson (2002) and these characteristics influenced the researcher's choice. The semi-structured interview has predetermined questions, the order of the questions can be modified based upon the interviewer's perception, question wording can be changed, explanations to the questions can be given, particular questions which seem inappropriate for a particular interviewee can be omitted or additional ones can be included (Robson, 2002).

An interview request to obtain feedback on the framework was conducted via email to the participants that have provided contact details during the survey and case studies data collection phase of this research. Interviews were then scheduled through email and telephone with those that conveyed interest to participate.

The feedback process was conducted through one-to-one semi-structured interviews with seven participants. From the seven participants, five of them were from industry and hold a position as a manager or director in their respective company. These five participants were among the participants that took part in the data collection process earlier, either through survey or case study. The participants had been exposed to this research before the interview was conducted which reduced the time needed to explain the whole research in-depth as they were already familiar with the research. The other two participants were academics specialising in supply chain and manufacturing operations.

Refer to Table 7.1 for the list of participants, the description of the company they work for (industrialists) or the area they specialise in (academics) and their designations. The participants from industry and academics were given names that will be used in this chapter to discuss the feedback findings. Participants from industry were named V1, V2, V3, V4 and V5 and the academics were named VA1 and VA2.

**Table 7.1: Feedback Participants**

Participant	Description	Designation
Company V1	Packaging distributor	Sales Manager
Company V2	Motorcycle manufacturing company	General Manager
Company V3	Global power systems company	Supplier Development & Technical Manager
Company V4	Advanced technology company (Defence sector)	Trade Development Director
Company V5	Global automotive experience, building efficiency and power solutions company	Quality Director
Academic VA1	Logistics and supply chain management	Lecturer
Academic VA2	Manufacturing operations	Lecturer

The interviews were recorded and the duration of the interviews usually lasted between 40 minutes to one hour. The participants were given an explanation regarding the purpose of the feedback, purpose of the framework, some background of the research that led to the development of the framework, key concepts from the literature, the framework development process, and the proposed framework. For the proposed framework, the participants were given an explanation about the steps in the framework, the process under each step and the tools used in the framework.

The framework was not tested in any of the companies that were involved in the feedback process because of time constraints. In the feedback process, the researcher obtained the opinions of the industrialists and academics based on their personal knowledge and experience.

### **7.3 Feedback questions**

The feedback questions focused on the feasibility, usability and usefulness of the framework. These three assessment criteria were adapted from the studies by Platts (1993) and Chandraprakaikul (2008). Platts (1993) suggested the use of these three assessment criteria to test whether a development of a process provided “a practical and procedural step in strategy formulation”.

The participants were not asked what they thought was critical or the extent of their current sourcing strategy implementation. The feedback questions that were used for the industry participants were:

#### 1. Feasibility

- Can you assess the applicability of the framework in the context of your company?
- Can the framework be adopted in your company?

#### 2. Usability

- Can it easily be used?
- What difficulty would you expect in using the framework?

#### 3. Usefulness

- What benefits would you gain from using this framework?
- How effective would the framework be if implemented in your company?

Academics were also shown the same set of questions and gave comments based on their experience. The academics gave insight and feedback comprehensively on the development approach of the framework, instead of the implementation of the framework in companies.

## **7.4 Feedback findings**

To give structure to this section, the feedback findings are presented according to the issues discussed on the framework during the feedback interviews.

### **7.4.1 Feasibility in terms of applicability of the framework**

In terms of feasibility, the industry participants were asked to assess the applicability of the framework in the context of their company. Three out of five participants thought that the framework was definitively applicable to their company (V2, V3 and V5). V2 expressed a high level of applicability of the framework within the company.

The other two participants found that the framework was not suitable for their company (V1 and V4). V1 explained that as the company was a small company, the framework would not add value or change their strategy or decision. The company is managed in such a way that one person is in charge of a product, from the sourcing activity, all the way to marketing and sales of the product. The product knowledge and problems related to the management of the product is solely in the jurisdiction of that person. The framework would only be functional in telling the participant the issues that they already know. VA2 concur with this:

“This will be a stage where it has to be done formally in a large organisation. In a small company, they would have to mentally trigger it rather than going through the paperwork”.

V4 explained that the framework is not applicable to the company’s business model and the industry that they are in. The nature of the market and security constraints does not allow for the framework to be applicable in the company. However, V4 believes that the framework would provide a good backbone to see how mature is the company’s procurement process. V4 made an observation that there are some other factors the framework may ignore, such as political stability, global economy and rate of change of technology.

#### **7.4.2 Feasibility in terms of possibility for adoption of the framework in the company**

In the second question under feasibility, the industry participants were asked whether the framework can be adopted in their company. V3 and V5 described how this was possible. V3 explained that there is a need to work out and distinguish certain aspects that need to be filled out by regional offices and certain aspects by the central office.

V5 here clearly emphasises that the framework needs to be executed by qualified and knowledgeable personnel:

“The experienced personnel are from the central organisation. In regions, to various degrees, it depends on how long they have been established, they are very reliant on the central organisation, mainly because of the qualification of the personnel. Normally in many of the emerging regions, there are very young people, straight from university. The company is very reliant on experienced personnel, especially at the early phases of program development. The company would take some of the most experienced people and generally they are the managers of purchasing groups in each of the regions”.

Key outputs on feasibility:

- ❖ Applicability - Generally highly applicable except for small companies and companies related to defence and security.
- ❖ Possible adoption of the framework in the company - Execution of framework by qualified and knowledgeable personnel in regional or central office.

### **7.4.3 Usability in terms of ease of use**

In terms of usability, the industry participants were asked to assess whether the framework can easily be used. All industry participants agreed that the framework was clear, easy to use and straight forward. V3 expressed that there is not a problem with ease of use.

The framework has been developed to allow companies to use it continuously. V4 agreed that the framework can be used more than once:

“The framework has four simple steps and an iterative tool. You don’t just do it once, and then forget about it. You would go back and do it again. You are able to identify gaps in order to rectify the problem”.

V1 believed that when there are a lot of people involved, this framework can provide more control in terms of implementation.

V2 confirmed that there is a real world element to the framework and it is not just an academic exercise. The framework provides structure but at the same time provides flexibility for companies to also consider other factors that may not be covered in the framework. Hence, the framework allows companies to relate back to the real world.

From an academic’s perspective, VA1 commented that the framework “is good in the sense that it’s not too complicated”. In addition, VA1 agreed that the framework provided sufficient guidance and explanation on the steps. VA1 commented that “in the real world, people want something that tells them what to do if they get stuck. They want the answer written down. Lookout for what are the steps they are going to fall over, where are they going to get confused, where to put the answers. You need a guide that explains the steps”.

According to VA2, the framework allows people to commit themselves in an objective way. VA2 also views the framework as being able to justify decisions quantitatively and also being able to be supplemented through discussions.

#### **7.4.4 Usability in terms of expected difficulty**

In terms of usability, the industry participants were asked to assess the difficulties that they would expect when implementing the framework. V2 and V4 commented that the framework had no difficulty in terms of implementation.

V2's only concern was using real life data. V3 has a similar concern on the issue of data validation. According to V3, companies need to approach the use of real data with caution. The selection of which data to use is important: "Need to validate where the data comes from. Is it reliable and consistent? If not, you will get different results where data derived are from different regions. So need to be careful".

V3 and V5 suspect that a problem might arise around the team that will take part in the execution of the framework. The issues that need to be considered include deciding on a realistic size team and who would be in the team. The team members need to be people who are at a level that can have an impact on the future of sourcing. V3 adds that the team needs to interact well and good teamwork would contribute to the successful implementation of the framework.

According to VA1, there is an issue on deciding who does what. It is important to determine the process owner that will administer and oversee the execution of the framework in an organisation. VA1 pointed out that the person in charge of global sourcing might be from different levels of management within different companies. It depends on the structure which exists in purchasing within an organisation. In addition, the definition of a process owner can mean a lot of different things and so the right person needs to be identified.

VA1 adds that the person in charge of the implementation of the framework should be in top level management. VA1 observed that there is a difficulty determining who uses the framework. It needs to be someone with credibility and in a senior role because it is going to affect decision making. Top level management are able to enforce and implement the strategy that has been planned through the framework. VA1 explained that: "if it is somebody at the top they can involve anyone they want to. If it's someone low down the organisation, they might have difficulty to involve people above them".

V5 emphasised that it is advisable to have people with experience and who are committed to take part in the process:

“The people are there, so it depends on the senior leadership and their commitment to it. You need experienced people to be able to tell you what the action plans are going to be to fill that gap. Regions won’t have the experienced people to do that. It has to be centrally coordinated by a very experienced group of people”.

According to VA2, there is a possibility that the framework would generate less discussion on some important issues that can be overlooked when the people involved rate the company individually and then later meet to discuss any differences overall. VA2 commented that by “asking them to rank independently and come together to look at the overall, maybe you’re less likely to generate discussion; you will only look at what’s different. If you all agree on something, you might just move on. You might miss some discussion”.

**Key outputs on usability:**

- ❖ Ease of use - All industry participants agreed that the framework was clear, easy to use and straight forward.
- ❖ Expected difficulty - Need to be careful which data is used, deciding on a realistic size team and who would be in the team, involving people with experience and committed to take part in the process.



#### **7.4.5 Usefulness in terms of benefits**

In terms of usefulness, the industry participants were asked to assess the benefits that they might gain from using the framework.

V2 believed that the framework gives visibility and awareness for larger companies where there are a lot more people involved in the sourcing process. In relation to this, V2 viewed the framework as being a method to ensure that the sourcing strategy implementation is continued even though there are changes in the purchasing team, and also that it is understood by everyone involved in the sourcing process. V4 stresses that the framework helps in communicating the message of sourcing decisions across the company.

V2 elaborated on how the framework would help provide continuity of approach across the company:

“The framework provides a mechanism to maintain continuity of approach when faced with challenges of a growing team and new members coming into the team. They would know which purchasing strategies are adhered to by the team. There would be higher levels of confidence and assurance that your team understands the strategy”.

V2 and V4 viewed the framework as a means to allow companies to drill down to the level of detail on the specific problem areas that are currently faced by the companies and the steps that need to be taken to overcome them.

V3 expressed that the framework is able to present to a group of people a structured explanation. The framework was described according to the inputs required in each step, the processes involved and the outputs from each step. In addition, the framework carries some weight to visibly justify a decision because it is structured in such a way that decisions are traceable from the data that is input into the framework.

V5 explained that the framework gives an objective view of the whole decision process, from locating the gaps, to the development of an action plan through to the gap analysis. VA1 also perceives the framework in the same way.

V4 looked at the framework as a tool to help carry out a self assessment and can be repeated. VA2 views the framework as a quality or sanity check.

V4 and VA1 elaborated that the framework gives an overview of the current state of the company and the identification of gaps:

V4 said that “it gives a snapshot of where you are now, identify gaps, identify what steps are needed to close the gaps, and then goes back around the process”.

VA1 commented that “what it does primarily is to help the company understand the nature of the gap that they have. Helps them identify the gaps to start with and identify areas for improvement”.

V4 further explained that the framework helps provide suggestions on what needs to be done and the priority areas. This provides guidance and offers a foundation to make decisions on the best way to overcome the gaps that are hindering the company from improving their sourcing strategy implementation. V4 believed that the framework is very useful for companies that want to bring the business to the next level.

The timeline guide was considered beneficial in terms of guiding through what needs to be done. VA1 believed that the timeline guide provides an avenue for structured thinking and better understanding of the whole decision making process:

“I think this is quite good. The timeline guide, if they can understand the process, and get things in the right place, I think that’s quite useful because it’s showing them that there are things that you have to do in steps. So I think that is where they will benefit from in terms of thinking of the stages that they need to go through, I think that is actually quite a useful guide. So personally speaking, that’s probably the best output from this. So the benefit is better understanding of the process”.

#### **7.4.6 Usefulness in terms of effectiveness of the framework if implemented**

The second question under usefulness, the industry participants were asked how effective would the framework be if it were to be implemented in their company.

V2 perceived that the framework would be effectively executed if it is part of an employee's workload: "If you can validate the effectiveness of the framework and implement it as part of a tool, perhaps as part of somebody's workload management, it would be effectively implemented, but it would require that understanding of how the company would use it in the context of the company".

The benefits from using the framework need to be put forward so that companies are motivated to execute it: V4 commented that "companies want to know how easy it is to use, what valuable information they can get from this".

V3 considered that it is difficult to measure the effectiveness of the framework because there are so many input variables involved that are not covered in the framework. Examples of those input variables include economic condition change, commodity prices change, material prices change and the reduction of customer procurement.

V5 stressed that it is absolutely essential to have this type of framework. Without this kind of framework, companies would not be able to view their sourcing strategy as a whole. The first thing that companies need will be senior management leadership and support from the beginning of the initiative. Secondly, companies must be able to make qualified personnel available to guide through the process.

**Key outputs on usefulness:**

- ❖ Benefits - having visibility, provides awareness, method to maintain continuity, able to drill down to the level of detail, structured, carries some weight to justify a decision, can be repeated, provide guidance to make decisions to close gaps.
- ❖ Effectiveness – depends on how useful the framework would be to the company, difficult to measure effectiveness of the framework, need to have commitment from senior leadership and qualified personnel.

### **7.4.7 Extra issues covered in the interview**

#### **Step 3 – Data validation**

The participants were asked to comment whether Step 3 was necessary. All the participants except V1 and VA2 agreed that Step 3 is an important step.

V1 believed that this step was not necessary, since being in a small company, Step 3 would involve a small number of people and if the process owner thinks there is a problem with the data, they can always go back to review the data. VA2 was indifferent about the importance of Step 3. This step can be built into another step or done as a separate step.

V4 stressed that it is critical to be able to validate the data and that unless the data can be validated, it is useless. V2 considered Step 3 as the most powerful step. In addition, Step 3 has potentially the most dangerous part, which is updating answers and manipulating the data. This should be done through a consensus agreement. The team should come to a consensus on what level of manipulation should be done on the data.

V5 emphasised that the data needs to be discussed in order to do a sanity check, just to make sure that the data reflects the true nature of the company. VA1 commented that the data would not tell the company anything other than whether the score is low or high. The people involved will have to discuss the data in context of the company itself.

Key outputs on Step 3:

- ❖ Data validation needs to be discussed and a consensus reached.

### **Method to derive the leading practice score**

The participants were asked to comment on the method to derive the leading practices score. There were mixed reactions on this issue. V5 and VA1 agreed that the method is good, makes sense and that the process is fine.

V2 expressed concern about the meaning of broadly implemented practices. According to V2, the meaning of broadly implemented is different for different individuals and it primarily depends on the individual's attention to detail. For example, if the individual's attention to detail is high, the score will most probably be low. However, if the individual's attention to detail is low, the score will most probably be high. An individual who has a high attention to detail may perceive the company's current achievement as low, but in reality there is a possibility that the company is doing a lot better than other companies.

V3 had no problem with how the leading practice score was derived. However, V3 was concerned about what kind companies are they measured against. It is safer to call the score leading practice than best practice because of its subjective nature of how the companies are benchmarked.

Key outputs on the leading practice score:

- ❖ There were mixed reactions.

## **7.5 Overall comments on the framework**

V1 commented that the reason for developing the framework is sound and that the data and analysis is fair.

V2 commented that the framework was very good and suggested that the users of the framework need to be advised on what size companies are suitable to use it and who should participate in implementation of the framework. V2 then explained that medium sized companies are suitable to use the framework:

“A lot of big companies don’t relate to flexibility. The framework would be more effective focused on medium sized company than very large companies. Medium to large companies can engage more quickly”.

V3 thought that the framework is good and has not come across anything similar in the company as an overall package. V3 had not seen an overall framework that tries to put the various elements together and give an overall picture and the framework proposed achieved to do it.

V4 recommended using the framework with other companies so that it is possible to benchmark a company against its peers.

V5 also thought the framework was good and advised that the company will benefit if the framework was used by more than three people. Referring to the timeline, V5 explained that their company will probably implement Factor 7 (Methodologies for measuring savings) much earlier, in the planning stages before investing and starting implementation. The company will look at what is the pay back. V5 emphasised that it is more important to shift Factor 7 that was proposed to be in the expansion stage to the planning stage and that the sourcing initiative needs to be measured all the way through. V5 further suggested pulling Factor 8 (Qualified personnel) to the planning stage. V5 was aware that it is difficult to develop a standard framework that would suit every company, and therefore qualified and experienced personnel is important in order to implement the framework so that the output from the framework will benefit the company.

VA1 also commented on the timeline guide. VA1 observed that the timeline is a logical sequence of implementing the strategy and overall, the framework makes sense all the way through. VA1 stated that the framework was clear:

“Overall, the framework is reasonably simple. There are some breakouts in each step, and as long as you make it clear how it fits together, it can be helpful. People can easily follow the steps that they have to go through. So it seems to me quite well designed in that way”.

VA2 commented that even though the sequence of factors in the timeline is intuitive and logical at certain phases, the timeline is developed from empirical data:

“Usually when I search for best practices, they always put in a point form and list. It does not show in a time sequence which factors you need to implement and emphasise first. You use your empirical data to sequence it, then if I say why is Factor 7 at that 3<sup>rd</sup> stage, you could dig into the data. But it is backwards traceable”.

VA2 commented on the contribution of the timeline in this research. Survey findings that were used to develop the timeline have proved that there are some factors that need to be implemented first before others in order to move up the maturity level:

“You’re saying some factors are more important than others. I can see a contribution in saying integration to IT is a critical success factor but for companies who are starting is not. You’re saying that the literature is saying that all these factors are important but you’re saying no, there is a hierarchy”.

Key outputs from overall comments:

- ❖ The framework is good and what distinguishes this framework from others is the timeline guide that was developed from empirical data.

## **7.6 Discussion on the feedback findings**

In terms of feasibility, the framework proved to be highly applicable in most companies. Throughout the feedback interviews, none of the industry participants mentioned a similar framework being implemented in their company. Even though there were companies that might already have in place a framework that can identify gaps in their implementation, the proposed framework helps companies to plan and prioritise their implementation to progress to a higher sourcing level. The framework has been designed to identify gaps and what makes it unique and different from other frameworks or models that are used in companies or literature is the timeline tool. The timeline tool has been developed based on the findings from the survey and supported by findings from the case studies. It serves as a guide for companies to prioritise their implementation.

The effectiveness of the execution of the framework is highly dependant on the involvement and commitment from top management and qualified personnel. The importance of involvement from top management was emphasised by the feedback participants. The implementation of the framework needs to be managed by a process owner that is responsible for the global sourcing initiatives in the company. This is to ensure the execution of the strategies that are decided at the end of the framework. The involvement of qualified and knowledgeable personnel was also emphasised by the feedback participants. This is important because the input would affect the output from the framework which includes the gap analysis charts and the strategy action plan that will be used to improve their implementation.

Although the proposed framework was based on exploratory research data which makes the framework exploratory in nature, the proposed framework has provided practitioners a foundation on how companies can improve their sourcing strategy implementation. In the feedback process, the framework was not tested for the actual applicability in the companies. The views of the interviewees were the basis of the feedback on the proposed framework. A more in-depth study may look into the actual applicability of the framework and make it more comprehensive to suit different organisations.



## 7.7 Refinement of the framework

The framework refinement process covers issues that need to be considered after the feedback interviews.

**i. Determine who should be in the team and what kind of companies can implement the framework.**

This point has been raised by the industrial participants and academics through the discussions on the feasibility and usability of the framework. The number of people that should be involved is determined by having enough people to cover all of the process areas that are important to the global sourcing process. Personnel from finance may also need to be involved to discuss the implication on cash flow or the exposure to international currency to enable a more comprehensive strategy implementation decision. Hence, this framework can be used as an avenue to involve people from diverse functions.

As global sourcing activities involve coordination across regional and central offices and when identifying gaps across the whole of the company, knowledgeable and experienced personnel need to be identified to execute the framework, whether they are in the regional or central office. The team members need to be people who are at a level that can have an impact on the future of sourcing and the process owner would most likely be from top management. In addition, in order to make the execution of this framework more effective, other than involving top management, companies should consider making this exercise as part of an employee's workload.

The types of companies that have been identified as being unsuitable to use the framework are small size companies and companies in the defence industry. The framework is ideal for use in medium to large companies where there are more people involved in the sourcing process.

**ii. Identify factors that are not included in the framework.**

The critical success factors that were used were not an exhaustive list. There are other factors that this framework does not cover. These factors include factors that are categorised as enablers, inhibitors and external factors that companies may not have control over. These factors need to be defined before the company can execute the proposed framework. Examples of these factors include competitive forces, customer requirements and worldwide market opportunities, as suggested by Monczka and Trent (1992) in their worldwide sourcing assessment process (refer Figure 2.9). In addition, Quietens et al. (2006), suggested drivers, facilitators and barriers that may influence the decision for companies to source globally (refer Table 2.3).

The researcher has defined these factors as precursors that need to be outlined by those involved in sourcing before executing the framework. These precursors will help the decision makers prioritise the action plan. These precursors would also provide the company direction for their requirements to achieve their intended sourcing level.

**iii. Top management is at the centre of the initiative.**

Through the feedback process, the participants from industry and academics expressed views on the importance of top management. The top management need to be in the centre of the sourcing initiative. The main concern from the implementation aspect of the framework is whether the action plan will be executed after the team has gone through the framework. Hence, what is important is including people that can have an impact on the sourcing strategy development and execution. The team would consist of personnel that deal with the actual sourcing implementation. In terms of strategic strategy development and approval for execution of sourcing strategies, the support and involvement from top level management is crucial in the implementation of the framework. Top level management would receive input from the team that implements the framework, therefore making the process of using the framework more effective and relevant.

**iv. Feedback to top management throughout the process.**

As the involvement from top management was identified as important from the feedback findings, instead of only involving top management at the end of Step 4 where the team recommends the action plan for approval, the team should provide feedback to top management within every step. This will help ensure the successful execution of the framework and also the strategies that were planned to improve the company's implementation.

**v. Review purpose of Step 3 (Data validation) and redesign the conceptual model.**

The importance of this step was recognised by both participants from industry and academics. As there were questions raised regarding the purpose of this step, which is to validate the data through a discussion, the researcher has decided to revise this step. Hence, this step is merged into Step 2 (Assessment tool application) to simplify the framework. In addition, merging Step 3 into Step 2 does not include major changes or affect the purpose of Step 3.

**vi. Determine how to keep the leading practices score updated.**

The best practices are based on survey data that was collected in 2007. By the time this thesis is finished, the data maybe potentially out of date. A company should be able to measure itself, submit the data to a database where other companies would also do the same after they have measured themselves and grow the database every time companies take part in the exercise. The database should give the company's results against the benchmark population but it also takes in the company's data as part of the benchmark population.

**vii. Adding how critical the factors are in the questionnaire.**

As well as having the leading practices score updated through the actual data of sourcing strategy implementation, how critical the factors are to companies should also be able to be updated. Hence, in order to keep the framework current it was also considered important to record how critical the factors are to companies in the questionnaire.

**Key outputs on the things to be considered for the refinement of the framework:**

- i. Determine who should be in the team and what kind of companies can implement the framework.
- ii. Identify factors that are not included in the framework.
- iii. Top management is at the centre of the initiative.
- iv. Feedback to top management throughout the process.
- v. Review purpose of Step 3 and redesign the conceptual model
- vi. Determine how to keep the leading practices score updated.
- vii. Adding how critical the factors are in the questionnaire.

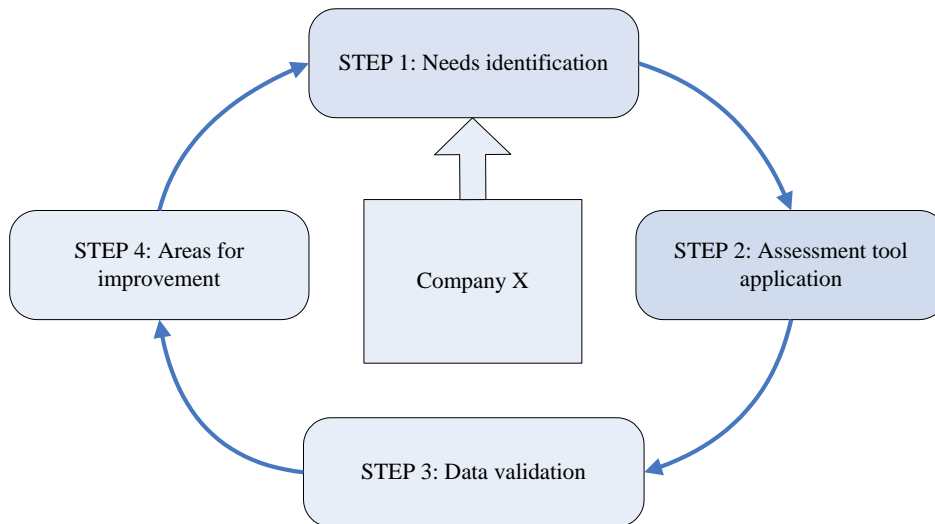
## 7.8 Summary of changes to the framework

The changes that have been made are summarised below:

No.	Changes	Changes made in	Rationale for changes
i.	Determine who should be in the team and what kind of companies can implement the framework.	Framework – Explanation before executing the framework	This is detailed in order to give focus to the framework.
ii.	Identify factors that are not included in the framework.	Conceptual model – Precursors check	Being clear of the precursors before starting the process in order to give a scope to make final decisions on sourcing strategies.
iii.	Top management is at the centre of the initiative.	Conceptual model – Top management in the centre	Top management involvement is important to ensure that the decision that is made at the end of the process will be executed.
iv.	Feedback to top management throughout the process.	Conceptual model – Feedback to top management in every step	Feeding outputs from each step to top management would make it more effective instead of including them only after the decisions have been made.
v.	Review purpose of Step 3 and redesign the conceptual model.	Conceptual model – merge in Step 2	Simplify the framework by merging it into Step 2. Maintain the purpose as it was found to be important.
vi.	Determine how to keep the leading practices score updated	Tool	Being able to update the dataset will let companies compare themselves to the current practices of present companies.
vii.	Adding how critical the factors are in the questionnaire	Tool - Questionnaire	This addition will keep the framework current.

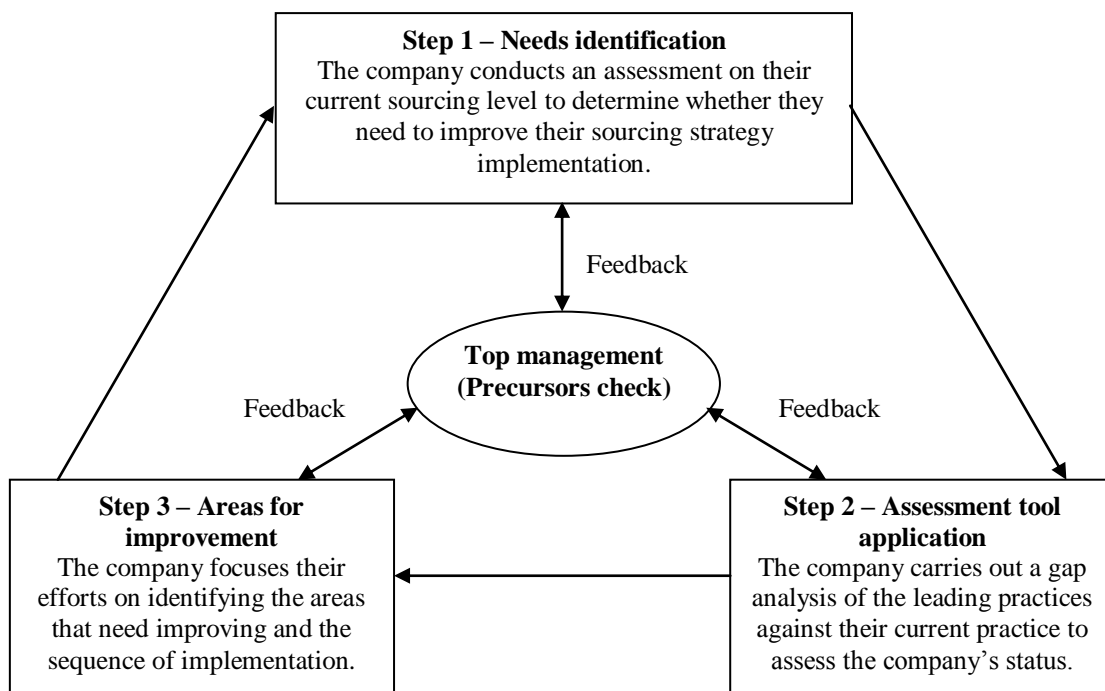
## 7.9 Finalised conceptual model

The conceptual model before the feedback process is presented below:



Details on the original version of this conceptual model can be referred to in Chapter 6. The original version has four steps and now has evolved to the finalised version after taking into account the feedback from the feedback process.

The conceptual model after the feedback process is presented below:



Before the actual execution of the framework, the relevant precursors for the company that may influence their global sourcing decisions need to be identified. The top management plays a vital role in the involvement and administration of the execution of this framework; hence the participation of top management is needed throughout the process. Feedback from the rest of the team to top management ensures that the decisions that will be made at the end of the process get the full support of top management for execution. The team members that should be chosen to be involved in this process are personnel that have the knowledge and experience to assess the company's sourcing strategies.

The finalised version of the conceptual model has three steps. Step 1 (Needs identification) requires companies to assess their current sourcing level to determine whether they need to improve their sourcing strategy implementation. In Step 2 (Assessment tool application), companies carry out a gap analysis of the leading practices against their current practices to assess the company's status. This step includes the validation of the data to decide on the overall score for the company and identify any outliers. In Step 3 (Areas for improvement), companies focus their efforts on identifying the areas that need improvement and the sequence of implementation. This framework can be executed repeatedly for companies to continually assess their sourcing strategy.

The applicability and reliability of the framework to work in real life situations has been discussed and assessed by participants from industry and academics. The feedback on weaknesses and limitations of the framework has allowed for additions on details to refine the framework. The feedback process has positively contributed to the improvement of the proposed framework.

## **7.10 Comparison of the framework developed with existing global sourcing frameworks in literature**

The framework that has been developed in this research is specifically to identify areas of improvement in the implementation of the global sourcing strategy.

As described in Section 2.11 (Existing global sourcing framework or model) in Chapter 2, existing global sourcing frameworks throughout the literature focused around two stages of implementation. The first stage is before the strategy is implemented. The second stage is the actual development and implementation process.

Two frameworks described in the literature review focused on the first stage, which is before the strategy is implemented. Rajagopal and Bernard (1994) developed a general framework on the development of global sourcing strategy, while Cavusgil, et al. (1993) developed a decision-making framework for global sourcing. Both these frameworks were focused on the issues that should be considered and addressed when a company has decided to source globally. The issues included company internal factors, market, environmental, strategic and managerial issues. These issues were not directly covered in the framework that was developed in this research as these issues should have been considered before the development and implementation process of the global sourcing strategy. However, as these issues are important and affect a company as a whole, these issues are incorporated in this framework as precursors that should be considered by a company's top management.

The rest of the frameworks that were identified in the literature were frameworks that focused on the actual development and implementation process. Monczka and Giunipero (1984) proposed an international purchasing implementation flowchart, a general guide for companies to develop and enhance international purchasing initiatives. According to Monczka and Giunipero (1984), there needs to be a measurement and evaluation of the implementation. However, the details of this step were not provided.



Monczka et al. (2006) put forward a global sourcing and supply strategy development and implementation framework. The framework has also identified the need to measure performance and improve strategies as appropriate but the details were not provided.

Monczka and Trent (1992) proposed a worldwide sourcing assessment process. The framework has a step to identify differences between the strategy requirements and actual capabilities of the company, named “gap definition”. Again, the details of this step were not provided.

None of these frameworks provided a detailed explanation or steps to improve the global sourcing strategy implementation. However, the need to measure and improve the strategy implementation was apparent in the frameworks developed by Monczka and Giunipero (1984), Monczka et al. (2006) and Monczka and Trent (1992).

The framework that was developed in this research is a small but significant part of the actual implementation process. The proposed framework provides a method to identify gaps in implementation and also the steps and tools to devise an action plan to reduce the gaps.

## **7.11 Chapter summary**

This chapter explained the feedback process of the proposed framework and the results from the discussion with experts from industry and academia. The finalised global sourcing strategy implementation framework has been presented. In the next chapter, the findings from the case studies, survey, framework development and framework feedback are discussed further.

## **8 Discussion and conclusions**

### **8.1 Introduction**

This research was based on the philosophical assumption of pragmatism, through the use of mixed methods research. Through pragmatism, the researcher used both quantitative and qualitative data because they work to provide the best understanding on the research area of global sourcing practices. The methodological assumption or the research process used in this research is through collecting qualitative data from case studies and quantitative data from survey. In this chapter, the findings from the case studies and survey are discussed according to the eight critical success factors of global sourcing. The case studies findings help develop an in-depth understanding of global sourcing practices of the companies. While the survey method looks into how important was the critical success factors of global sourcing considered by the companies and how extensive were the implementation of the critical success factors. The global sourcing framework that was proposed in this research will be discussed according to its strengths, weaknesses, opportunities and threats. Following the discussions, the conclusions from the thesis, contributions of this research, limitations of this research and recommendations for future research are presented.

### **8.2 Discussion on key findings from case studies**

This section will discuss the key findings from the case studies according to the eight critical success factors of global sourcing.

#### **8.2.1 *Factor 1: Executive commitment to global sourcing***

The cases provided evidence that executive commitment is important and that executive leadership plays an active role in developing global sourcing strategies. The main role that executive leaders played was setting vision and direction through developing sourcing strategies. In addition, the executive leaders also ensure the delivery of strategies. Without the commitment from executive leadership, the implementation of global sourcing would be less effective. Petersen et al (2000) identified through their proposed relationship model that top management commitment to global sourcing has a strong influence on global sourcing effectiveness.

The active involvement from the executive leadership can be explained by the fact that the purchasing function is pushing forward towards a more strategic function. Steinle and Schiele (2008) explained that purchasing as a strategic function can contribute to establishing a company's competitive advantage. The purchasing function can potentially contribute to achieving competitive advantage through optimising cost savings from purchasing products abroad that are lower in cost compared to local sources and purchasing volumes aggregated on a worldwide basis.

The rationale of the importance of commitment from executive leadership was explained in the literature. In order to implement a sourcing strategy successfully, resource allocation is important. The literature has emphasised that a long term perspective (Birou and Fawcett, 1993) and commitment (Monczka and Trent, 1992; Monczka et al. 1998) from executive leadership is necessary to ensure that the needed resources are made available to support global sourcing activities. Existing global sourcing frameworks in studies by Cavusgil et al. (1993) and Monczka and Giunipero (1984) have included executive commitment as a requirement before the actual implementation of global sourcing. Petersen et al. (2000) emphasised that if companies implement global sourcing without the necessary commitment from executive leadership they are unlikely to succeed. The implication to this finding is that if companies want to succeed in their global sourcing strategy implementation they need ensure that they have the commitment from executive leadership so that the sourcing strategy can be implemented effectively.

### **8.2.2 Factor 2: Rigorous and well-defined processes**

The findings from the case studies suggest that companies that are in the higher sourcing levels have more detailed processes compared to companies that source globally on an ad hoc basis. From the cases, Level II companies are lacking in terms of having a well-defined sourcing process. The literature has provided the description of companies in Level II where, at this level, sourcing from worldwide sources is usually limited or performed on an ad hoc basis. This finding shows that companies that have less experience in sourcing globally would not have a well-defined process. It is important for companies that pursue global sourcing to develop a well-defined process as global sourcing is more complex than international purchasing activities.

Positive outcomes such as reduced supply chain costs and improved supply chain performance have been reported by Monczka et al. (2006), as a result of having a well-defined process. In order to achieve these positive outcomes, companies should adopt rigorous and well-defined processes. The rationale of having well-defined and structured processes include facilitating the business units overcoming difficulties that may have been successfully dealt with and documented by other business units. It will also shorten the learning curve of those that are just getting familiar with the process. In addition, worldwide business units can avoid any duplication and increase sharing of information through the company intranet. According to Monczka et al. (2008), leading firms develop a well-defined and structured process in order to guide global sourcing activities while overcoming the differences among worldwide business units.

The global sourcing process was found to be influenced by the nature of the product being sourced and the focus of the company's overall business strategy (low cost or high technology). The different considerations regarding the nature of the product being sourced and the overall business strategy prove to influence the different processes that are needed to source globally. The cases provided proof that firstly, companies would look for sources globally if they were buying specialist items that were not available from local sources. Secondly, companies would look for the best technology solution that is available in other countries if they are in a technology driven industry. Finally, for the more common parts, companies would be driven by lowest cost consideration. It is therefore important for the company's needs and objectives to be understood, as proposed by Birou and Fawcett (1993), when planning the sourcing process.

Hence, the implication from the findings in this factor is that companies that want to practice at a global sourcing level should have rigorous and well-defined processes. In addition, companies should also understand their needs and overall business objectives before planning the sourcing process so that the sourcing strategy is in line with the overall business strategy.

### **8.2.3 Factor 3: Availability of needed resources**

The case studies did not reveal any differences in the method of distributing resources across companies in the different sourcing levels. The method of distributing the resources through a budget was found to be common across the companies. However, the allocation of resources varied according to the organisational structures. The different organisational structures across the companies include the organisational structure according to functions, product and matrix.

It is not known which organisational structure is more effective in the distribution of needed resources. Having the resources allocated either through project teams, according to programs or a dedicated resource to the purchasing function permanently is not foreseen as a concern as long as the resources do get distributed to allow global sourcing to be implemented smoothly.

Monczka et al. (2005) has identified that “global sourcing demands an unusual amount and variety of information”. The case studies revealed that although most information can be shared through the internet, face to face interactions and personal contact were still extensively used. This is especially true for Level II companies which have no formal structure available to share information and the fact that they have disparate systems available in the company. In general, throughout the cases, face to face meetings provide a more effective way to discuss progress compared to having the information retrieved from the company database or intranet. The information may not be interpreted the same way by different people and so it is important to have everybody in the sourcing team view the sourcing strategy similarly to avoid any duplication and misunderstanding. In addition, in cases where major suppliers have access to the company’s information, it is also important for both parties to have face to face interaction so that both sides are aware of each other’s businesses and understand specifically the commitment that is required of them.

#### **8.2.4 Factor 4: Integration through information technology**

Contract repositories were used to store global agreements and provide warnings of expiring agreements. The purchasing or legal team would refer to the contract repository when reviewing contracts and in the renegotiation process. Keeping track of global agreements was necessary when companies have agreements with different time frames but not in the case where contracts have no expiry dates and are valid until they are terminated by either party.

The key benefits of having compatible information systems with suppliers are saving time and having accurate and up to date information. In the literature, Monczka et al. (2008) found that sharing information resulted in lower supply chain costs, improved supply chain performance other than price, a better sourcing process and a higher level of trust. Across the cases, the cost savings that were realised were through reduction of paper transactions by getting rid of paper based invoices and billing system, hard copy printing and cost of postage. The most important issue that was put forward was saving in terms of time. Having a compatible information system with suppliers saves time as documents can be assessed and shared anytime. This reduces the time to compile information and the time it takes to process orders and invoices. It is important to note that even though most cases consider having compatible information system is important to the company, the extent of how integrated companies are with their suppliers is influenced by how close the relationship is with their suppliers.

### **8.2.5 Factor 5: Supportive organisational design**

Across the cases, the internal group that is responsible for overseeing the global sourcing process is headed by the global sourcing process owner. This finding is parallel to those of Monczka et al. (2008) where they explained that the process owner can be either an executive leader or steering committee.

The majority of the companies use purchasing volumes aggregated on a worldwide basis. One of the roles of the internal groups that is responsible to oversee the global sourcing process is to negotiate with big strategic suppliers using the total group spend to obtain price leverage. Across the cases, aggregating purchasing volumes on a worldwide basis was found to benefit companies by being in a better position in negotiations, getting a better deal than the market rate, getting a better price, cost reductions and leveraging spend. The extent of aggregating purchasing depends on various factors. Some companies aggregate the common elements which tend to be the lower cost items. This is because many of the higher cost items cannot be aggregated since they are built to specification, so there is no commonality.

When deciding to aggregate volume, some companies consider to what extent they need to strategically protect their business from the risk of having all their products served by only one supplier.

### **8.2.6 Factor 6: Structured approaches to communication and relationship building with suppliers**

Common communication and coordination tools that were used extensively include e-mail, tele/video conferencing, face-to-face meetings, intranet, internet and telephone. Communication methods become more complex as people involved in purchasing are spread all over the world. New methods are more commonly used to facilitate real-time and face-to-face communication. Companies across the cases were found to use tele/video conferencing to communicate with the people in their company or suppliers that are located across the globe. This finding was also recognised by Monczka et al. (2008), where they considered that the communication method that was most likely to increase in usage is the web-based meeting.

Methods that were used to identify potential suppliers vary depending on the nature of the product and familiarity of the company in the source market. Companies would source specialist products that only two or three suppliers in the world have the technology to manufacture and the company has no choice but to buy from those suppliers. In the case where the company was trying to source from markets that they were not familiar with, companies would recruit people with specialist country knowledge to find potential suppliers.

Relationships with current suppliers are managed through Quarterly Business Review, face to face meetings, visiting the supplier on site and balance/supplier scorecard. The periodic review sessions allows both parties from the company and the supplier understand what is required from both sides. This effort helps by increases efficiency, avoids any misunderstanding and improves the smooth operation of the global sourcing activity as both parties are clear of the expectation and the standard or quality of operation that is required.

### **8.2.7 Factor 7: Methodologies for measuring savings or performance**

Key measures used to evaluate performance improvements or benefits from global sourcing are cost, quality and delivery. It is no surprise that these three measures were considered the key performance indicators, however, the issue lies in linking these sourcing performance indicators to the overall company objectives. From the case studies, top level management plays the role of linking sourcing to company objectives. Top management decides issues such as how much savings need to be made. Sourcing goals are linked to the overall company objectives through a business plan and budget process. The business plan contains the company objectives such as material cost reduction. The top level vision and objectives then cascades down to the appropriate level to shape the employee's personal objectives. Companies must not overlook this issue as the importance has been proposed by Scully and Fawcett (1994), where they considered aligning sourcing strategy with the company's overall company strategy to be important to ensure that sourcing activities match the company's strategies.



Measurement of total cost needs to take into account more than just the obvious price of product. It may be obvious that the measurement of total cost takes into account more than just the unit cost price of the product but the important consideration is how companies are able to measure all these costs. From the case studies, the measurement of the total cost of sourcing globally needs to consider not only the obvious cost of the product and establishing the infrastructure for the sourcing activity, but also take into account the need to do research on the business environment of a foreign country. This would cover communication costs that need to be done in the future, time difference, cultural differences, providing insurance and medical coverage to the personnel who travel overseas to visit a supplier, high cost of shipping and packaging, lost and damaged products, time to establish relationship with new suppliers and the learning curve taking on a new supplier.

#### **8.2.8 Factor 8: Qualified personnel**

There were contradicting views on the importance of purchasing personnel having a formal qualification versus experience. Different companies have different views on this issue. While the exact reason why some companies give more emphasis on a formal qualification instead of experience and vice versa was not known, based on the case studies, if an employee did not have the formal qualification that they require, the company would provide the opportunity for them to pursue the qualification.

In terms of experience, new employees are partnered up with more experienced personnel. The case studies findings showed that gaining experience through on-the-job training was conducted in the form of a mentorship scheme. The requirements from an employee will change with the dynamic sourcing trends and rapid changes in technology. Following this, companies need to be aware of the necessary skills and knowledge that they require for their employees for the purpose of future training needs.

The future training needs were to be identified through a formal process. A formal measurement of employee performance was found to be conducted with a personal development plan. The purpose of having the personal development plan is to allow the company to plan for the company's future requirements. This structured process is important in order to retain and develop the employees.

### **8.3 Discussion on key findings from survey**

This section will discuss the key findings from the survey. Factor 2 (Rigorous and well-defined processes) were rated very highly by both groups. This factor had the largest gap between how critical it is to the implementation of the sourcing strategy and the degree this factor has been implemented for companies in Level IV & V. For companies in Level II & III, this factor was the third largest gap. This finding needs to be of concern to companies because according to Monczka et al. (2008), “a well-defined sourcing process is the foundation of integrated global sourcing and one of the most important predictors of success”. Companies need to look at those gaps and formulate plans for a well-defined process that is applicable to the sourcing level in which they want to operate.

This research found that companies that engage in global sourcing rate certain factors as more critical to their sourcing efforts compared to companies that engage in international purchasing. This finding was coherent with the findings by Trent and Monczka (2003a).

This research gave insight on the gaps showing differences of actual implementation between Level IV & V versus Level II & III companies which past studies have not covered. This study found that companies in the higher sourcing levels, which were mostly large companies, practiced global sourcing more extensively.

The findings from this research showed that there is a sequence of factors that needs to be addressed first before others. Past studies have focused on identifying the factors that are critical when implementing global sourcing. However, past studies have not provided any details on how to improve the implementation of sourcing strategies. This study has highlighted the fact that companies prioritise different factors according to their sourcing levels.

This research found that the gaps in companies that practice international purchasing are much greater than the gaps in companies that practice global sourcing. The identification of areas for improvement can be done through a gap analysis. The implication of companies that practice international purchasing having greater gaps means that these companies have yet to implement the factors that they regard as critical because they are still in the process of establishing their worldwide sourcing strategy. Therefore, companies in Levels II and III need to focus on closing those gaps to improve their current sourcing strategy implementation.

## **8.4 Discussion on key findings from case studies and survey**

The mixed methods strategy was chosen because of the capability to answer different research questions. The purpose of this research focuses on complementarity (examine overlapping or different aspects of a phenomenon), where Greene et al. (1989) explained that complementarity “seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from other method”. There were similarities found in the case studies and survey findings.

The findings from this research have pointed out that having rigorous and well-defined processes was considered among the most critical factor between the eight critical success factors of global sourcing. From the survey findings, Factor 2 (Rigorous and well-defined processes) was rated very highly by both groups of companies, companies that engage in international purchasing and global sourcing. This finding is parallel to findings in the case studies where Factor 2 was described as the third highest critical factor among the eight critical success factors of global sourcing.

This research also pointed out that even though rigorous and well-defined processes were found to be critical to companies that engage in international purchasing and global sourcing, gaps exist in their implementation. From the survey findings, Factor 2 was identified as a factor that had among the largest gap in both groups. The gap identified was between how critical the factor is to the implementation of the sourcing strategy and the degree this factor has been implemented. The survey finding is supported by the findings from the case studies, where companies in Level II for example, are lacking in terms of having a well-defined sourcing process.

This research has identified that there are certain factors that were considered more critical between the eight critical success factors. The survey findings identified that the two groups rate certain factors as more critical. This is also visible in the case studies findings where there is greater emphasis on certain factors. The case studies findings pointed out three factors that were the considered most critical among the eight critical success factors. The three factors were executive commitment to global sourcing (Factor 1), qualified personnel (Factor 8) and rigorous and well-defined processes (Factor 2).

This research has also identified that gaps exist in implementation. The survey findings identified that there are gaps in the implementation in both international purchasing and global sourcing groups. The case studies findings identified that gaps exist in the two groups based on the discussion of the actual implementation of the factors. An example of this finding in the case studies is the importance of having a compatible information system with suppliers (Factor 4 - Integration through information technology). Most cases considered this factor as important but there are cases where they do not have a compatible information system with their suppliers although they perceive it as important.

## **8.5 Discussion on the framework**

This section will discuss the key findings from the proposed framework. The discussion is structured around the strengths and weaknesses of the framework that were identified in the feedback process. In addition, the opportunities and threats that may influence the usage of framework are also discussed here.

### **8.5.1 *Strengths of the framework that were identified in the feedback process***

The framework was found to be applicable in three out of five companies that participated in the feedback process. This is because the framework and factors that were used were generic in order to give companies the flexibility to fine-tune their strategy accordingly. The companies that have been identified as being not suitable to use the framework are small size companies and companies in the defence industry.

All the industry participants of the feedback process agreed that the framework was clear, easy to use and straight forward. The participants viewed the framework as a method that provides structure to decision making. The participants also believed that the framework provides control in terms of implementation because the steps and factors are measured objectively and decisions can be justified quantitatively.

The framework provides visibility and awareness for larger companies and when there are a lot of people involved in the sourcing process. The framework also was perceived as a method to maintain continuity as it provides guidance to make decisions to enable gaps in implementation to be reduced. In addition, the framework can be carried out repeatedly.

The framework allows companies to drill down to the specific details under each factor. For example, if companies have identified that the largest gap in implementation comes from Factor 2 (Rigorous and well-defined processes); companies can then drill down to the sub factors to find out what areas are causing the gap.

### **8.5.2 Weaknesses of the framework that were identified in the feedback process**

The proposed framework does not provide a way to keep the leading practices score updated. The leading practices score was derived only from data from the survey that was conducted in this research. The participants had no issues regarding how the leading practices score was derived but were concerned on the relevance of the use of the score in future. The proposed solution to overcome this issue is to have a database where companies supply their information so that their information is also measured as part of the population.

The proposed framework originally had four steps and Step 3 (Data validation) was considered too small a task to exist on its own. Step 3 (Data validation) was proposed to identify any outliers in the data that can affect the final output score by means of discussion among the team. Most participants agreed that this step was necessary and the author has decided to refine the framework by merging Step 3 into Step 2 (Assessment tool application).

The participants have put forward a few issues for companies that use the framework need to be aware of. These issues are not a form of weaknesses in the framework but may influence the effectiveness of the use of the framework. Firstly, companies need to be sure of the reliability of the data that is used as input to the framework because it will affect the output and decisions made through the framework. The framework is only a tool to make decisions. Secondly, companies need to decide on a realistic team size. The number of people that should be involved as suggested by the author was three to ten people. The participants agreed with the proposed number but then queried who should be involved in the team. The decision of how many people and who should be in the team would be in the jurisdiction of the process owner of the global sourcing strategy. Finally, the participants advised that companies need to select people with experience to take part in the process.

### **8.5.3 Opportunities for the framework**

Companies in the UK can use the framework to gain competitive advantage through the improvement of their sourcing strategy implementation. As past studies have identified global sourcing as one of the approach to achieve competitive advantage, companies should take the opportunity to leverage on the use of the framework that is proposed in this research.

In the current economic climate, with lower demand for products and services worldwide, companies need to make the most of their current resources and continuously identify areas that can add the most value to the company. The framework can help companies execute their sourcing strategy more effectively through the identification of the areas for improvement.

The proposed framework would potentially be more valuable and meaningful to a company if it was integrated in the company's current global sourcing process. Instead of treating the use of the framework as an additional task, the process owner of the global sourcing process can potentially adopt this framework as part of their performance measurement method.

The framework that is proposed in this research is currently targeted for the use of internal employees of a company that deal directly with the global sourcing activities of the respective company. This framework can potentially form the basis of a more comprehensive framework by expanding the usage from just participants in the company to include the participation of a company's major suppliers.



#### **8.5.4 Threats for the framework**

The emergence of other frameworks that are more complex and detailed into specific industries can undermine the usage of the proposed framework. More innovative and comprehensive frameworks would be continuously developed in the future if the global sourcing trend continues to expand.

The usage of the framework would be irrelevant if companies were to pull back from wanting to source globally and were more focused on sourcing from local suppliers. The framework was targeted at companies that practice international purchasing and global sourcing and that want to improve their worldwide sourcing strategy implementation.

New research findings may influence the applicability of the framework. If new research findings were to identify drastic changes to the critical success factors or the practices of global sourcing in the future, the framework would then be less applicable as the changes will affect the timeline guide that was developed in the framework to help companies prioritise their sourcing strategy implementation.

## **8.6 Conclusions from the thesis with particular respect to the research objectives**

This section restates the research aim and objectives and explains the conclusions from each objective.

The aim of this research was:

To explore what UK based companies are practising in terms of global sourcing and to develop a framework that can help companies improve their sourcing strategy implementation.

The research aim has been achieved following the completion of the research objectives below:

1. To critically review substantive literature on the concept of global sourcing, global sourcing critical success factors/best practices/excellence framework.
2. To investigate the critical success factors of global sourcing companies in the UK.
3. To identify global sourcing practices of companies in the UK.
4. To compare the perceived importance of the critical success factors and the actual implementation of global sourcing.
5. To develop a global sourcing framework that can help companies identify areas to improve their global sourcing strategy implementation.

### **8.6.1 *Objective 1: To critically review substantive literature on the concept of global sourcing, global sourcing critical success factors/best practices/excellence framework***

The literature review enabled the researcher to define the concept of global sourcing, the critical success factors of global sourcing and the existing frameworks or models on global sourcing. From the literature, global sourcing was identified as a strategy to achieve competitive advantage. The role of the purchasing function can influence the attainment of competitive advantage depending on the involvement of the purchasing function in the overall competitive strategy of the company. The purchasing function was found to be moving towards being more strategic compared to being a tactical function as companies seek to achieve competitive advantage.

The classification of sourcing levels and their characteristics that is used in this research was put forward by Monczka and Trent (1991, 1992) and Trent and Monczka (2002). As companies progress to higher sourcing levels, the requirement of integration between business units, functional groups and processes across the world becomes greater. The reasons companies source globally was also identified to supplement the understanding of the motivators, drivers, facilitators, barriers and benefits from global sourcing in order to survive the competitive pressures of globalisation.

The literature also revealed the critical success factors that are required to successfully implement international purchasing and global sourcing. The critical success factors that are used in this research were identified through studies conducted by Birou and Fawcett (1993), Scully and Fawcett (1994), Rajagopal and Bernard (1994), Trent and Monczka (2003a), Trent and Monczka (2003b), Trent and Monczka (2005). The importance of having personnel with the right skills was clearly identified in the literature but was not identified as a critical success factor on its own. It was found to be embedded in another factor such as in the “Global Sourcing Structures and Processes” factor in the study by Petersen et al. (2000). Qualified personnel did not receive as much emphasis as other factors such as executive commitment to global sourcing and well-defined processes.

The existing global sourcing frameworks or models throughout the literature focus around two stages of implementation. The first stage is before the strategy is implemented. The second stage is the actual development and implementation process. The framework proposed by Monczka and Trent (1992) covers both stages of implementation but does not provide any details on how companies can identify gaps in their implementation. None of the framework or models in the literature has detailed methods to identify gaps in implementation.

The literature review allowed the researcher to identify the gaps in the current body of knowledge. The gaps that were identified as are below:

1. There was limited literature that addressed global sourcing practices of companies in the UK.
2. There was lack of recognition placed on the importance of having qualified personnel in the implementation of the global sourcing strategy.
3. There was little emphasis placed on the development of a detailed framework to improve global sourcing implementation.

The literature review also provided the input to develop the semi-structured interview questions for the case studies, the questionnaire for the survey and into the development of the global sourcing framework in this research.

### **8.6.2 Objective 2: To investigate the critical success factors of global sourcing of companies in the UK**

Following the identification of the critical success factors of global sourcing from the literature, the investigation of the critical success factors that was relevant to companies in the UK was conducted through a case study and survey method. The three highest factors that were identified through the case studies, were Factor 1 (Executive commitment to global sourcing), Factor 8 (Qualified personnel), and Factor 2 (Rigorous and well defined processes). As qualified personnel was found to be the second highest factor in the implementation of the sourcing strategy, this finding has clearly supported its importance and the fact that it needs to be recognised as a main factor along with the other factors that were identified in past studies.

The survey findings revealed that:

1. The factors that were considered least critical were the factors that had the largest gaps. This finding demonstrates that companies were less focused on factors that they consider less critical in their implementation.
2. Companies in the higher sourcing levels (Level IV and V), which were mostly large companies, practised global sourcing more extensively.

### **8.6.3 Objective 3: To identify global sourcing practices of companies in the UK**

This research provides additional support for the need to gain understanding on global sourcing practices of companies in the UK in order to fill the gap in the current body of knowledge. The global sourcing practices were identified through case studies.

The case studies findings revealed that:

1. Factor 1: Executive commitment to global sourcing – Executive leadership play an active role in developing global sourcing strategies.
2. Factor 2: Rigorous and well-defined processes – Level II companies do not have a well-defined global sourcing process. The global sourcing process is highly influenced by the nature of the product being sourced and the focus of the global sourcing strategy (low cost or high technology). Global agreements are monitored differently in different companies.
3. Factor 3: Availability of needed resources – Even though the method of distribution of resources through a budget is common, the allocation of resources varied according to the organisation structure. Although most information can be shared through the internet, face-to-face interactions and personal contact were still extensively used.
4. Factor 4: Integration through information technology – Contract repositories were used to store global agreements and provide warnings of expiring agreements. The key benefits from having compatible information systems with suppliers are saving time and having accurate and up-to-date information.
5. Factor 5: Supportive organisational design – The internal group that is responsible for overseeing the global sourcing process is headed by the global sourcing process owner. The majority of the companies practice purchasing volumes aggregated on a worldwide basis.
6. Factor 6: Structured approaches to communication and relationship building with suppliers – Common communication and coordination tools that were used extensively include e-mail, tele/video conferencing, face-to-face meetings, intranet, internet and telephone. Methods that were used to identify potential suppliers vary depending on the nature of the product and familiarity of the company in the source market. Relationships with current suppliers are managed

through Quarterly Business Review, face-to-face meetings, visiting the supplier on site and balance/supplier scorecard.

7. Factor 7: Methodologies for measuring savings or performance – Key measures used to evaluate performance improvements or benefits from global sourcing are cost, quality and delivery. Measurement of total cost need to take into account more than just the obvious price of product.
8. Factor 8: Qualified personnel – There were contradicting views on the importance of purchasing personnel having a formal qualification versus experience. Gaining experience through on-the-job training was implemented in a form of a mentorship scheme. A formal measurement of employee performance was conducted with a personal development plan.

#### **8.6.4 Objective 4: To compare the perceived importance of the critical success factors and the actual implementation of global sourcing.**

The survey conducted in this research provided the data to compare the perceived importance of the critical success factors and the actual implementation of global sourcing. The gaps between how critical companies rate the factors and the extent of implementation in companies in the lower sourcing levels (Level II and III) were found to be much greater than the gaps in the higher sourcing levels (Level IV and V) companies.

The data from the survey also revealed that there is a specific sequence of factors that companies need to address first before others in their global sourcing implementation. This finding was used to develop a timeline guide that is applied in the framework proposed in this research. The purpose of the development of the timeline guide is to help companies determine the sequence of implementation in their global sourcing efforts.

### **8.6.5 Objective 5: To develop a global sourcing framework that can help companies identify areas to improve their global sourcing strategy implementation**

The proposed framework was initially developed based on the literature review and data collected through case studies and survey.

The purpose of the proposed framework was:

1. To assess the current sourcing level of companies (current state).
2. To provide guidance for companies to identify the areas for improvement in their approach to global sourcing (gap analysis).
3. To help companies determine where they are and where they need to be in terms of their sourcing strategy (future state).
4. To allow companies to identify their strengths, as well as pointing out the areas for improvement.

The proposed framework was then validated by academics and participants from the industry and finalised. The framework was found to be feasible, usable and useful to improve a company's sourcing strategy.

The finalised framework has three steps, with overall support and feedback from top management:

1. Step 1- Needs identification: The company conducts an assessment on their current sourcing level to determine whether they need to improve their sourcing strategy implementation.
2. Step 2 – Assessment tool application: The company carries out a gap analysis of the leading practices against their current practice to assess the company's status
3. Step 3 – Areas for improvement: The company focuses their efforts on identifying the areas that need improving and the sequence of implementation.

Monczka et al., (2008) believed that “five years ago the pursuit of integrated global sourcing strategies was considered leading edge but today, it has become a widely accepted best practice”. Monczka et al., (2008) considered that companies that do not recognise global sourcing strategies would be at a competitive disadvantage. In conclusion, companies in the UK can achieve competitive advantage through global sourcing. Global sourcing can enable companies to maintain their current position as some of the leading companies in the world. The enormous potential for UK companies to expand in the future largely lies in their efforts to successfully apply global sourcing effectively.

## **8.7 Contributions of this research to academics and practitioners**

This section explains the contributions from this research to academics and also to practitioners. The contributions of this research fulfil the research aim that was set out for this research.

The first part of the research aim was to explore what UK based companies are practising in terms of global sourcing. The research scope of this thesis is on the global sourcing practices of companies in the UK since most literature on global sourcing was based on studies done on companies in the US and worldwide. Generally, the results from this study provide an insight to the global sourcing practices in the UK specifically. It can help academics, scholars and businesses to gain more information and understanding about the practices that are essential in managing global sourcing activities.

The first theoretical contribution of this research is the adaptation of the global sourcing excellence practices identified in the literature for the development of a framework that can be used to improve the implementation of the global sourcing strategy. Secondly, another theoretical contribution of this research is the demonstration of the importance of having qualified personnel in the implementation of the global sourcing strategy compared to the other global sourcing excellence practices.



The second part of the research aim was to develop a framework that can help companies improve their sourcing strategy implementation. The managerial contribution of this research stems from the framework, where the framework would facilitate the realisation of the company's strategic goals. The proposed framework will help businesses understand what needs to be achieved in order to be an effective global organisation in terms of implementing the global sourcing strategy.

Businesses can compare their progress and practices against these global sourcing leading practices and make modifications as they progress. Following this, businesses are able to improve their supply chain management by exploring practices that are required to implement global sourcing successfully and at the same time gain competitive advantage over their competitors.

The framework allows companies to plan and prioritise their implementation to progress to a higher sourcing level. What makes the framework unique is the use of a timeline guide. The timeline guide has incorporated the input from literature and findings from this research. This research revealed that there is a pattern in the sequence of factors that the companies focus on most based on their sourcing levels.

To summarise the contribution of the framework, the strengths, weaknesses, opportunities and threats of the framework that were identified and is presented in Table 8.1.

**Table 8.1: Strengths, Weaknesses, Opportunities and Threats of the Framework**

<p style="text-align: center;"><b><u>STRENGTHS</u></b></p> <ul style="list-style-type: none"> <li>• Applicable in most companies as the framework and the factors were generic.</li> <li>• The framework was found to be clear, easy to use and straightforward.</li> <li>• The framework provided structure to a decision making process.</li> <li>• The framework provides control in terms of implementation because the steps and factors are measured objectively and decisions can be justified quantitatively.</li> <li>• The framework provides the visibility and awareness for larger companies and when there are a lot of people involved in the sourcing process.</li> <li>• The framework was perceived as a method to maintain continuity as the framework provides guidance to make decisions to close the gaps in implementation and can be repeated.</li> <li>• The framework allows companies to drill down to the specific details under each factor.</li> </ul>	<p style="text-align: center;"><b><u>WEAKNESSES</u></b></p> <ul style="list-style-type: none"> <li>• The proposed framework does not provide a way to keep the leading practices score updated.</li> <li>• Companies need to be sure of the reliability of the data that is used as input to the framework.</li> <li>• Companies need to decide on a realistic size team.</li> <li>• Companies need to make sure to involve people with experience to take part in the process.</li> </ul>
<p style="text-align: center;"><b><u>OPPORTUNITIES</u></b></p> <ul style="list-style-type: none"> <li>• Companies in the UK can use the framework to increase their competence in their sourcing strategy implementation and gain competitive advantage.</li> <li>• In the current economic climate, with the lower demand for products and services worldwide, companies need to continuously identify areas that can add the most value to the company.</li> <li>• The proposed framework would potentially be more valuable and meaningful to a company if it was integrated in the company's current global sourcing process.</li> <li>• The framework can potentially be a basis to develop a more comprehensive framework by expanding the usage to include the participation of a company's major suppliers.</li> </ul>	<p style="text-align: center;"><b><u>THREATS</u></b></p> <ul style="list-style-type: none"> <li>• The emergence of other frameworks that are more complex and detailed into specific industries can undermine the usage of the proposed framework.</li> <li>• The usage of the framework would be irrelevant if companies were to pull back from wanting to source globally and were more focused on sourcing from local suppliers.</li> <li>• New research findings may influence the applicability of the framework.</li> </ul>

## **8.8 Limitations of this research**

Firstly, this research was conducted on companies in the UK in order to facilitate easy access to respondents. The regional nature of the sample does limit the ability to generalise the findings of the study. However, a regional sample was chosen for two reasons: first, resource (cost and time) constraints and second, the author's belief that responses from a relatively small and homogeneous geographic area would be superior to those from a wider, more heterogeneous one.

Secondly, this research is partly based on the response to questionnaires which received an 8.9% usable response rate. There were several steps taken to increase the response rate, which include the use of a second database due to the limited access to respondents in the first database, follow up calls and follow up emails. However, the response rate was considered sufficient for the study based on past research that acquired a 9% response rate and adopted a survey method which was supplemented by case studies (Trent and Monczka, 2003a; Trent and Monczka, 2003b; Trent and Monczka, 2005).

Third, this research was based on companies that operate in the manufacturing industry. The nature of the sample limits the generalisation of the findings to other industries, especially on the usage of the proposed framework. The author believes that the framework can be applied in other industries as the factors used were not industry specific. However, the application of the framework has to be approached with caution and adjusted to the company's requirements.

Fourth, the leading practices score in the proposed framework was based primarily on the findings from the survey and supported by case studies. In view of the small number of responses from the survey, this limitation can be overcome by the use of a database that gives the company's results against the benchmark population but it also takes in the company's data as part of the benchmark population.

## **8.9 Recommendations for future research**

The limitations from this research have provided several opportunities for future research. The areas for future research include the following:

- Expanding the scope of the study across different countries. As past research often focused on developed countries, developing countries should also be addressed. Research in developing countries should initially identify whether the critical success factors identified in developed countries through past research is applicable in developing countries as well.
- Increasing the sample size so that more sophisticated statistical analyses can be performed and the results from the findings are more concrete.

From the case studies, there were several areas of concern which were not covered in this research but were considered important by the respondents that could be an avenue for future research. Firstly, the respondents emphasised on the importance of analysing the company's spend. Future research can look into spend analysis as part of the decision that need to be incorporated in the framework. Spend analysis is important because companies should identify what they are buying, whom they are buying from and how much they are spending with each supplier so that they are able to identify areas to reduce procurement costs effectively. Secondly, the respondents were concerned about performance measurement (financial and non-financial measurements). Being able to translate the benefits or savings from global sourcing to the overall company objectives was considered important. Future research should look into how performance measurement from global sourcing in terms of financial and non-financial gains can be documented and recognised across the company.

The applicability of the proposed framework can be tested further with a larger sample. A more in-depth study on the framework can also be conducted for future research as the proposed framework is considered exploratory as the data used to develop the framework was exploratory research data.

Further research should also look into incorporating the risks of global sourcing in the framework. The risks from global sourcing should be apart of the factors considered in order to come out with the plan to reduce the gaps in implementation. Finally, future research can continue to analyse the global sourcing practices of companies because the results from this research is cross-sectional in nature. The continuation of research in this area is important to observe how the global sourcing strategy has changed over time and the critical success factors that are needed for companies to succeed.

### **8.10 Chapter summary**

In this chapter, the key findings from this research have been discussed. In addition, this chapter has presented the conclusions from this thesis, the contributions of this research, the limitations of the study and recommendations for future research.

## REFERENCES

- Akesson, J., Jonsson, P. and Edanius-Hallas, R. (2007), "An assessment of sourcing strategies in the Swedish apparel industry", *International Journal of Physical Distribution & Logistics Management*, Vol. 37, No. 9, pp. 740-762.
- Alguire, M.S., Frear, C.R. and Lynn, E.M. (1994), "An examination of the determinants of global sourcing strategy", *Journal of Business and Industrial Marketing*, Vol. 9, No. 2, pp. 62-74.
- Anonymous (2000), "Global sourcing to grow-but slowly", *Purchasing*, Vol. 128, No. 8, pp. 24-32.
- Anonymous (2009), "Scribe with an eye for industry", *The Manufacturer*, Vol. 12, No. 2, pp. 14-17.
- Atkinson, W. (2008), "The Big Trends in Sourcing and Procurement", *Supply Chain Management Review*, Vol. 12, No. 5, pp. 48-50.
- Birou, L.M. and Fawcett, S.E. (1993), "International purchasing: benefits, requirements and challenges", *International Journal of Purchasing and Materials Management*, Vol. 29, No. 2, pp. 27-37.
- Blaikie, Norman W. H. (1991) "A Critique of the Use of Triangulation in Social Research", *Quality and Quantity*, Vol. 25, No. 2, pp. 115-136.
- Bozarth, C., Handfield, R. and Das, A. (1998), "Stages of global sourcing strategy evolution: an exploratory study", *Journal of Operations Management*, Vol. 16, No. 2-3, pp. 241-255.
- Brien, L.O. (2000), "Reach out", *Supply Management*, Vol. 5, No. 7, pp. 24-27.
- Brockwell, J. (2008), "Global sourcing: is it really worth it?", *Supply & Demand Chain Executive*, Vol. 9, No. 2, pp. 41-43.
- Byrne, P.M. (2002), "Global sourcing: A hallmark of the 21<sup>st</sup>-century business", *Logistics Management*, Vol. 43, No. 11, pp. 33-34.
- Cambridge Learner's Online Dictionary (2007) Citing Internet resources (WWW document).[http://dictionary.cambridge.org/define.asp?dict=CLD2&key=HW\\*5084&ph=off](http://dictionary.cambridge.org/define.asp?dict=CLD2&key=HW*5084&ph=off). (accessed 21 January 2007).
- Carr, A.S and Smeltzer, L.R. (1997), "An empirical based operational definition of strategic purchasing", *European Journal of Purchasing & Supply Management*, Vol. 3, No. 4, pp.199-207

- Carr, A.S. and Smeltzer, L.R. (2000), "An empirical study of the relationships among purchasing skills and strategic purchasing, financial performance, and supplier responsiveness", *The Journal of Supply Chain Management*, Vol. 36, No. 3, pp. 40-54.
- Carter, J.R. and Narasimhan, R. (1996), "Is purchasing really strategic?", *International Journal of Purchasing and Materials Management*, Vol. 32, No. 1, pp.20-28.
- Carter, P.L., Carter, J.R., Monczka, R.M., Slaughter, T.H. and Swan, A.J. (1998), "The future of purchasing and supply: a five- and ten- year forecast", Center for Advanced Purchasing Studies, Tempe, AZ.  
Citing Internet resources (WWW document).  
<https://www.capsresearch.org/Publications/pdfs-public/capsnapm1998es.pdf>.  
(accessed 18<sup>th</sup> January 2007)
- Cavusgil, S. T., Yaprak, A. and Yeoh, P. (1993), "A decision-making framework for global sourcing", *International Business Review*, Vol. 2, No. 2, pp. 143-156.
- Chandraprakaikul, W. (2008), *Strategic positioning within global supply chains*, EngD thesis, Cranfield University.
- Christopher, M., Jia, F., Khan, O., Mena, C, Palmer, A. and Sandberg, E. (2007) *Global sourcing and logistics*, Report produced by the Centre for Logistics and Supply Chain Management at Cranfield School of Management on behalf of the Department for Transport (DfT), Logistics Policy project number - LP 0507, UK.
- Cooper D.R. and Schindler P.S (2003), *Business research methods* (8<sup>th</sup> ed.), McGraw-Hill, New York.
- Creswell, J.W. (1994), *Research design: qualitative and quantitative approaches*, Sage, Thousand Oaks, California.
- Creswell, J.W. (1998), *Qualitative inquiry and research design: choosing among five approaches*, Sage, Thousand Oaks, California.
- Creswell, J.W. (2009), *Research design: qualitative, quantitative and mixed methods approaches* (3rd ed), Sage, Thousand Oaks, California.
- Creswell, J. W. and Clark, V. L. P. (2007), *Designing and conducting mixed methods research*, Sage, Thousand Oaks, California.
- Cruz, C. and Murphy, E.E. (1996), "Purchasing's new importance requires a broader education", *Purchasing*, Vol. 121, No. 9, pp. 46-49.
- Curtin, F. T. (1987), "Global Sourcing: is it Right for Your Company?", *Management review*, Vol. 76, No. 8, pp. 47-49.

- Das, A. and Handfield, R.B. (1997), "Just-in-time and logistics in global sourcing: an empirical study", *International Journal of Physical Distribution & Logistics Management*, Vol. 27, No. 3/4, pp. 244-259.
- Denscombe, M. (2007), *The good research guide: for small-scale social research projects*, Open University Press, New York.
- Denzin, N.K. and Lincoln, Y.S. (1994) "*Handbook of qualitative research*", Sage, Thousand Oaks, California.
- Department for Business Innovation & Skills (2009), *Thresholds for small and medium-sized companies and groups*, UK.  
Citing Internet resources (WWW document).  
[http://www.berr.gov.uk/whatwedo/businesslaw/financial\\_reporting/acc\\_audit\\_developments/page16361.html](http://www.berr.gov.uk/whatwedo/businesslaw/financial_reporting/acc_audit_developments/page16361.html). (accessed on the 10<sup>th</sup> of June 2009).
- Easterby-Smith, M., Thorpe, R. and Lowe, A. (1991), *Management Research: An introduction*, Sage, London.
- Edgell, J., Meister, G. E. and Stamp, N. (2008), "Global sourcing trends in 2008", *Strategic Outsourcing: an International Journal*, Vol. 1, No. 2, pp. 173-180.
- Eisenhardt, K. M. (1989), "Building theories from case study research", *Academy of Management, The Academy of Management Review*, Vol. 14, No. 4, pp. 532-550.
- Fagan, M.L. (1991), "A guide to global sourcing", *The Journal of Business Strategy*, March/April, pp. 21-25
- Fawcett, S.E. and Scully, J.I. (1998), "Worldwide sourcing: facilitating continued success", *Production and Inventory Management Journal*, Vol. 39, No. 1, pp. 1- 9.
- Foster, J. J. (2001), *Data analysis using SPSS for Windows versions 8 to 10: A beginner's guide*, Sage.
- Fowler (2002), *Survey research methods*, (3<sup>rd</sup> ed.), Sage, Thousand Oaks, California, Applied Social Research Methods Series, Vol. 1.
- Fraering, M. and Prasad, S. (1999), "International sourcing and logistics: an integrated model", *Logistics Information Management*, Vol. 12, No. 6, pp. 451-459.
- Giunipero, L.C. (2000), A skills-based analysis of the world class purchaser, *Center of Advanced Purchasing Studies*, Tempe, AZ.  
Citing Internet resources (WWW document).  
<http://www.capsresearch.org/publications/pdfs-protected/giunipero2000.pdf>. (accessed 18<sup>th</sup> January 2007).



- Giunipero, L.C. and Monczka, R.M. (1990), "Organizational approaches to managing international sourcing", *International Journal of Physical Distribution & Logistics Management*, Vol. 27, No. 5/6, pp. 321-336.
- Greene, J.C., Caracelli, V.J. & Graham, W.F. (1989), Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, Vol. 11, No.3, pp. 255-274.
- Griffin, R.W. (1999), *Management* (7<sup>th</sup> ed.), Houghton Mifflin Company, Boston.
- Hefler, D. F. (1981), "Global Sourcing: Offshore Investment Strategy for the 1980s", *The Journal of business strategy*, Vol. 2, No. 1, pp. 7-12.
- Heizer, J. and Render, B. (2008), *Principles of Operations Management* (7<sup>th</sup> ed.), Prentice Hall, Upper Saddle River, New Jersey.
- Hong, E. and Holweg, M. (2005), "Evaluating the effectiveness and efficiency of global sourcing strategies: a conceptual note", University of Cambridge. Citing Internet resources (WWW document).  
[http://www-innovation.jbs.cam.ac.uk/publications/hong\\_evaluating.pdf](http://www-innovation.jbs.cam.ac.uk/publications/hong_evaluating.pdf).  
 (accessed 18<sup>th</sup> January 2007).
- Humphreys, P., McIvor, R. and McAleer E. (1998), "The purchasing function as a professional service firm: implications for training and development", *Journal of European Industrial*, Vol. 22, No. 1, pp. 3-11.
- Hussey, J. and Hussey, R. (1997), *Business Research: A practical guide for undergraduate and postgraduate students*, Macmillan Business.
- Kinnear, P.R. and Gray, C.D. (2004), *SPSS 12 Made Simple*, Psychology Press, Hove and New York.
- Kohn, L.F. (1993), "Global sourcing: broadening your supply horizons", *Business Forum*, Winter/Spring, pp. 17-20.
- Kotabe, M. (1998), "Efficiency vs. effectiveness orientation of global sourcing strategy: a comparison of U.S. and Japanese multinational companies", *The Academy of Management Executive*, Vol. 12, No. 4, pp. 107-119.
- Kotabe, M., Murray, J.Y. and Javalgi, R.G. (1998), "Global sourcing of services and market performance: an empirical investigation", *Journal of International Marketing*, Vol. 6, No. 4, pp. 10-31.
- Kotabe, M. and Omura, G.S. (1989), "Sourcing strategies of European and Japanese multinationals: a comparison", *Journal of International Business Studies*, Vol. 20, No. 1, pp. 113-130.
- Lysons, K. and Farrington, B. (2006), "Purchasing and supply chain management" (7<sup>th</sup> ed.), Pearson Education Limited, Harlow.

- Mangan, J., Lalwani, C. and Gardner, B. (2004), "Combining quantitative and qualitative methodologies in logistics research", *International Journal of Physical Distribution & Logistics Management*, Vol. 34, No. 7/8, pp. 565-577.
- McGowan, K. (1997), "The Rise in global sourcing and logistics implications for shippers", *Transportation & Distribution*, Vol. 38, No. 10, pp. 83-87.
- Merriam Webster Online Dictionary (2006-2007) Citing Internet resources (WWW document). <http://www.m-w.com/dictionary/qualified>. (accessed 21 January 2007).
- Min, H. and Galle, W.P. (1991), "International purchasing strategies of multinational U.S. firms", *International Journal of Purchasing and Materials Management*, Vol. 27, No. 3, pp. 9-18
- Monczka, R.M. and Giunipero, L.C. (1984), "International purchasing: characteristics and implementation", *Journal of Purchasing and Materials Management*, Vol. 20, No. 3, pp. 2-9.
- Monczka, R.M. and Trent, R.J. (1991), "Global sourcing - a development approach", *International Journal of Purchasing and Materials Management*, Vol. 27 No. 2, pp. 2-8.
- Monczka, R.M. and Trent, R.J. (1992), "Worldwide sourcing: assessment and execution", *International Journal of Purchasing and Materials Management*, Vol. 28, No. 4, pp. 9-19.
- Monczka, R.M., Markham, W.J., Carter, J.R., Blascovich, J.D. and Slaight T.H. (2005), "Outsourcing strategically for sustainable competitive advantage", Center of Advanced Purchasing Studies, Tempe, AZ. Citing Internet resources (WWW document). <http://www.capsresearch.org/publications/pdfs-protected/monczka2005.pdf>. (accessed 19<sup>th</sup> May 2009).
- Monczka, R.M., Trent, R.J and Petersen, K.J. (2006), "*Effective global sourcing and supply for superior results*", Center of Advanced Purchasing Studies, Tempe, AZ. Citing Internet resources (WWW document). <http://www.capsresearch.org/publications/pdfs-public/monczka2006es.pdf>. (accessed 18<sup>th</sup> January 2007).
- Monczka, R. M., Trent, R. J. and Petersen, K. J. (2008), "Getting on track to better Global Sourcing", *Supply Chain Management Review*, Vol. 12, No. 2, pp. 46-53.
- Murray, J. Y. and Kotabe, M. (1999), "Sourcing strategies of U.S. service companies: A modified transaction-cost analysis", *Strategic Management Journal*, Vol. 20, No. 9, pp. 791-809.
- Ohmae, K. (1989), "Managing in a borderless world", *Harvard Business Review*, May-June, Vol. 67, No. 3, pp. 152-161.

- Office of National Statistics (ONS) (2009), GDP Growth: UK output decreases by 1.9%, Citing Internet resources (WWW document).  
<http://www.statistics.gov.uk/cci/nugget.asp?id=192>.  
 (accessed 20<sup>th</sup> May 2009).
- Opperman, M. (2000), "Triangulation – a methodological discussion", *International Journal of Tourism Research*, Vol. 2, No.2, pp.141-146.
- Pagell, M., Das, A., Curkovic, S. and Easton, L. (1996), "Motivating the purchasing professional", *International Journal of Purchasing and Materials Management*, Vol. 32, No. 3, pp. 27-34
- Pallant, J. (2001), *SPSS survival manual: a step by step guide to data analysis using SPSS for Windows (version 10 and 11)*, Open University Press Buckingham.
- Park, H. Y. (2000), "Foreign direct investment and global sourcing choices of firms in the US", *Managerial and Decision Economics*, Vol. 21, No. 6, pp. 211-221.
- Petersen, K. J., Frayer, D. J. and Scannell, T. V. (2000), "An empirical investigation of global sourcing strategy effectiveness", *Journal of Supply Chain Management*, Vol. 36, No. 2, pp. 29-38.
- Pfeffer, J. (1994), "Competitive advantage through people: unleashing the power of the work force", Boston, Harvard Business School Press.
- Platts, K.W. (1993), "A process approach to researching manufacturing strategy", *International Journal of Operations & Production Management*, Vol. 13, No. 8, pp. 4-17.
- Pricewaterhouse Coopers (PwC) (2009), The future of manufacturing: reports of its death are greatly exaggerated, (WWW document).  
<http://www.themanufacturer.com/uk/magazines/whitepapers.html>.  
 (accessed 19<sup>th</sup> May 2009).
- Quintens, L., Pauwels, P. and Matthyssens, P. (2006), "Global purchasing strategy: state of the art and research directions", *Journal of Purchasing and Supply Management*, Vol. 12, No. 4, pp. 170-181.
- Rajagopal, S. and Bernard, K.N. (1993), "Globalization of the procurement process", *Marketing Intelligence and Planning*, Vol. 11, No. 7, pp.44-56.
- Rajagopal, S. and Bernard, K.N. (1994), "Global procurement: motivations and strategy", *Marketing Intelligence and Planning*, Vol. 12 No. 9, pp.4-17.
- Reck, R.F. and Long, B.G. (1988), "Purchasing: a competitive weapon", *Journal of Purchasing and Materials Management*, Vol. 24, No.3, pp.2-8.
- Robson, C. (2002), *Real world research: A resource for social scientists and practitioner-researchers* (2<sup>nd</sup> ed.), Blackwell Publishers.

- Rodeghier, M. (1996), *Surveys with confidence: A practical guide to survey research using SPSS*, SPSS Inc, Chicago, Illinois.
- Samli, A.C., Browning, J.M. and Busbia, C. (1998), "The status of global sourcing as a critical tool of strategic planning: opportunistic versus strategic dichotomy", *Journal of Business Research*, Vol. 43, No. 3, pp.177-187.
- Samli, A. C. and Browning, J. M. (2002), "Overcoming the barriers to global sourcing: A strategic and expansionistic orientation", *American Marketing Association. Conference Proceedings*, Vol. 13, Summer, pp. 331-339.
- Scully, J. I. and Fawcett, S. E. (1994), "International procurement strategies: Challenges and opportunities for the small firm", *Production and Inventory Management Journal*, Vol. 35, No. 2, pp. 39-46.
- Sekaran, U. (2003), *Research methods for business: a skill-building approach* (4<sup>th</sup> ed.), John Wiley & Sons, New York.
- Spekman, R. E. (1991), "U.S. Buyers' Relationships with Pacific Rim Sellers", *International Journal of Purchasing & Materials Management*, Vol. 27, No. 1, pp. 2-10.
- Steinle, C. and Schiele, H. (2008), "Limits to global sourcing? Strategic consequences of dependency on international suppliers: Cluster theory, resource-based view and case studies", *Journal of Purchasing & Supply Management*, Vol. 14, No.1 , pp.3-14.
- Stiglitz, J.E. (2003), *Globalization and its discontents*, W.W. Norton & Company.
- Tashakkori, A. and Teddlie, C. (1998), *Mixed Methodology: combining qualitative and quantitative approaches*, Applied Social Research Methods Series, Vol. 46, Sage, Thousand Oaks, California.
- Trent, R.J. and Monczka, R.M. (1998), "Purchasing and supply Management: trends and changes throughout the 1990s", *International Journal of Purchasing and Materials Management*, Vol. 34, No. 4, pp. 2–11.
- Trent, R.J. and Monczka, R.M. (2002), "Pursuing competitive advantage through integrated global sourcing", *Academy of Management Executive*, Vol. 16, No. 2, pp. 66-80.
- Trent, R.J. and Monczka, R.M. (2003a), "International purchasing and global sourcing – what are the differences?", *Journal of Supply Chain Management*, Vol. 39, No. 4, pp. 26-37.
- Trent, R.J. and Monczka, R.M. (2003b), "Understanding integrated global sourcing", *International Journal of Physical Distribution & Logistics Management*, Vol. 33, No. 7, pp. 607-629.

- Trent, R.J. and Monczka, R.M. (2005), "Achieving excellence in global sourcing", *MIT Sloan Management Review*, Vol. 47, No. 1, pp. 24-32.
- Yin, R. K. (1993), *Applications of case study research*, Sage, Thousand Oaks, California, Applied Social Research Methods Series, Vol. 34.
- Yin, R. K. (2003), *Case Study Research: Design and Methods*, Sage, Thousand Oaks, California, Applied Social Research Methods Series, Vol. 5.
- Young, M. (2009), "Buying power", *The Manufacturer*, Vol. 12, No. 2, pp. 22-25.
- Zeng, A. Z. and Rossetti, C. (2003), "Developing a framework for evaluating the logistics costs in global sourcing processes: An implementation and insights", *International Journal of Physical Distribution & Logistics Management*, Vol. 33, No. 9/10, pp. 785-803.
- Zhang, Y. (1999), "Using the Internet for survey research: a case study", *Journal of the American Society for Information Science*, Vol. 51, No. 1, pp. 57-68.

## **APPENDICES**

## Appendix 1: List of Benefits Realised From International Purchasing and Global Sourcing Based On Past Studies

Benefits	Monczka and Giunipero, (1984)	Birou and Fawcett, (1993)	Rajagopal and Bernard, (1994)	Scully and Fawcett, (1994)	Trent and Monczka, (2003a)	Trent and Monczka, (2003b)
Access to lower priced goods/cost		x	x	x	x	x
Access to higher quality goods (material/component/service)		x	x	x	x	x
Greater access or exposure to worldwide technology (product/process)	x	x	x	x	x	x
Better delivery service or performance or reliability		x		x	x	x
Better customer service		x		x		
Enhanced competitive position		x		x		
Helps meet counter trade obligations		x		x		
Increased number of suppliers		x		x		
Increased competition	x		x			
Increased number of sources	x		x			
Improved supplier relationships					x	x
Greater appreciation of purchasing by internal customers					x	x
Higher user satisfaction with the purchasing process					x	x
Greater supplier responsiveness to buying unit needs					x	x
Greater standardization or consistency of the sourcing process					x	x
Improved sharing of information with suppliers					x	x
Better management of total supply chain inventory					x	x
Greater early supplier involvement during new product/service/development					x	x
Lower purchasing process transaction costs					x	x
Shorter ordering cycle time					x	x
Improved environmental compliance					x	x
Quality improvements	x					
Capacity and availability improvements	x					
Meeting "offset" requirements	x					
Lead time reduction	x					

Source: Monczka and Giunipero (1985), Birou and Fawcett (1993), Rajagopal and Bernard (1994), Scully and Fawcett (1994), Trent and Monczka (2003a), Trent and Monczka (2003b).

**Appendix 2: List Critical Success Factors in Implementing the International Purchasing and Global Sourcing Strategy Based On Past Studies**

Critical success factors	Monczka and Giunipero, (1984)	Birou and Fawcett, (1993)	Scully and Fawcett, (1994)	Rajagopal and Bernard, (1994)	Trent and Monczka, (2003a)	Trent and Monczka, (2003b)
Developing communication skills	x	x	x			
Overall development of international purchasing skills	x					
Developing global sourcing skills		x	x			
Establishing foreign buying offices		x	x			
Establishing long-term relationships		x	x			
Development of general methods to deal with foreign suppliers	x					
Foreign supplier certification/qualification methods	x	x	x			
Knowledge of exchange rates	x	x	x			
Understanding foreign market and its opportunities	x					
Knowledge of foreign business practices or customs	x	x	x			
Top management support or executive commitment and mandate to source worldwide		x	x	x	x	
Obtaining expert assistance or support		x	x			x
Planning for global sourcing		x	x			
Understanding global opportunities		x	x			
Development of foreign logistics	x					
Use of third-party logistics services		x	x			
Centralized procurement structure					x	
Suppliers that are interested in global contracts					x	x
Availability of required information and data					x	x
Plant-level participation during global contract development					x	x
Ability to identify common requirements across buying units					x	x
Use of cross-functional teams to develop global strategies					x	
Availability of suppliers with global capabilities					x	x



Ability to measure and evaluate performance improvements or benefits from global sourcing				x	x	
Personnel with required knowledge, skills and abilities						x
Awareness of potential global suppliers						x
Time for personnel to develop global strategies						x
Operations/manufacturing support of the global sourcing process						x
Direct site visits to suppliers						x
Decentralized procurement structure						x
An executive steering committee to guide the process						x
Marketing support of the global process						x
International purchasing office support						x
Language similarity with global supplier						x
Compatible information systems with suppliers						x
Cultural compatibility with global supplier						x
Common part coding system across buying units						x
Cost resource opportunity				x		
Experience				x		

Source: Monczka and Giunipero (1985), Birou and Fawcett (1993), Scully and Fawcett (1994), Rajagopal and Bernard (1994), Trent and Monczka (2003a), Trent and Monczka (2003b).

## Appendix 3: Characteristics of Global Sourcing Excellence (Source: Trent and Monczka, 2005)

<p><b>1. Executive Commitment to Global Sourcing</b></p> <ul style="list-style-type: none"><li>• Cross-functional leaders participate on a global sourcing steering committee or council.</li><li>• A designated executive has the authority to translate a global vision into reality.</li><li>• Executive leaders work to gain support for global agreements and processes from cross-functional groups and buying locations.</li><li>• Global sourcing leaders make strategy presentations to the executive committee and to the board of directors.</li><li>• Executive leaders recruit qualified participants to join global sourcing project teams.</li></ul> <p><b>2. Rigorous and Well-Defined Processes</b></p> <ul style="list-style-type: none"><li>• A well-defined process is in place that requires participants to establish goals, meet milestones and report progress to executives.</li><li>• An executive leader or steering committee, with input from participants, reviews and proposes process improvements.</li><li>• “Lessons learned” sessions are conducted at the conclusion of each project, and findings are distributed to worldwide participants.</li><li>• Global agreements are continuously monitored, reviewed and reestablished as required.</li></ul> <p><b>3. Availability of Needed Resources</b></p> <ul style="list-style-type: none"><li>• Executives make critical resources, such as budgets and qualified participants, available to support global initiatives.</li><li>• The process involves individuals who have the ability to take a global sourcing perspective rather than a local or regional perspective.</li><li>• Relevant information is accessible to project teams and participants.</li></ul> <p><b>4. Integration Through Information Technology</b></p> <ul style="list-style-type: none"><li>• Data warehouses provide access to required data and information on a real-time basis.</li><li>• A companywide intranet provides access to global sourcing support documents, guidelines, templates and progress updates.</li><li>• Contract repositories store global agreements and provide warning of expiring agreements.</li></ul>	<p><b>5. Supportive Organizational Design</b></p> <ul style="list-style-type: none"><li>• A formal executive steering committee or council oversees the global sourcing process, including the identification of global sourcing opportunities.</li><li>• Cross-functional project teams are responsible for the detailed analysis of global opportunities and the development of sourcing agreements.</li><li>• Organizational design includes the separation of strategic activities, such as global sourcing, and operational activities, such as the routine reordering of material.</li><li>• International purchasing offices support global sourcing requirements.</li><li>• Sourcing support personnel are (1) located near technical and marketing personnel during new product development projects and (2) linked organizationally to the appropriate global sourcing team.</li></ul> <p><b>6. Structured Approaches to Communication</b></p> <ul style="list-style-type: none"><li>• Project teams meet regularly, either face-to-face or electronically, to coordinate efforts.</li><li>• Strategy review and coordination sessions ensure understanding of global initiatives and buy-in for them.</li><li>• Project teams regularly report progress to executive leaders.</li><li>• Advanced communication and coordination tools are available, including videoconferencing and Web-based collaboration tools.</li><li>• Project information and updates are posted on a company intranet.</li></ul> <p><b>7. Methodologies for Measuring Savings</b></p> <ul style="list-style-type: none"><li>• Finance representatives agree on methods of validating savings from global initiatives.</li><li>• Global sourcing participants meet regularly with executive leaders to review savings from existing agreements and expected savings from in-process activities.</li><li>• Measurement systems support the calculation of:<ul style="list-style-type: none"><li>— Companywide savings realized and expected to be realized from global agreements</li><li>— The impact that sourcing initiatives have on corporate financial measures (e.g., return on assets)</li><li>— The return on investment for individual projects</li><li>— The impact that global suppliers have on buying location performance indicators</li></ul></li></ul>
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**Appendix 4: Studies on international purchasing and global sourcing that shows the origin of their sample.**

<b>Author and Year</b>	<b>Title</b>	<b>Sample study</b>
Birou, L.M. and Fawcett, S.E. (1993)	International purchasing: benefits, requirements, and challenges	Membership listing of the National Association of Purchasing Management (NAPM)
Bozarth, C., Handfield, R. and Das, A. (1998)	Stages of global sourcing strategy evolution: an exploratory study	Membership listing of the National Association of Purchasing Management (NAPM) - US
Das, A. and Handfield, R.B. (1997)	Just-in-time and logistics in global sourcing: an empirical study	Membership listing of the National Association of Purchasing Management (NAPM) - US
Fawcett, S.E. and Scully J.I. (1998)	Worldwide sourcing: facilitating continued success	Membership listing of the National Association of Purchasing Management (NAPM)
Giunipero, L.C. and Monczka, R.M. (1990)	Organizational approaches to managing international sourcing	US- based firms
Kotabe, M. and Omura, G.S. (1989)	Sourcing strategies of European and Japanese multinationals: a comparison	International Directory of Corporate Affiliations 1985/1986 – 250 foreign subsidiaries operating in the US (175 European and 75 Japanese identified)
Kotabe, M., Murray, J.Y. and Javalgi, R.G. (1998)	Global sourcing of services and market performance: an empirical evaluation	US Fortune Service 500 firms
Monczka, R.M. and Giunipero L.C. (1984)	International purchasing: characteristics and implementation	26 out of 45 selected multinational companies
Monczka, R.M. and Trent, R.J. (1991)	Global sourcing - a development approach	Field research - 26 US, Japanese and European, Delphi study – 85 US
Monczka, R.M. and Trent, R.J. (1992)	Worldwide sourcing: assessment and execution	US and foreign firms
Monczka, R.M., Trent, R.J. and Petersen, K.J. (2006)	Effective global sourcing and supply for superior results	Survey – database from Institute for Supply Management (ISM), CAPS Research and groups in the International Federation of Purchasing and Supply Management, HQ US (66%), Western Europe (26%), the rest in Canada, China, South America. Case study – 16 companies
Monczka R.M., Trent J.T., Petersen, K.J. (2008)	Getting on track to better global sourcing	Survey – database from Institute for Supply Management (ISM), CAPS Research and groups in the International Federation of Purchasing and Supply Management, HQ US (66%), Western Europe (26%), the rest in Canada, China, South America. Case study – 16 companies

Murray, J.Y. and Kotabe, M. (1999)	Sourcing strategies of U.S. service companies: a modified transaction-cost analysis	US Fortune Service 500 firms
Park, H.J. (2000)	Foreign direct investment and global sourcing choices of firms in the US	US firms
Petersen, K.J., Frayer, D.J., Scannel T.V. (2000)	An empirical investigation of global sourcing strategy effectiveness	Companies that participated in the Global Procurement and Supply Chain Benchmarking Initiative at Michigan State University – companies located in US (80%), Canada (3%), Western Europe (13%), Australia (4%)
Rajagopal, S. and Bernard, K.N. (1994)	Global procurement: motivations and strategy	UK companies
Samli, A.C., Browning, J.M. and Busbia, C. (1998)	The status of global sourcing as a critical tool of strategic planning: opportunistic versus strategic dichotomy	Membership listing of the National Association of Purchasing Management (NAPM) – restrict to those that reside in US only
Samli, A.C. and Browning, J.M. (2002)	Overcoming the barriers to global sourcing: a strategic and expansionistic orientation	Membership listing of the National Association of Purchasing Management (NAPM) – restrict to those that reside in US only
Scully, J.I. and Fawcett, S.E. (1994)	International procurement strategies: challenges and opportunities for the small firm	Membership listing of the National Association of Purchasing Management (NAPM) – US firms
Trent, R.J. and Monczka, R.M. (2002)	Pursuing competitive advantage through integrated global sourcing	Worldwide – majority US based (86%), Canada, Latin America, Western Europe, Asia Pacific
Trent, R.J. and Monczka, R.M. (2003a)	International purchasing and global sourcing – what are the differences?	Worldwide, response rate outside the US low, US (86%), Canada (2%), Latin America (1%), Western Europe (6%), Asia Pacific (2%), others (3%)
Trent, R.J. and Monczka, R.M. (2003b)	Understanding integrated global sourcing	Worldwide, response rate outside the US low, US (86%), Canada (2%), Latin America (1%), Western Europe (6%), Asia Pacific (2%), others (3%)
Trent, R.J. and Monczka, R.M. (2005)	Achieving excellence in global sourcing	Part of the Global Sourcing Research Project – large % US companies,
Zeng, A.Z. and Rossetti, C. (2003)	Developing a framework for evaluating the logistics costs in global sourcing processes	US firm and part supplier in China

## Appendix 5 - Semi-Structured Interview Questions

### GLOBAL SOURCING PRACTICES

Company : \_\_\_\_\_  
Name : \_\_\_\_\_  
Position : \_\_\_\_\_  
Date : \_\_\_\_\_

#### General Questions

- From the following list, please identify the **ONE** that best describes your firm's current sourcing level:
  1. Engage in domestic purchasing only.
  2. Engage in international purchasing as-needed.
  3. International purchasing as part of sourcing strategy.
  4. Global sourcing strategies integrated across worldwide locations.
  5. Global sourcing strategies integrated across worldwide locations and functional groups.

#### Factor 1: Executive commitment to global sourcing

- Please explain the role of the executive leadership in the development and implementation of the global sourcing strategy.
- Who is the process owner of the global sourcing strategy?

#### Factor 2: Rigorous and well-defined processes

- Please explain the global sourcing process that is implemented in your company.
- Please explain the process of how global agreements are monitored and reviewed.

#### Factor 3: Availability of needed resources

- Please explain how critical resources like financial and human resources are made available to support the global sourcing process.
- Please explain how relevant information is made accessible and shared among participants of the global sourcing process.

#### Factor 4: Integration through information technology

- Please explain how your company manages all the global agreements. Is there a contract repository that stores global agreements and provide warning of expiring agreements?
- Please explain the importance of having compatible information system with your suppliers in your global sourcing initiatives.

#### Factor 5: Supportive organisational design

- Please explain which department/team/committee is responsible to oversee the global sourcing process, from the sourcing strategy development, identification of global opportunities, to development of sourcing agreements.
- Please explain whether your company practice purchasing volumes aggregated on a worldwide basis for important categories of goods and services.

#### Factor 6: Structured approaches to communication and relationship building with suppliers

- What communication and coordination tools does your firm use to communicate with different departments in your company and your business partners worldwide?
- Please explain how potential suppliers are identified.
- Please explain how you manage the relationship with current suppliers.

#### Factor 7: Methodologies for measuring savings or performance

- Please explain how sourcing goals are established and linked to the overall company objectives.
- Please explain what measures your company uses to evaluate performance improvements or benefits from global sourcing initiatives.
- Please explain to whom and where the performance reports are distributed.

#### Factor 8: Qualified personnel

- Please explain the knowledge and skills that your purchasing personnel need to possess that you regard as important to perform global sourcing successfully.
- What kind of training would you regard as important for your purchasing personnel in order for them to perform effectively?

#### Other Factors:

- Between these eight factors, which are the top three factors that you consider as important in the implementation of your sourcing strategy?
- Are there any other factors that we might have not discussed that you think is important in implementing your sourcing strategy successfully?

## GLOBAL SOURCING PRACTICES

### Purpose of this questionnaire

This is a questionnaire solely for the purpose of a research project for the completion of a PhD Degree in Cranfield University.

### The research

This research aims to investigate global sourcing practices in the United Kingdom (UK), with particular reference to the critical success factors and best practices in the implementation of international purchasing and global sourcing.

This research requires participation by a person in your organisation that has insight into company-wide worldwide sourcing strategies and their integration across functions, geographies and sites.

Please complete this questionnaire with care as all the information collected will be kept utmost confidential and not attributed to any specific company.

Your participation is crucial in the effort to investigate strategic issues in the area of the global sourcing and its implications for the competitiveness of companies in UK.

A summary of the findings of this research will be provided to each individual who returns a completed questionnaire.

Thank you for your cooperation and kind assistance toward the success of this research.

Sincerely,  
Marini Mohamad

Please kindly complete the following contact details to allow us to send you the summary of the findings from this research.

Name : \_\_\_\_\_

Current position : \_\_\_\_\_

Email address : \_\_\_\_\_

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**Instruction:** Please read each item carefully, and then circle the answer that best represents your opinion.

**SECTION A: ORGANISATIONAL PROFILE**

Please circle the answer that represents the appropriate responses regarding your company.

1. How long has your company been operating?
  - A. Less than or equal to 5 years
  - B. More than 5 years but less than or equal to 10 years
  - C. More than 10 years but less than or equal to 15 years
  - D. More than 15 years but less than or equal to 20 years
  - E. More than 20 years
  
2. What is the total number of full-time employees in your company?
  - A. Less than 50
  - B. 50 to 249
  - C. Over 250
  
3. Approximately what percentage of your organisation’s total purchases (in £s) represents purchases from outside the UK?
  - A. Less than 20%
  - B. 20% to 39%
  - C. 40% to 59%
  - D. 60% to 79%
  - E. 80% or more
  - F. Don’t know

**SECTION B: SOURCING LEVEL**

Please tick only one answer.

1. Please identify the **ONE** that best describes your firm’s **current sourcing level**. If your company engages in domestic purchasing only, please go straight to Section D.

Sourcing levels	Engage in domestic purchasing only	Engage in international purchasing as-needed	International purchasing as part of sourcing strategy	Integration and coordination of global sourcing strategies across worldwide locations	Integration and coordination of global sourcing strategies with other functional groups
<b>Current sourcing level</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SECTION C: GLOBAL SOURCING CRITICAL SUCCESS FACTORS AND PRACTICES**

For 1a. and 1b.: Please circle the numbers that best describes your opinion.

1a. Please identify how <b>critical</b> each of the following items are to the effectiveness of your firm’s sourcing strategy	<b>1. Executive commitment to global sourcing</b>	1b. Please indicate the degree to which your firm currently has implemented the following <b>practices</b> .
Not Critical		Not Implemented
1 2 3 4 5		1 2 3 4 5
Very Critical		Broadly Implemented
1 2 3 4 5		1 2 3 4 5
	(i) Top management support and commitment to source worldwide	
	(ii) An executive steering committee to guide the process	
	(iii) Cross-functional leaders participate on a global sourcing steering committee or council	
	(iv) A designated executive has the authority to translate a global vision into reality	
	(v) Global sourcing leaders make strategy presentations to the executive committee and to the board of directors	

1c. Please identify the ONE that best describes your prediction of your company’s sourcing efforts in three to five years time. Please tick only one answer.

<b>(1) Executive commitment to global sourcing</b>	Limited commitment to purchase internationally.	Top management support of international purchasing emerges.	There is a designated executive leaders appointed to coordinate global sourcing efforts.	Cross-functional leaders participate on a global sourcing steering committee to coordinate global sourcing efforts.
<b>3 - 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For 2a. and 2b.: Please circle the numbers that best describes your opinion.

2a. Please identify how <b>critical</b> each of the following items are to the effectiveness of your firm’s sourcing strategy.	<b>2. Rigorous and well-defined processes</b>	2b. Please indicate the degree to which your firm currently has implemented the following <b>practices</b> .
Not Critical		Not Implemented
1 2 3 4 5		1 2 3 4 5
Very Critical		Broadly Implemented
1 2 3 4 5		1 2 3 4 5
	(i) Planning for global sourcing	
	(ii) A well-defined process is in place that requires participants to establish goals, meet milestones and report progress to executives	



Not Critical					Very Critical	2. Rigorous and well-defined processes	Not Implemented					Broadly Implemented				
1	2	3	4	5	1		2	3	4	5	1	2	3	4	5	
1	2	3	4	5		(iii) "Lessons learned" sessions are conducted at the conclusion of each project, and findings are distributed to worldwide participants	1	2	3	4	5					
1	2	3	4	5		(iv) Global agreements are continuously monitored, reviewed and re-established as required	1	2	3	4	5					
1	2	3	4	5		(v) Foreign supplier certification / qualification methods defined	1	2	3	4	5					

2c. Please identify the ONE that best describes your prediction of your company's sourcing efforts in three to five years time. Please tick only one answer.

(2) Rigorous and well-defined process	Informal international purchasing process exists.	Decentralised international purchasing process exists, where different groups use their own tailored process.	A common global sourcing process exists across worldwide locations.	A well-defined process is in place that requires global participants to establish goals, meet milestones and report progress to executive leaders.
3 – 5 years time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For 3a. and 3b.: Please circle the numbers that best describes your opinion.

3a. Please identify how <b>critical</b> each of the following items are to the effectiveness of your firm's sourcing strategy.					3. Availability of needed resources	3b. Please indicate the degree to which your firm currently has implemented the following practices.									
Not Critical						Very Critical	Not Implemented					Broadly Implemented			
1	2	3	4	5		1	2	3	4	5	1	2	3	4	5
1	2	3	4	5	(i) Executives make critical resources, such as budgets and qualified participants, available to support global initiatives	1	2	3	4	5					
1	2	3	4	5	(ii) The process involves individuals who have the ability to take a global sourcing perspective rather than a local or regional perspective	1	2	3	4	5					
1	2	3	4	5	(iii) Availability of required information and data	1	2	3	4	5					
1	2	3	4	5	(iv) Availability of suppliers that are interested in global contracts and have global capabilities	1	2	3	4	5					
1	2	3	4	5	(v) Obtaining expert assistance or support	1	2	3	4	5					

3c. Please identify the ONE that best describes your prediction of your company's sourcing efforts in three to five years time. Please tick only one answer.

<b>(3) Availability of needed resources</b>	Limited resources are allocated for international purchasing activities.	Resources can be made available should a new opportunity arises.	Trade-offs are made on resources between worldwide locations.	Executive leaders make critical resources (such as budgets and personnel) available to support global initiatives.
<b>3 - 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For 4a. and 4b.: Please circle the numbers that best describes your opinion.

4a. Please identify how <b>critical</b> each of the following items are to the effectiveness of your firm's sourcing strategy.	<b>4. Integration through information technology</b>	4b. Please indicate the degree to which your firm currently has implemented the following <b>practices</b> .
<b>Not Critical</b>		<b>Not Implemented</b>
<b>Very Critical</b>		<b>Broadly Implemented</b>
1   2   3   4   5	(i) Data warehouses provide access to required data and information on a real-time basis	1   2   3   4   5
1   2   3   4   5	(ii) A companywide intranet provides access to global sourcing support documents, guidelines, templates and progress updates	1   2   3   4   5
1   2   3   4   5	(iii) Ability to identify common requirements across buying units	1   2   3   4   5
1   2   3   4   5	(iv) Common part coding system across buying units	1   2   3   4   5
1   2   3   4   5	(v) Compatible information systems with suppliers	1   2   3   4   5

4c. Please identify the ONE that best describes your prediction of your company's sourcing efforts in three to five years time. Please tick only one answer.

<b>(4) Integration through information technology</b>	Limited need for integration through technology.	Some form of information system exists to facilitate exchanges of information.	An integrated information system has been established to facilitate global sourcing initiatives.	A fully integrated information system links sourcing activities with other functional groups (new product development, engineering, operations, marketing) from worldwide locations.
<b>3 - 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For 5a. and 5b.: Please circle the numbers that best describes your opinion.

5a. Please identify how <b>critical</b> each of the following items are to the effectiveness of your firm's sourcing strategy.  <b>Not Critical</b> <span style="float: right;"><b>Very Critical</b></span>	<b>5. Supportive organisational design</b>	5b. Please indicate the degree to which your firm currently has implemented the following <b>practices</b> .  <b>Not Implemented</b> <span style="float: right;"><b>Broadly Implemented</b></span>
1 2 3 4 5		1 2 3 4 5
	(i) Use of cross-functional teams to develop global strategies	
1 2 3 4 5	(ii) A formal executive steering committee oversees the global sourcing process	1 2 3 4 5
1 2 3 4 5	(iii) Organisational design includes the separation of strategic activities (such as global sourcing) and operational activities (such as the routine reordering of material)	1 2 3 4 5
1 2 3 4 5	(iv) Establishing foreign buying offices	1 2 3 4 5
1 2 3 4 5	(v) Foreign buying offices support global sourcing requirements	1 2 3 4 5

5c. Please identify the ONE that best describes your prediction of your company's sourcing efforts in three to five years time. Please tick only one answer.

<b>(5) Supportive organisational design</b>	The organisational structure supports limited international purchasing activities.	International purchasing exists but are not well coordinated across worldwide buying sites.	An organisational structure that coordinates global sourcing activities has been established across worldwide locations.	An organisational structure that coordinates global sourcing activities across worldwide locations and with other functional groups.
<b>3 – 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For 6a. and 6b.: Please circle the numbers that best describes your opinion.

6a. Please identify how <b>critical</b> each of the following items are to the effectiveness of your firm's sourcing strategy.  <b>Not Critical</b> <span style="float: right;"><b>Very Critical</b></span>	<b>6. Structured approaches to communication and relationship building with suppliers</b>	6b. Please indicate the degree to which your firm currently has implemented the following <b>practices</b> .  <b>Not Implemented</b> <span style="float: right;"><b>Broadly Implemented</b></span>
1 2 3 4 5		1 2 3 4 5
1 2 3 4 5	(i) Advanced communication and coordination tools are available (videoconferencing and Web-based collaboration tools)	1 2 3 4 5

<b>Not Critical</b>					<b>Very Critical</b>					<b>6. Structured approaches to communication and relationship building with suppliers</b>					<b>Not Implemented</b>					<b>Broadly Implemented</b>				
1	2	3	4	5	(ii) Project teams meet regularly to coordinate efforts (either face-to-face or electronically)	1	2	3	4	5														
1	2	3	4	5	(iii) Project teams regularly report progress to executive leaders	1	2	3	4	5														
1	2	3	4	5	(iv) Establishing long-term relationships with suppliers	1	2	3	4	5														
1	2	3	4	5	(v) Direct site visits to suppliers	1	2	3	4	5														

6c. Please identify the ONE that best describes your prediction of your company's sourcing efforts in three to five years time. Please tick only one answer.

<b>(6) Structured approaches to communication</b>	Limited communication and coordination between departments, for international purchasing activities.	A standard procedure has been established across departments, for international purchasing activities.	The integration and coordination across worldwide buying locations are facilitated by a structured communication approach.	The integration and coordination across worldwide buying locations and functional groups are facilitated by an advanced and extensive communication approach.
<b>3 - 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For 7a. and 7b.: Please circle the numbers that best describes your opinion.

<b>7a. Please identify how critical each of the following items are to the effectiveness of your firm's sourcing strategy.</b>					<b>7. Methodologies for measuring savings or performance</b>					<b>7b. Please indicate the degree to which your firm currently has implemented the following practices.</b>									
<b>Not Critical</b>					<b>Very Critical</b>					<b>Not Implemented</b>					<b>Broadly Implemented</b>				
1	2	3	4	5	(i) Ability to measure and evaluate performance improvements or benefits from global sourcing	1	2	3	4	5									
1	2	3	4	5	(ii) Global sourcing participants meet regularly with executive leaders to review savings	1	2	3	4	5									
1	2	3	4	5	(iii) Measurement systems support the calculation of companywide savings	1	2	3	4	5									
1	2	3	4	5	(iv) Measurement systems support the calculation of the impact that sourcing initiatives have on corporate financial measures (e.g. return on assets)	1	2	3	4	5									

Not Critical					Very Critical	7. Methodologies for measuring savings or performance	Not Implemented					Broadly Implemented				
1	2	3	4	5		(v) Measurement systems support the calculation of the return on investment for individual projects	1	2	3	4	5					

7c. Please identify the ONE that best describes your prediction of your company's sourcing efforts in three to five years time. Please tick only one answer.

(7) Methodologies for measured savings	No standard guidelines for measuring and validating savings from international purchasing initiatives.	There are some general guidelines for measuring and validating savings from international purchasing initiatives.	There is a set of guidelines for measuring and validating savings from global sourcing initiatives.	There is a comprehensive system for measuring and validating savings from global sourcing initiatives.
3 – 5 years time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For 8a. and 8b.: Please circle the numbers that best describes your opinion.

8a. Please identify how <b>critical</b> each of the following items are to the effectiveness of your firm's sourcing strategy.					8. Qualified personnel	8b. Please indicate the degree to which your firm currently has implemented the following practices.									
Not Critical						Not Implemented					Broadly Implemented				
1	2	3	4	5		1	2	3	4	5					
1	2	3	4	5	(i) Developing the skills unique to international purchasing and global sourcing	1	2	3	4	5					
1	2	3	4	5	(ii) Developing communication skills	1	2	3	4	5					
1	2	3	4	5	(iii) Developing knowledge on exchange rates	1	2	3	4	5					
1	2	3	4	5	(iv) Developing knowledge on foreign business practices or customs	1	2	3	4	5					
1	2	3	4	5	(v) Understanding global opportunities	1	2	3	4	5					

8c. Please identify the ONE that best describes your prediction of your company's sourcing efforts in three to five years time. Please tick only one answer.

(8) Qualified personnel	Personnel have limited skills and experience in purchasing internationally.	Personnel involved are required to have some knowledge and the skills to purchase internationally.	Personnel have knowledge and experience to implement and manage global sourcing efforts.	Involves individuals who can view supply markets from a worldwide perspective while collaborating across functional boundaries.
3 - 5 years time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**FOR COMPANIES THAT ONLY ENGAGE IN DOMESTIC PURCHASING.**

**SECTION D: FUTURE SOURCING EFFORTS**

For each section, please identify the **ONE** description that agrees with your prediction of your company's sourcing efforts in three to five years time. Please tick only one answer in each section.

<b>(1) Executive commitment to global sourcing</b>	Limited commitment to purchase internationally.	Top management support of international purchasing emerges.	There are designated executive leaders appointed to coordinate global sourcing efforts.	Cross-functional leaders participate on a global sourcing steering committee to coordinate global sourcing efforts.
<b>3 - 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>(2) Rigorous and well-defined process</b>	Informal international purchasing process exists.	Decentralised international purchasing process exists, where different groups use their own tailored process.	A common global sourcing process exists across worldwide locations.	A well-defined process is in place that requires global participants to establish goals, meet milestones and report progress to executive leaders.
<b>3 - 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>(3) Availability of needed resources</b>	Limited resources are allocated for international purchasing activities.	Resources can be made available should a new opportunity arises.	Trade-offs are made on resources between worldwide locations.	Executive leaders make critical resources (such as budgets and personnel) available to support global initiatives.
<b>3 - 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>(4) Integration through information technology</b>	Limited need for integration through technology.	Some form of information system exists to facilitate exchanges of information.	An integrated information system has been established to facilitate global sourcing initiatives.	A fully integrated information system links sourcing activities with other functional groups (new product development, engineering, operations, marketing) from worldwide locations.
<b>3 - 5 years time</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## Appendix 7 – Case summary template

This is a template of the summary for the data collected from interviews conducted for this research. This template provides explanation on the factors that were discussed during each interview. .

<b>Case (#)</b>	<b>Company Description Manufacturing or Consulting Company Role of Interviewee</b>
<b>Current sourcing level</b>	This section categorises the interviewees company’s current sourcing level from a list of five sourcing levels.
<b>Factor 1: Executive commitment to global sourcing</b>	This section explains: <ul style="list-style-type: none"> <li>• the role of the executive leadership in the development and implementation of the global sourcing strategy.</li> <li>• the process owner of the global sourcing strategy.</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	This section explains: <ul style="list-style-type: none"> <li>• the global sourcing process that is implemented in the company.</li> <li>• the process of how global agreements are monitored and reviewed.</li> </ul>
<b>Factor 3: Availability of needed resources</b>	This section explains: <ul style="list-style-type: none"> <li>• how critical resources like financial and human resources are made available to support the global sourcing process.</li> <li>• how relevant information is made accessible and shared among participants of the global sourcing process.</li> </ul>
<b>Factor 4: Integration through information technology</b>	This section explains: <ul style="list-style-type: none"> <li>• how the company manages all the global agreements.</li> <li>• the importance of having compatible information system with suppliers in global sourcing initiatives.</li> </ul>
<b>Factor 5: Supportive organisational design</b>	This section explains: <ul style="list-style-type: none"> <li>• which department/team/committee is responsible to oversee the global sourcing process, from the sourcing strategy development, identification of global opportunities, to development of sourcing agreements.</li> <li>• whether the company practice purchasing volumes aggregated on a worldwide basis for important categories of goods and services.</li> </ul>



<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p>This section explains:</p> <ul style="list-style-type: none"> <li>• the communication and coordination tools that the company uses to communicate with different departments in the company and with business partners worldwide.</li> <li>• how potential suppliers are identified.</li> <li>• how the relationship with current suppliers are managed.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p>This section explains:</p> <ul style="list-style-type: none"> <li>• how sourcing goals are established and linked to the overall company objectives.</li> <li>• what measures the company uses to evaluate performance improvements or benefits from global sourcing initiatives</li> <li>• to whom and where the performance reports are distributed.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p>This section explains:</p> <ul style="list-style-type: none"> <li>• the knowledge and skills that purchasing personnel need to possess that is regarded as important to perform global sourcing successfully.</li> <li>• the kind of trainings that are regarded as important for the purchasing personnel in the company for them to perform effectively.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<p>This section identifies the top three factors that were identified most important by the interviewees in the implementation of global sourcing in the company.</p>
<p><b>Other factors that were considered as important</b></p>	<p>This section discusses additional factors that were considered important by the interviewee in the implementation of global sourcing in the company.</p>

<b>Case (#)</b>	<b>Company</b> <b>Manufacturing Company</b> <b>Role of Interviewee:</b>
<b>Current sourcing level</b>	
<b>Factor 1:</b> <b>Executive commitment to global sourcing</b>	<b>Role of the executive leadership</b> <ul style="list-style-type: none"> <li>•</li> <li><b>Process owner of the global sourcing strategy</b></li> <li>•</li> </ul>
<b>Factor 2:</b> <b>Rigorous and well-defined processes</b>	<b>The global sourcing process</b> <ul style="list-style-type: none"> <li>•</li> <li><b>How global agreements are monitored and reviewed</b></li> <li>•</li> </ul>
<b>Factor 3:</b> <b>Availability of needed resources</b>	<b>How critical resources made available</b> <ul style="list-style-type: none"> <li>•</li> <li><b>How relevant information is made accessible and shared</b></li> <li>•</li> </ul>
<b>Factor 4:</b> <b>Integration through information technology</b>	<b>How global agreements are managed</b> <ul style="list-style-type: none"> <li>•</li> <li><b>Importance of having compatible information system with suppliers</b></li> <li>•</li> </ul>
<b>Factor 5:</b> <b>Supportive organisational design</b>	<b>Internal group responsible to oversee the global sourcing process</b> <ul style="list-style-type: none"> <li>•</li> <li><b>Purchasing volumes aggregated on a worldwide basis</b></li> <li>•</li> </ul>
<b>Factor 6:</b> <b>Structured approaches to communication and relationship building with suppliers</b>	<b>Communication and coordination tools</b> <ul style="list-style-type: none"> <li>•</li> <li><b>How potential suppliers are identified</b></li> <li>•</li> <li><b>How relationship with current suppliers are managed</b></li> <li>•</li> </ul>
<b>Factor 7:</b> <b>Methodologies for measuring savings or performance</b>	<b>How sourcing goals are established and linked to the overall company objectives</b> <ul style="list-style-type: none"> <li>•</li> <li><b>Measures to evaluate performance improvements or benefits from global sourcing</b></li> <li>•</li> <li><b>Performance reports distribution</b></li> <li>•</li> </ul>
<b>Factor 8:</b> <b>Qualified personnel</b>	<b>Knowledge and skills</b> <ul style="list-style-type: none"> <li>•</li> <li><b>Training</b></li> <li>•</li> </ul>
<b>Between the eight factors, top three factors considered most important</b>	1. 2. 3.
<b>Other factors that were considered as important</b>	

## Appendix 8 - Case summaries

1.	Case 2A	Manufacturing Company
2.	Case 2B	Manufacturing Company
3.	Case 2C	Manufacturing Company
4.	Case 3A	Manufacturing Company
5.	Case 3B	Manufacturing Company
6.	Case 3C	Manufacturing Company
7.	Case 3D	Manufacturing Company
8.	Case 3E	Manufacturing Company
9.	Case 4A	Manufacturing Company
10.	Case 4B	Manufacturing Company
11.	Case 5A	Manufacturing Company
12.	Case 5B	Manufacturing Company
13.	Case 5C	Manufacturing Company
14.	Case 5D	Manufacturing Company
15.	Case 5E	Manufacturing Company
16.	Case 5F	Manufacturing Company
17.	Case 5G	Manufacturing Company
18.	Case AA	Consulting Company
19.	Case BB	Consulting Company
20.	Case CC	Consulting Company

<b>Case (2A)</b>	<b>Focused consumer products company</b> <b>Manufacturing Company</b> <b>Role of Interviewee: Category Supply Director and Head of the Group Procurement Network</b>
<b>Current sourcing level</b>	Level 2 – Engage in international purchasing as-needed.
<b>Factor 1: Executive commitment to global sourcing</b>	<b>Role of the executive leadership</b> <ul style="list-style-type: none"> <li>• Little involvement. The company has multiple manufacturing locations across the world, centring more and more on Asia Pacific. And each has a supply chain director responsible for a cluster of factories.</li> <li>• Cutting across all of those is a virtual procurement network. If there is a requirement for innovation, Case 2A will use this network to help source from a certain country and provide information that they require. This is not a formal centralised function. It’s almost virtual. The virtual procurement network comprises representatives from the different categories.</li> <li>• There is a matrix system in place. The personnel work in category teams and also part of their day job is to support the virtual procurement network.</li> </ul> <b>Process owner of the global sourcing strategy</b> <ul style="list-style-type: none"> <li>• Head of Procurement Network is the process owner to implement global sourcing strategy.</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<b>The global sourcing process</b> <ul style="list-style-type: none"> <li>• Identify a product requirement and then from there use the network and sources globally to understand sources of innovation and cost savings.</li> <li>• There is in place a process of validating any new suppliers that have been identified using a supplier questionnaire.</li> <li>• The supplier questionnaire is split into four elements – (1) the company itself, (2) their quality management systems, (3) their environmental controls and accreditations, and (4) packaging.</li> <li>• Also ask some questions about the human side of the business.</li> <li>• Upon the completion of the questionnaire, it will be reviewed.</li> <li>• If acceptable, then move to the next stage of sending in a person from the company to go and do a quality audit of the facility.</li> <li>• Assuming that’s successful, then the final steps is to do a review of the criticality of the supplier. How much will the company spend with this supplier, what sort of services will the supplier provide and a financial assessment of the company.</li> <li>• Then they will become a validated supplier</li> </ul> <b>How global agreements are monitored and reviewed</b> <ul style="list-style-type: none"> <li>• Case 2A normally trades with suppliers on a monthly basis, so there are monthly purchase orders.</li> <li>• Either meets with the supplier on a quarterly or half a year or yearly basis.</li> <li>• It’s a combination of monthly communication, half yearly or yearly formal supplier reviews.</li> </ul>

<p><b>Factor 3:</b> <b>Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• Have the right buying resource in place to support any global sourcing process.</li> <li>• It's key to have the right people, the right buyers and the right skill sets, particularly understanding local culture and local ways of doing business.</li> <li>• Recruited a local person in China with good procurement skills and knowledge of the area.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Relevant information is not readily available because of the disparate systems that Case 2A has in place.</li> <li>• At the moment a wall to wall SAP systems is implemented.</li> <li>• At the moment there is no visibility.</li> <li>• But it is considered critical to any process.</li> <li>• Share volumes data either actual or estimated volumes with suppliers, discuss target pricing. Don't share selling data with suppliers. Information is shared through face to face meeting, spreadsheet or email, depending on the location.</li> </ul>
<p><b>Factor 4:</b> <b>Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• Case 2A has a central repository, but it's not a system.</li> <li>• It's more like the group legal team that deal with the repository of this data.</li> <li>• Because they monitor and work with their suppliers on a daily basis, they know without a formal warning system when things will expire.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• Don't actually see it at this stage as being that important.</li> <li>• The use of email, spreadsheets is fine, compatibility at that level is sufficient.</li> <li>• Implemented SAP and several of their suppliers are on SAP or a similar system where they could exchange data,</li> <li>• As long as the suppliers have the ability to read and understand the documents in word, excel spreadsheet and email.</li> </ul>
<p><b>Factor 5:</b> <b>Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The Head of the Group Procurement Network is responsible for the process and draft templates to use on agreements.</li> <li>• It's the category team's responsibility to identify global opportunities and develop them into sourcing agreements. They are also responsible to implement tools and techniques that the Head of the Group Procurement Network has identified.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practice purchasing volumes aggregated on a worldwide basis.</li> <li>• Practice purchasing volumes aggregated with multiple supply points pulling on that global contract.</li> <li>• Do aggregate cross the category, for example for packaging of cardboard and aluminium sachets consolidate all of that in order to try and get better negotiation.</li> </ul>

<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Email and face to face sessions.</li> <li>• If there is launching of new products, there is a project management team who facilitate this communication and coordination.</li> <li>• A combination of a good strong project manager who will do the coordination and the communication through face to face and email.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Multiple sources such as through other suppliers, websites, recommendations and some suppliers just approach the company.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Frequency of visiting suppliers depends on how the company rates the suppliers in terms of importance of the suppliers to the company, risk of the product and whether the product is single sourced or multiple sourced. This is a formal process.</li> <li>• Measure supplier performance within an agreed lead time. Measure the delivery performance and quality of product. Identify and state a specification of the product that is expected and measure the suppliers against that. If a product arrives and it doesn't make that expectation, the suppliers are rated accordingly. Feedback and some corrective action will also be given.</li> <li>• Formal calculations of performance review are done on a monthly basis, however if there are any pressing issues and deterioration in quality of the product, it will be addresses sooner.</li> <li>• Somebody in the supply and logistics team who places the purchases orders has a day to day operational relationship with his equivalent in the suppliers. And that relationship is more detailed, more operational and multiple times per month. Sitting above them are the lead buyers, and they've got a set of finished goods suppliers each. And so for negotiations and any more formal activities, the lead buyer will interact with the supplier.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Pull together the budget process and as part of that, identify ways if the budget is too high, set in a strive number on how to make savings. Then work with the buyers on where savings can be made and prioritise accordingly.</li> <li>• "At the moment it isn't ideal, it should be the other way around. What we need to cover is firstly to understand our global purchasing spend map. Once we've identified that then we can analyse where we can get benefits across category and keep it as a more formal process on review and opportunities, prioritising them, time to implement the goals, so we'd probably need a more formal way of capturing opportunities and implementing opportunities".</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• The only method at the moment is a quarterly finance review which tracks how the company is doing against the targets.</li> </ul>

	<p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• It goes to the category teams, and to the factories. So how the factories performing against the number that were allocated as part as the budget process.</li> <li>• Site managers are in charge in the factories and they will have buyers working on all of the factories. The factory managers, a cluster of them will report to a Category Supply Director.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• It's about proven capability and purchasing.</li> <li>• It's not essential to have a formal qualification like CIPS.</li> <li>• Find somebody with the right attitude, who can procure, got a good track record on negotiation, and that's the key thing in terms of the person.</li> <li>• Location wise, it's important for example if purchasing in China somebody has an extremely good understanding of culture from business in China.</li> <li>• Recruit local people to overcome any language and cultural barriers.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• The company supports employees to do a formal qualification, CIPS or any other forms of qualifications, degree.</li> <li>• There is support on cultural trading through Communicaid down in London to do a cultural awareness course on doing business in China.</li> <li>• Support if the employee needs training on negotiation, finance, business awareness or any other general business course.</li> <li>• There are no formal training programs in house.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Rigorous and well-defined processes</li> <li>2. Structured approaches to communication and relationship building with suppliers</li> <li>3. Qualified personnel</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<p>Reward and recognition for the buyers. For them to feel part of a network of a successful function.</p> <p>“In future, firstly we're going to strengthen the purchasing elements of the business, the supplier relationships. Then pulling together for a big workshop all of the procurement representatives again. And communicate tools, techniques; I guess reinforcing their role and starting to practice procuring on a global scale. In parallel start looking at ways of measuring savings and performance”.</p>

Case (2B)	<b>Distillery of single malt whisky Manufacturing Company</b> <b>Role of Interviewee: Operations Director</b>
Current sourcing level	Level 2 - Engage in international purchasing as-needed.
<b>Factor 1: Executive commitment to global sourcing</b>	<b>Role of the executive leadership</b> <ul style="list-style-type: none"> <li>• Providing some leadership and direction</li> <li>• Objective setting.</li> <li>• Targets about the degree of global sourcing that is required and cost reductions.</li> <li>• Determine what proportionate of spend should be done through global partners.</li> </ul> <b>Process owner of the global sourcing strategy</b> <ul style="list-style-type: none"> <li>• Group Operations Director</li> </ul>
<b>Factor 2: Rigorous and well- defined processes</b>	<b>The global sourcing process</b> <ul style="list-style-type: none"> <li>• The main focus of Case 2B's activity is to increase procurement from the Far East and there is an office in the Far East that facilitates that.</li> <li>• The process starts off with identifying the local requirements and identifying what the factory needs</li> <li>• Then the list of needs is passed to a group in Singapore who looks at whether it can be sourced locally or sourced cheaper in the Far East than in the UK.</li> <li>• It's fairly ad-hoc; it's not a very formal process.</li> <li>• The second part of the process is reporting the proportion of the business that is being rearranged globally.</li> <li>• Within Europe, there are also meetings to look at common supply base and have agreements with some suppliers to pool needs, like glass bottles and try to negotiate with one or two suppliers globally.</li> </ul> <b>How global agreements are monitored and reviewed</b> <ul style="list-style-type: none"> <li>• There are quarterly meetings of the procurement managers who share information at meetings and share progress against the targets.</li> <li>• Case 2B have four main production sites, two people centrally, there are six procurement managers in total, one for each site.</li> </ul>
<b>Factor 3: Availability of needed resources</b>	<b>How critical resources made available</b> <ul style="list-style-type: none"> <li>• Case 2B didn't have any manufacturing base in the Far East initially.</li> <li>• Having the right people in the right place is very critical, so a team is established there to eliminate constraints. Financial resources are not a problem. There is some central support from the parent company, but most of it is internal which is managed by the Finance Department.</li> </ul> <b>How relevant information is made accessible and shared</b> <ul style="list-style-type: none"> <li>• It's poorly done.</li> <li>• There's no formal structure.</li> <li>• Locally, information is obtained from the system.</li> <li>• Collectively it's just shared through spreadsheets, email and meetings.</li> <li>• The group uses SAP.</li> </ul>



<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• One of the procurement people will lead the process of forming a global agreement with any company.</li> <li>• The contract is then shared with everyone else.</li> <li>• Each supplier would have an owner and that person is responsible for maintaining that contract.</li> <li>• There isn't a contract repository.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• It's quite important to have a compatible information system.</li> <li>• Some suppliers, Case 2B is very integrated with, and others they are not integrated at all,</li> <li>• It's important that suppliers can readily access information on supply and forecasting.</li> <li>• "We don't need compatible systems but they need access into our systems."</li> <li>• Share information with suppliers electronically.</li> <li>• The suppliers enter into a web link where they can see demand to their products.</li> <li>• The benefit of having compatible information system: (1) If things changed, it gets noticed quicker. (2) It pushes away the responsibility to the supplier. It makes the supplier more accountable.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• A team of procurement experts.</li> <li>• The team meets ad hoc four times a year.</li> <li>• There's no one specifically responsible.</li> <li>• The team looks at their targets between them and set up objectives which are then taken on by the Global Operations Manager.</li> <li>• The Global Operations Manager pulls this committee together, but the committee themselves look at what the opportunities are and where they can source together.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practice purchasing volumes aggregated on a worldwide basis.</li> <li>• Case 2B has very few common components but they have common suppliers.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Email.</li> <li>• Financial systems that give an overview of the business.</li> <li>• Use SAP in most cases.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Through relationship with existing procurement people.</li> <li>• There's no particular strategy.</li> <li>• It's done through local knowledge normally.</li> <li>• If Case 2B is searching for new suppliers, they would probably use a third party, a consultant company that has a supply base somewhere else in the world or for a particular component, if Case 2B is looking for something new.</li> <li>• Ask in the group if anyone has dealt with this type of supplier before, this type of component.</li> <li>• This process is very ad hoc.</li> </ul>

	<ul style="list-style-type: none"> <li>• Communicate this process through face to face structured meetings, while looking at opportunities.</li> <li>• Usually done just through email and asking questions by picking up the phone.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Have visits to audit the suppliers.</li> <li>• There's an assessment on the supplier's technical and quality capability.</li> <li>• There is also a straightforward cost negotiation having identified the component or identified the standard that is required.</li> <li>• Case 2B makes sure the suppliers are capable of doing what has been agreed upon.</li> <li>• Case 2B runs a vendor rating system, where the suppliers are rated on quality delivery and cost.</li> <li>• The assessment is done once a year for all the major suppliers.</li> <li>• This is a formal vendor rating system and non conformance system.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• The top of the combined group decides how much money Case 2B need to save and that becomes the objective.</li> <li>• It's based on a corporate need, someone would just simply decide a number and then that would be passed down, from top of the combined group.</li> <li>• The top management would cut up the percentage by deciding that if a certain group is 10 percent of the spend, so that group should have 10 percent of the objective.</li> <li>• There are other objectives like sourcing from Asia where the top of the combined group might set a percentage or might just be a directive that the group will have to source from a certain company.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• They are only financial.</li> <li>• They will be cost comparisons or cost savings.</li> <li>• The Global Operations Director is in charge of this.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• The performance reports are distributed to site managers and procurement managers quarterly.</li> <li>• The performance reports are not part of the group scorecard.</li> <li>• There is nothing on costs of goods in it.</li> <li>• For the group, this is just a separate measure which reports whether targets and objectives have been met.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• The most important skill is networking skills.</li> <li>• Case 2B sources in a fairly ad hoc way, so if the person is not very strong at forming relationships and knows how to use those relationships to get information and get people to do things, it doesn't happen. It's a primary skill.</li> <li>• They need good negotiating skills.</li> <li>• The ability to work in an ad hoc network that isn't very structured and balance the needs of the local company with the needs of the group.</li> </ul>

- It's those interpersonal skills and commercial skills that are most critical.
- Case 2B has people locally in the markets where they are buying in.
- People designated in those markets will have to deal with local suppliers.
- There are company corporate guidelines on how to deal with suppliers ethically.
- It is important to have those local contacts to really make it work, particularly if sourcing from a far away market where Case 2B might not fully understand the culture.
- It's a mixture of network people at the manufacturing sites working with good local people who can implement the objectives.
- Don't think CIPS is important. It's important to know how the supply chain works and ability to negotiate.

### **Training**

- Leadership, able to lead.
- Don't provide training in terms of technical issues.
- Provide trainings around interpersonal and leadership skills.
- Provide training in house as a group.
- Do external training as well.
- Article "Improving organizational performance through improving our people" - as a group Case 2B is very keen to retain and progress high performing people. If there is an individual that is a high performer then the company will work hard to retain that person and develop that person. As a group Case 2B needs to develop the overall competence, so Case 2B works hard on raising the interpersonal skills of people in the group. Retention is a very key issue especially in the global organisation which is dependant on networking. Retain employees by paying them better and offer some career progression. Case 2B doesn't want to lose people because it takes a long while to rebuild the network if someone new comes in.
- Article on sector skills agreement – Case 2B globally try to work through with groups of companies on forming a high level agreement to look at sectors and form sector skills agreements. The manufacturing sector in the UK is very poorly supported in terms of the people coming in to manufacture. There are not a lot of people coming into manufacturing. The sector skills agreements are looking at for instance, food & drink and what skills are needed in food & drinks, assigning up to agree to support those skills by providing training or using common training or common language. The people are developed in different ways; it might be through vocational qualifications or through collective training with other manufacturers. It's about retention within the sector.
- Investors in People – Case 2B is an Investors in People company. They have a learning centre, a certain amount of investment on development of people, and a structured performance management system. Investors in People is like an accreditation for development. Case 2B has a structured training and development plan for their employees.

<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing.</li> <li>2. Structured approaches to communication and relationship building with suppliers.</li> <li>3. Qualified personnel.</li> </ol>
<b>Other factors that were considered as important</b>	<p>Having very well defined needs, great standards, need great specifications and really understand what it is that the company is trying to buy. It's a weakness initially that not all companies have very well defined needs in terms of having common specifications that are clearly understood by the supplier. The biggest issue is probably around quality mainly. "There needs to be a structured specification. A specification that's very complete in terms of the company's requirements including on how you want it delivered, what your lead times are as well as the technical specifications what you're trying to buy." "This is a key part of the global sourcing process, whether it's global or local it's still important, but it's more important if you try to go global, if you're local you can fill in a lot those blanks by talking to people or working with your supplier, but when you're a long distance from your supplier or maybe going through a third party it's much more important that you have a very rigorous spec system".</p>

<b>Case (2C)</b>	<p><b>Advanced technology company</b>  <b>Manufacturing Company</b>  <b>Role of Interviewee: Trade Development Director</b></p>
<b>Current sourcing level</b>	Level 2 – Engage in international purchasing as-needed
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• There is executive leadership within the corporation both from the United States (US) and the United Kingdom (UK).</li> <li>• The executive leadership develop strategies and deals with issues such as offset or industrial participation.</li> <li>• No formal global sourcing strategy given the nature of what the company does which deals with high levels of security classifications.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• Trade Development Manager in the UK</li> <li>• Global Supply Chain Manager in the US</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• There isn't a global sourcing process.</li> <li>• Operate within the bounds of the security and classifications of the product and services that the company offers.</li> <li>• Will be influenced by factors such as offset and industrial participation being imposed on the company by international customers.</li> <li>• High percentage of the company's customer base is Ministry of Defence and a few government departments.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• No global agreements as such.</li> </ul>

<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• Pull human and financial resources on a program by program basis.</li> <li>• Pull down the resources as necessary from domestic procurement and these would be funded through internal budgets.</li> <li>• The company has a matrix organisation, there are splits. For the element of procurement which are classified as commodity type, raw material, electronic components and general IT, there is a formal group responsible for that procurement called a commercial procurement group</li> <li>• For product related procurement, it is part of the integrated product teams.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Don't have a formal global sourcing process, so consolidate requirements through the businesses in the UK for the commercial type items to gain leverage.</li> <li>• Go back to US as well to try and leverage their agreements and gain access to the supply chain to multinational international. Try to get the same agreements by consolidating requirements and getting the leverage.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• Corporate agreements are individually managed by managers responsible to track through the life of the agreement.</li> <li>• For procurement related, the contract managers are under the commercial department.</li> <li>• Have a contract repository in the US, not necessarily in the UK.</li> <li>• There is a contract repository but it's stored electronically, like an e-doc type of arrangement.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• It's critical to move the business like e-commerce.</li> <li>• The company is implementing programs that negate the need for paper transactions and looking at electronic P2P, having shared data environment to allow access to technical specifications.</li> <li>• Benefit: Saving on hard copy printing and cost of postage. Time factor, having things available on a web based portal and through shared data environment gives an immediate access, configuration management and control.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• In the US, the global supply chain management organisation oversees and coordinates the global sourcing process.</li> <li>• In the UK, the commercial procurement group is in charge.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Yes, through US. The company will look across the 100 or so operating sites in the US, to consolidate requirements for items that possible, mainly looking at probably IT requirements on global agreements for the likes of Dell or IBM, to get access to the price and at least the discount structures.</li> </ul>

<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Predominantly work with bespoke requests information.</li> <li>• Not using any formalised set of software from one suppliers and another to receive this information.</li> <li>• Basically use the normal kind of email, reports, and performance criteria.</li> <li>• Have SAP in one of the facilities in UK, which is operational to certain degree, it's not fully connected in through as yet from the procurement related data.</li> <li>• Conduct more face to face meetings of instead of having it through internet.</li> <li>• Use Intranet for internal communications.</li> <li>• With suppliers, there will be a whole specific set on supplier net portals that the suppliers will be expected to engage with.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Start to work with traditional sources, trade shows, to a lesser extent these days, catalogues, search the web, welcome contacts from supplier's lower down the supply chain.</li> <li>• The defence industry is relatively quite small compared to other industries so the company has a fair knowledge, kind of personal as well of corporate knowledge and databases of capabilities of suppliers.</li> <li>• Sometimes suppliers approach the company with a new idea, then the company will consider to see how it could work as solutions or programs.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Rolling out the relationship management program very much based on the SBAC but more the RMM (Relationship Measurement Matrix) side, looking at formal relationship management exercises etc. and to look and identify the strengths, weaknesses and conduct a gap analysis, put corrective actions in.</li> <li>• Measurement for your suppliers - typical Quality, Cost, Delivery (QCD), a new performance based programs very much around the matrix. Weighing on time deliveries, the quality, and the costs.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Have a number of programs.</li> <li>• The overall company strategies would include the red and green analysis of suppliers in terms of whether they are potential programs.</li> <li>• Measuring a part of the corporate measure, certain new initiatives, the adoption and roll out of those programs.</li> <li>• A green program is a supplier who is exhibiting, delivering on time and cost, on quality and those programs that start to deviate from that becomes identified for yellow and then red depending on how critical they are and to the overall solution being delivered.</li> <li>• If there is a relatively small value subcontract but if it is critical to the overall solution, it can be easily become tailored or tagged as red and then would then get additional management attention in terms of level of review, that is conducted weekly or even</li> </ul>

	<p>daily basis.</p> <ul style="list-style-type: none"> <li>• There are three colours, red, amber and green. Green for those programs that are running. Amber for starting to go off target and then when it's off and have problems, they become red.</li> <li>• Those are highlighted and distributed amongst the company.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• QCD would give a start to give background information.</li> <li>• The RMM would give additional information.</li> <li>• The FQM model could work with the company and the suppliers in terms of improvement.</li> <li>• Do a lot of activity in the lean six sigma area working with the suppliers.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Distributed through the supply chain management organisation but also down into the company's enterprise excellence people as well as the program management.</li> <li>• Distributed on a case by case basis, no determined time frame for report distribution.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Look for people starting with a degree level education, or equivalent.</li> <li>• Since the company is heavily engineering or IT based organisation, if they're coming through other sources, people coming in with those qualification and then being stepped over the commercial side will be looked on quite favourably.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Have a formal training program which is based on experience and steps people up over a number of years, with a number levels of training and which are internal programs, for example subcontract program management</li> <li>• Have a quite structured system.</li> <li>• Negotiation skills, risk management skills, production of integrated master schedules, clearly defined blueprints, relationship management.</li> <li>• Assessment of what the employee need to have is done annually, with the employee's immediate supervisor.</li> <li>• There is a matrix against the employee skill and competency level.</li> <li>• Between the supervisor and the employee, they will look to map out where the current skill level is including taking account on job training.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Qualified personnel</li> <li>2. Rigorous and well defined processes</li> <li>3. Structured approach to communications and relationship building with suppliers</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<ul style="list-style-type: none"> <li>• Sensitivity of the product.</li> <li>• The nature of the defence market even opposed to the aerospace side, because of the restrictions on where technical data can be distributed to.</li> <li>• It does not permit the level of global sourcing like in fast</li> </ul>

	<p>moving consumer goods, the automotive industry and cosmetics industries or pharmaceutical industries.</p> <ul style="list-style-type: none"> <li>• The company is far more constrained on which countries the company can source from and therefore which companies the company can work with.</li> </ul>
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<b>Case (3A)</b>	<p><b>A global company engaged in the development, delivery and support of advanced defence and aerospace systems.</b></p> <p><b>Manufacturing Company</b></p> <p><b>Role of Interviewee: Procurement Performance Excellence Manager</b></p>
<b>Current sourcing level</b>	Level 3 - International purchasing as part of sourcing strategy.
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• The Group Procurement Director determines what are the priorities for procurement based on the business need and the Integrated Business Plan.</li> <li>• The executive leadership annually put together the Integrated Business Plan which contains things that have to do with markets, procurement, engineering, and all the main functions.</li> <li>• The company is measured very carefully against the Integrated Business Plan.</li> <li>• The executive leadership sets the vision and the direction, and that then cascades to individual objectives and down to the next level and so on and so forth.</li> <li>• The top level vision direction gets turn into specific objectives appropriate to the level being planned in the organisation.</li> <li>• Then the specific objectives are formally reviewed twice a year.</li> <li>• The executive leadership gets a bonus on achieving what was set out in the Integrated Business Plan.</li> <li>• The procurement sourcing community is about 1400 people and Case 3A makes sure the personnel are qualified and motivated, so they put in a lot of effort in the personal development of the procurement people. They support employees by having personnel development plans so that they got the right skills.</li> <li>• And the reason Case 3A needs to emphasise on this is because they are about 70% bought out and the supply chain isn't an optional part of the business.</li> <li>• It is very important that the leaders support all levels of the organisation and making sure they got the right procurement skills.</li> <li>• The company breaks down into 3 areas, on major equipment, direct commodities and indirect.</li> <li>• Case 3A puts the strategies together to position them in the best position to source most effectively.</li> <li>• For the major equipment, there is a Major Equipment Supplier Programme, which Case 3A runs with about their top ten suppliers in the company. Case 3A manages to obtain leverage through aggregating that demand across the company.</li> <li>• For direct commodities and indirect procurement, Case 3A has Sourcing Councils to aggregate demand across the company.</li> </ul>



	<ul style="list-style-type: none"> <li>• There is a system called ISIS, the Integrated Supply And Information System. The database is used to make any sourcing decision. It provides information on which suppliers Case 3A is using today, what the spend is and the supplier's performance.</li> <li>• In the defence market there's a thing called offset. Offset is a compensation to the host government for spending this money on the aircraft, the systems and services and so on. Part of that offset, requires Case 3A to source within a specific country. Some of the sourcing decisions are directly impacted by offset, which is a necessary precursor to making the sale. To make the sale, there is probably a certain percentage that has to be sourced locally. And that presents Case 3A with a challenge because that infrastructure might not be there.</li> <li>• With sophisticated technology, the suppliers need to have a reputation of good quality products. Case 3A wouldn't opt for cheaper products and compromises on quality.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• Group Procurement Director</li> </ul>
<p><b>Factor 2: Rigorous and well-defined processes</b></p>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• For a direct commodity, Case 3A would look at their Sourcing Councils for advice on where to get the best deals, where the best suppliers are.</li> <li>• With an offset obligation, it limits where Case 3A can source from. Case 3A needs to avoid at all cost on putting risk into the process and are quite happy to pay a bit more money to make sure whatever they were buying worked and are integrated with the rest of the systems, rather than taking too much of a chance, using a supplier they have got no history with.</li> <li>• Switching costs from one supplier to the other, in the defence industry are generally quite expensive.</li> <li>• Generally Case 3A would use a supply base that they understand.</li> <li>• Case 3A is very active at looking for new technologies and new sources of supply but is very cautious in the selection process because the stakes are so high and getting it wrong can cause the company a lot of money.</li> <li>• The Sourcing Councils gives advise and don't make the decisions on which supplier would be chosen.</li> <li>• Ultimately the decision, the power, the spend, and so on is rightfully with the projects. The projects send out the purchase orders instead of the purchasing function.</li> <li>• The purchasing function sets the policy and strategy around helping people to develop skills, education, and works with other functions to make sure the company's tied up.</li> <li>• The function might get involved in, if one project can't agree with another project, and becomes the referee.</li> <li>• But in general it's up to those who handle the projects.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• In a global agreement, an agreed framework will be set up.</li> <li>• Case 3A will monitor compliance.</li> <li>• In a framework agreement for a certain product, Case 3A will look in the ISIS systems, supplier intelligence systems, who is buying the product, where, why aren't they buying from the</li> </ul>

	<p>preferred source of washes, what is the reason for that and monitor that quite closely.</p>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• All the specialists, finance, HR, engineer, and so on play their part in the integrated project team.</li> <li>• In one project, there's somebody from HR, finance and so on.</li> <li>• The functions in the company are very small.</li> <li>• The procurement function has about 12 people. It's the same for HR and for engineering. 1400 key people are in the projects. All the resources are in the projects.</li> <li>• The company in the middle is very small.</li> <li>• The projects have got the right staff with the range of skills to discharge the project.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Through the Integrated Supply Information System (ISIS) which is the database of the 15000 companies Case 3A uses.</li> <li>• The database is available to procurement and supply chain people.</li> <li>• They can see who places the purchase order, when, what's outstanding, what's debt, and so on.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• Physical document and framework agreements are posted online in ISIS and employees can get information from there.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• In terms of information systems, Case 3A founded a company called EXOSTAR, a trading portal.</li> <li>• Case 3A, together with the defence and aerospace community, set up a company, put money into it and create a trading portal called EXOSTAR.</li> <li>• EXOSTAR allows online auctions with the suppliers of that particular commodity, receive payment through it, put purchase orders out through it and to some extent you can share design information through it, but it's read only.</li> <li>• Maybe 50,000 or 60,000 companies or suppliers are registered on EXOSTAR.</li> <li>• Companies put their supplier profile which includes their capabilities and capacities. This information will be useful when Case 3A is looking for new suppliers.</li> <li>• The suppliers can register with EXOSTAR and it's free of charge.</li> <li>• Case 3A has got a trading platform that they use through the entire defence supply base and supplement it with their ISIS system.</li> <li>• ISIS is internal and so no suppliers get access to that. It's has all the spend information.</li> <li>• EXOSTAR, anybody can sign up on it.</li> <li>• The EXOSTAR is very specific for the aerospace and defence community.</li> </ul>

<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• It depends on the three elements, major equipment, direct commodities and indirect commodities.</li> <li>• For major equipment, the guys responsible for strategies and major equipment, Case 3A appoints a procurement director to lead. With their top suppliers, there's a specific procurement director as the sponsor, and he will lead the rest of the company, whether its guys from air systems, land systems, sea systems, to support one agreement with major suppliers on behalf of the corporation.</li> <li>• At direct commodities, they would take advice from the Sourcing Council, if it's within their scope. Some direct commodities the Sourcing Council does not cover. The Sourcing Council will look at commodities that they are spending the most on. The framework agreements would be set up, and it would lead to discussions on behalf of the company and it would make sure people are aware where these framework agreements are in place. And then monitor compliance.</li> <li>• For indirect procurement, based on the arrangement, when there is a selected preferred supplier, everybody is expected to use the preferred supplier. They would also monitor compliance.</li> <li>• So these activities are all led at a minimum, by a procurement director.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practise purchasing volumes aggregated on a worldwide basis.</li> <li>• Best example of that would be the commodities, the direct and indirect.</li> <li>• For example, aluminium. Case 3A is not a big user of aluminium Case 3A will aggregate their demand and look for similar companies to aggregate with their demand and try to aggregate that volume and get a better deal that way.</li> <li>• Anything that's important to Case 3A, they will always look to aggregate demand as practically as possible, to put them in a better position in negotiations.</li> <li>• "Aggregating demand, it should be 2<sup>nd</sup> nature to a buyer. Coz if you can aggregate demand with partners, internally and with partners, it's just puts you in a better position all around. So you can get capacity, get a better price and so on."</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• E-mails, intranet, have got SAP but not across the company. ISIS, externally EXOSTAR.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Have regular events around the country, invite their suppliers and anybody with something interesting.</li> <li>• Case 3A will present some of the challenges at the moment such as cost challenges, and we just opened it for discussion on new ideas and good technologies.</li> <li>• Case 3A identify new potential suppliers in a formal way through technology watch, which is the scientific community which are very methodically going around universities and technological start-up, trying to find out what's new. It is quite well networked in terms of the business community and the academic community.</li> </ul>

	<ul style="list-style-type: none"> <li>• Case 3A constantly does something they call technology scanning which is just looking for good ideas all the time. And then decide is it sufficiently mature to take a real business interest? And in that case, Case 3A might buy the company, or buy a share of the company, or invest so that the research can be done quicker.</li> <li>• Case 3A put a lot of effort because the defence industry is a very competitive industry deals with a lot of technology. If they don't keep up, they will be left behind. That is why they have the technology watch.</li> <li>• Case 3A gets daily mail shots from suppliers and pays attention to any new capability in terms of technology.</li> <li>• Word of mouth.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Through a Supplier Excellence Programme which is run by the Procurement Performance Excellence Manager.</li> <li>• There are two methodologies that they use.</li> <li>• Make sure Case 3A's senior people meet the supplier's senior people as often as practical.</li> <li>• Keep the meeting focused on the business with structured agenda, working through issues,</li> <li>• Case 3A is very keen on relationship management.</li> <li>• Supply Chain Relationships in Action (SCRIA) has a formal tool called a relationship management matrix, where the supplier will tell Case 3A what they thought of Case 3A and vice versa. They then get together and decide whether they can improve the business relationship.</li> <li>• Secondly, Case 3A uses supplier management matrix.</li> <li>• SC21 supply chain in the 21<sup>st</sup> century has got 3 elements, accreditation, supply chain development, and relationship management. This has a lot of potential when dealing with issues in the supply chain.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Through the Integrated Business Plan.</li> <li>• Top level vision and objectives set by the executive committee. That then cascades to each appropriate level and then flows down to people's personal objectives.</li> <li>• The Integrated Business Plan is reviewed twice a year.</li> <li>• For the executive committee, the bonus depends on achieving the Integrated Business Plan.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• Quality, delivery and cost.</li> <li>• In terms of cost, Case 3A look at either purchase price or total acquisition cost. Generally, they would look at total acquisition cost and through life cost more than purchase price.</li> <li>• In terms of performance management, Case 3A sets some targets for quality and delivery. Initial delivery target is 90% on time and quality is 95% on time.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Report at the very senior levels by exception. They are not interested in all the supplier's performance. They would be</li> </ul>

	<p>interested in things such as if there was a problem and the facts around that problem. In addition, quality of delivery, performance, commercial issues.</p> <ul style="list-style-type: none"> <li>• The reports are cut in at the right level.</li> <li>• Through the Integrated Business Planning process, the procurement function for example, has a plan, and that's monitored and reported on with all the procurement directors of the company.</li> <li>• The Procurement Council meets once every 2 months, to review the overall performance of the procurement community. They will provide the report for the main board an exception report.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Need to understand output purchase order.</li> <li>• Need to be able to have a commercial discussion.</li> <li>• Ideally CIPS qualified.</li> <li>• Increasingly the behavioural aspects, the relationship aspects, are important.</li> <li>• Relationship management with suppliers is real sort of key competence for a buyer and procurement person.</li> <li>• There is a competency matrix for all the buyers that are reviewed with the manager.</li> <li>• Personal development plans agreed on annually.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Case 3A conducts a Supply Excellence in Business program in Warwick University.</li> <li>• All of their procurement people go through it.</li> <li>• It's a five week training programme against a number of topics – projects and risk management, negotiation skills, supply chain management, personal effectiveness and so on.</li> <li>• Been running it for ten years. When the employees come out of that course, they'll be permanent associate member of CIPS. Then they have an opportunity to become a full member of CIPS.</li> <li>• Also run an advanced course. It's called the Season Practitioner Course for procurement.</li> <li>• If employees want to go for a master's degree in procurement they can.</li> <li>• Case 3A put a lot of effort into this.</li> <li>• This programme won a CIPS award.</li> <li>• Those skills that are covered in the course are key functional skills.</li> <li>• The course is exclusively for BAE.</li> <li>• The course content is reviewed regularly, making sure that it's keeps refreshed, on strategic issues and the skills that are needed in the buyers.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Qualified personnel.</li> <li>2. Structured approaches to communication and relationship building with suppliers</li> <li>3. Executive commitment to global sourcing</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<p>-</p>

Case (3B)	<b>Global Semiconductor and Nano Technology Company Manufacturing Company Role of Interviewee: Operations Manager</b>
<b>Current sourcing level</b>	Level 3 – International purchasing as part of sourcing strategy.
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• It's quite an important part of global sourcing.</li> <li>• Strategies from the executive leadership such as outsourcing, the decision not to go to China and the decision to select a certain partner who's based in Europe, from the executive leadership is then developed into projects which will be rolled out by the operations team.</li> <li>• The executive leadership are all located in the parent company Germany.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• The operations manager is responsible for manufacturing, logistics, purchasing, world wide spares and the factories in the UK.</li> <li>• In terms of the company as a whole group company, the Central Purchasing Group looks at the different divisions in the company.</li> <li>• The Central Purchasing Group sets strategy and guidelines for the UK division to follow.</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• Case 3B tries to buy things as locally as possible with the lowest price.</li> <li>• Case 3B buys very specialist items. So there are a limited number of people in the world that they can buy them from.</li> <li>• They have to go abroad to purchase items for technical reasons.</li> <li>• They look at machined items in companies which have big enough capital equipment to machine the large items cost effectively.</li> <li>• Case 3B is driven by cost and technology when the source for products.</li> <li>• They have a process and guideline for qualifying suppliers.</li> <li>• If a supplier is a strategic supplier, which is making a very important part of the machine, the company will look into the potential of forming partnerships with the supplier. Technically, the company is looking for companies that are robust financially.</li> <li>• There are a number of factors that effect the decision of selecting suppliers. For example, the kind of quality systems and quality control the supplier has.</li> <li>• Evaluate the suppliers on a regular basis to make sure issues on quality or on time delivery are addressed in a formal way.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• The Central Purchasing Group negotiates the legal agreements with suppliers.</li> <li>• It's a centrally controlled process.</li> <li>• There is a big legal department in Germany (where the parent company is) that deals with the contracts and reviews them.</li> </ul>

	<ul style="list-style-type: none"> <li>• There are specific contract guidelines in place but there is a central qualification process of legal contracts.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• There is some support from the Central Purchasing Group.</li> <li>• Locally, it depends on the size of the supplier and how critical the supplier is.</li> <li>• If the supplier is common to Case 3B and other divisions of the company and if it's a critically important big spend supplier, the Central Purchasing Group would manage the process on a group basis.</li> <li>• If it's a supplier that only Case 3B uses, Case 3B would tend to manage that supplier process.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Through meetings that are carried out continuously.</li> <li>• The frequency of the meetings depends on the subject and critical nature of it.</li> <li>• If Case 3B visits a supplier, there will be a visit report.</li> <li>• Critical suppliers are visited usually once a year.</li> <li>• Some suppliers are visited more often, typically if they are a new supplier. Visited every month and as it becomes an established situation, the visits may be less frequently.</li> <li>• The central computer system is SAP throughout the company.</li> <li>• Suppliers are not allowed to access any IT systems because the risk is too high. A lot of things that Case 3B are sourcing from the suppliers are being manufactured to Case 3B's design.</li> <li>• Invoices are sent electronically by email or by fax.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• All contracts are copied to the financial department locally and major contracts shared with the Central Purchasing Group.</li> <li>• The contracts will be sent to the Central Purchasing Group for approval.</li> <li>• Not all contracts necessarily have an expiry date.</li> <li>• Normally the contracts are around until they are terminated by either party.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• It doesn't really have any relevance</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• It's the Central Purchasing Group's job to look at the whole picture for the group on a global basis.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practise purchasing volumes aggregated on a worldwide basis.</li> <li>• Part of the Central Purchasing Group's role is to negotiate with big strategic suppliers using the total group spend to obtain price leverage.</li> <li>• There is group negotiation and supplier management process with key suppliers for the entire group.</li> <li>• Some of the biggest spends with the biggest suppliers are also shared suppliers.</li> <li>• A lot of the purchase orders will be for nearly a year's supply and will be called off by Kanban ideally or in a purchasing schedule.</li> </ul>

<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Video conferences, face to face meetings, email, visit reports.</li> <li>• Centralised information system in SAP. Data collected includes on time delivery and quality.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Word of mouth, internet, a supplier that is already being used by the other divisions in the group.</li> <li>• In an exhibition.</li> <li>• Through a 3<sup>rd</sup> party.</li> <li>• Most suppliers they already know because there are only a certain number in the world.</li> <li>• Whereas more commodity type of items Case 3B can use part of the group information to pick up suppliers that are maybe used by other areas in the group.</li> <li>• Actively looking for new suppliers to enable Case 3B to establish a better cost-benefit package.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• It depends on the types of supplier.</li> <li>• If it's a small local supplier, they can be on the phone every other day.</li> <li>• They have a formal supplier evaluation program where they formally sit down with suppliers on a regular basis, to go through the performance, quality, price, issues, in a structured way.</li> <li>• Suppliers come into the factory to talk about problems or new business either technically review products or commercially.</li> <li>• They will go to suppliers on a regular basis.</li> <li>• If the suppliers are overseas; they visit the suppliers perhaps yearly.</li> <li>• For new suppliers, qualifying them by looking at their systems and their capability.</li> <li>• Actively managing each supplier on a price road map.</li> <li>• Actively thinking about suppliers in terms of the relationship and risks of the suppliers to Case 3B</li> <li>• Balance risk and price and quality for continuity of supply.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• There are a number of group company initiatives.</li> <li>• For example risk, there are structured risk assessment procedures which they have to follow and notify the group the risk of a certain supplier. The risk would be identified group wise and identify whatever actions that are being taken to minimise that risk and what the progress is on those actions.</li> <li>• Cost reduction is partly a local thing. The percentage of cost reduction is not determined by the parent company. The purchase price is the most important thing because it controls the product margin.</li> <li>• Outsourcing to lower the cost of economy is the group strategy. The outsourcing strategy has been going on for 20 years.</li> <li>• If the product margin is not satisfactory on a certain product, it will drive the cost reduction or outsourcing program to improve that.</li> <li>• There is a mixture of group and local strategies.</li> </ul>



	<p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• The entire purchase value and cost savings are monitored on SAP.</li> <li>• An example of how performance is measured: in an outsourcing project, there is a price roadmap for the supplier which is 4% less the current cost of Case 3B in the 1<sup>st</sup> year, 8% on the 2<sup>nd</sup> year on top of the 4%, and 12% 3<sup>rd</sup> year on top of year 2. The price road map forms a part of the contract.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• The top management team and central management groups.</li> <li>• There are specific KPI measurements in SAP which are imported at board level as well as to local management in operational review.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Good negotiation skills.</li> <li>• Experiences of wide ranges of suppliers in Europe and also in the UK.</li> <li>• Able to communicate clearly with non-English suppliers.</li> <li>• Able to travel at least within Europe.</li> <li>• Need to understand product technically.</li> <li>• Able to communicate with the group, team, to use the whole group potential purchasing power.</li> <li>• Expect personnel to have purchasing legal knowledge contracts.</li> <li>• Don't insist on specific qualification.</li> <li>• Experience is quite important.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Negotiation training.</li> <li>• Working with their experience team.</li> <li>• Contract knowledge.</li> <li>• Purchasing law.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing</li> <li>2. Methodologies for measuring savings or performance</li> <li>3. Structured approaches to communication and relationship building with suppliers</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<ul style="list-style-type: none"> <li>• Raw material shortages. There can be very long lead times that can come from raw material shortages. Companies need to work with suppliers to make sure the supply of products doesn't suffer as a result of the supplier not being able to get raw material to manufacture a certain product.</li> <li>• Suppliers outsourcing to far off places. This activity puts the company's business at risk. Companies have to be aware of what the suppliers are doing. In some cases, Case 3B has to build up strategic stocks of items to buffer themselves from the risks that the suppliers take. Some of Case 3B's products are single sourced and made uniquely to their design. As the suppliers outsource, the supply chain becomes longer and the risks become much greater.</li> </ul>

<p><b>Case (3C)</b></p>	<p>Design and manufacture of gas control, measurement and analysing equipment company  <b>Manufacturing Company</b>  <b>Role of Interviewee: Operations Manager</b></p>
<p><b>Current sourcing level</b></p>	<p>Level 3 – International purchasing as part of sourcing strategy</p>
<p><b>Factor 1: Executive commitment to global sourcing</b></p>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• It's a top down initiative from the senior board and the strategy is just being setup across the whole of the group.</li> <li>• The company has a top down initiative to reduce costs as much as possible.</li> <li>• The CEO is involved.</li> <li>• There are regular reports every month going through, there's a group meeting every quarter.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• Operations manager</li> </ul>
<p><b>Factor 2: Rigorous and well-defined processes</b></p>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The first step is to send the company's engineers out to look at the suppliers, establish suppliers abroad and making sure that the procedures are up to standards, if not the company would help bring up the supplier bring the procedures up to standard.</li> <li>• When the supplier is already chosen, then the company will have the buyers work with the suppliers looking at pricing per kilo, bringing in quotes, sending drawings out to the supplier, waiting for the quotes to come back.</li> <li>• From there the company will collect all the information on the process, look at the prices the company is paying at the moment, the FOB (freight on board) price.</li> <li>• This process is basically to make sure the supplier can supply to the quality the company requires.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• Global agreements are put in place before the company actually does business with the suppliers.</li> <li>• The monitoring and review process is set up to watch the global metal prices.</li> <li>• What's built into the agreement is basically a scale which is based on the metal prices, metal prices fluctuate around the world, so if metal prices go up the company pays more, if it goes down the company pays less.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• Taken a purchasing strategist on for the whole group.</li> <li>• The company has a budget.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Information is starting to be shared among the group.</li> <li>• It's a very slow process, dealing with a lot of different languages, everything has to be translated into different languages to make sure it's right and it's basically translated from German.</li> <li>• The company is looking at a better system at the moment and all this takes time.</li> <li>• Eventually the company will move to one complete system.</li> <li>• At the moment the information system is only accessible in each company but the company would like some sort of strategy</li> </ul>

	<p>going forward where it is possible to link all of the systems together.</p> <ul style="list-style-type: none"> <li>• Having one system will help collate information a lot better.</li> <li>• People from different functions can pull off information from the Intranet.</li> <li>• There is a database where everything goes into the company system and into files. It is accessible to various departments so employees can go straight and pull it off if there is a need to look at any information.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• For the UK, the agreements are managed by a senior buyer.</li> <li>• There is a spreadsheet available to the senior buyer which tells him of dates of when contracts and reviews are coming up.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• Having compatible systems would be fantastic but it is not critical to the business at all.</li> <li>• If there is compatibility, it would make things easier and lot quicker of sharing information.</li> <li>• Currently, there isn't a problem with sharing of information because most of the information is just sent through by email.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• Purchasing department is responsible which is headed by the Operations Manager.</li> <li>• There is a central committee set up in Germany to start coordinating, monitoring and gathering information and it would be a steering committee, eventually in charge of the whole group.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• The company split inventories into different categories: A, B and C depending on value and volume.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Emails, phone, video conference, face to face, a lot of travelling but the communication is mainly through email and phone.</li> <li>• There is no specific system yet in place.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Some established suppliers are recommended by the group who are already working with suppliers abroad, who already have experience with various suppliers.</li> <li>• Once a supplier has been identified, then the company would need to go in and look at the quality systems.</li> <li>• There are suppliers that approach the company, but not so much from abroad.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Manage relationship with current suppliers through building of supplier partnerships.</li> <li>• The company works very closely with companies.</li> <li>• The company sets up new service level agreements with the suppliers that the company spend a lot of money with.</li> <li>• A service level agreement is an agreement which is between the company and the supplier. The company would place bulk orders with the suppliers and the company would agree to take</li> </ul>

	<p>all of that stock that the supplier has produced if something happens. The suppliers basically produce one month stock for the company, so that way, the company never runs out of stock.</p> <ul style="list-style-type: none"> <li>• Building supplier partnerships is very important and that is the strategy within the company.</li> <li>• Suppliers are reviewed every 3 months. The company monitors late deliveries, part deliveries, delivery times and performance. This process is handled by the purchasing department.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Sourcing goals are established through value and how much the company is spending.</li> <li>• Castings are very important to the company as it is the most expensive part of the process. So the company's objectives are looking at strategic purchasing dealing with the castings first and trying to bring them together.</li> <li>• The company's sourcing goals is to come together as a group and to basically cut down the number of suppliers and move castings abroad as soon as possible to reduce the costs and achieve savings.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• Based on the cost savings</li> <li>• To evaluate performance improvements is something new so the company haven't really got that far yet in this initiative.</li> <li>• There is an overall plan to use bonded warehouses to reduce lead-times. The advantage of the bonded warehouse is the goods belong to the supplier until the company takes them out of the bonded warehouse. There is no need to pay VAT until the goods are taken out. The company takes the goods out as they require and this basically keeps the costs down.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• The performance reports are distributed amongst the purchasing department, the head of the purchasing department and also the executive board.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Some engineering experience.</li> <li>• The local people employed in India and China needs to be able to speak English.</li> <li>• Have to respect foreign customs. There is a different way of doing business with different people, so it's very important to understand their customs and the way they like to do business.</li> <li>• For example, from China, some of the emails can be quite abrupt but really it's not meant to be that way. Just have to interpret it in a different way.</li> <li>• People in purchasing have to have knowledge in the engineering side, material which are buying, processes, the exchange rate.</li> <li>• Need to keep up and be on top things when negotiating prices, fluctuations, because in the metal market the prices fluctuate.</li> <li>• Need to be quite skilled people.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Provide training in-house.</li> <li>• Monitor performance of personnel at meetings and then review</li> </ul>

	<p>them afterwards.</p> <ul style="list-style-type: none"> <li>• There is a personal development plan for employees.</li> <li>• The most important part is that their personnel have engineering experience because the amount of parts that's engineered related to the products manufactured by the company.</li> </ul>
<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing</li> <li>2. Rigorous and well-defined processes</li> <li>3. Supportive organisational design</li> </ol>
<b>Other factors that were considered as important</b>	-

<b>Case (3D)</b>	<p><b>Technology enterprise that serves civilian and military organisations, specialising in: aerospace, air systems, land and joint systems, naval, and security solutions and services</b></p> <p><b>Manufacturing Company</b></p> <p><b>Role of Interviewee: UK Purchasing Director</b></p>
<b>Current sourcing level</b>	Level 3 – International purchasing as part of sourcing strategy
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• The global sourcing strategy is led by the individual divisional groups in the company for most of the parts.</li> <li>• The company is divided into divisions, and each division has the responsibility of providing services and goods to the customer.</li> <li>• Each Head of Purchasing within those divisions is responsible for the global strategy of the high tech equipment.</li> <li>• For common equipment like electronic components or indirect spend, it comes under the leadership of the corporate purchasing organisation.</li> <li>• There are two strands. Direct high tech materials and services is the responsibility of the divisional purchasing management. The indirect materials and common components is the responsibility of the corporate or group purchasing setup.</li> <li>• Each division has its own Board of Directors and then the divisional purchasing people have a report inline to the Corporate Vice President of Purchasing.</li> <li>• There is a joint at the top but there are two slightly different sourcing strategies because the divisional people are sourcing items and services that are unique to themselves, whereas the corporate tends to source the common items.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• Each division will have a process owner.</li> <li>• There are five divisions in the company and each division will have a global process owner.</li> <li>• The Vice President of Purchasing is a global process owner for the company.</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The global sourcing process has two strands.</li> <li>• Firstly the company looks at technology, for a high end sourcing.</li> <li>• The company mainly sources from United States more than</li> </ul>

	<p>anywhere else where high tech equipment is available.</p> <ul style="list-style-type: none"> <li>• They are not looking particularly at the cheapest option, but looking more for the best high tech solution.</li> <li>• Secondly when the company look into more common parts then they look for value for money and low cost sources.</li> <li>• The strategy was source the necessary technology to give the company a lead in the market places.</li> <li>• Because the market places are all technology driven, and especially in defence and aerospace industry, the company has to source high-tech components.</li> <li>• The company doesn't build much of anything. They build to order for national governments, and only build one or two of anything at one time.</li> <li>• The company sources high-tech components from the very best high tech suppliers.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• Global agreements are put into place for the lower cost materials and services that the company buys.</li> <li>• The global agreements are monitored at a corporate level, through regular Quarterly Business Reviews (QBR) with their suppliers.</li> <li>• The company monitors suppliers on quality, delivery and relationship.</li> <li>• The company looks at the maturity of relationships between the two companies, whether they are still at arms length, in an exploitive or collaborative relationship with their suppliers.</li> <li>• The company would like to move towards collaborative suppliers for high tech products, so that their engineers work can with the suppliers to come up with a best solution to their customer's requirements.</li> <li>• In an exploitive relationship, the company will globally source by using the option of getting the cheapest price.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• There are project teams and program teams that handle high tech solutions, so the resources are provided by project.</li> <li>• The company would setup a project to deliver a solution to our customer and within those project teams there would be specialists from across all the functions, engineering, finance, human resource, purchasing and supply chain.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• The company has an intranet, which was described as the easiest way to share information.</li> <li>• The company has good purchasing networks throughout the company. There is a top level Group Purchasing Committee (GPC) that meets once a month and all the information are shared through this medium.</li> <li>• Group Purchasing Committee comprise of all the hands of purchasing from the divisions and the Vice President of Purchasing for the entire company.</li> <li>• The Group Purchasing Committee handle all purchasing issues are brought to that meeting, such as making strategy and policy.</li> <li>• Performance is not discussed by the Group Purchasing Committee. The supply performance is the responsibility of the</li> </ul>

	<p>local divisional purchasing director and then he delegates that to his purchasing managers throughout the world.</p>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• There is a depository of global agreements in one central area.</li> <li>• There is a mechanism to alert the purchasing team when agreements expire so they can renew them.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• Having compatible information system is very important.</li> <li>• The company is compatible on one level with email and some portal exchange with their suppliers.</li> <li>• The company has a strong central electronic billing system. This system gets rid of thousands of invoices a year because of the use of e-billing and central billing systems.</li> <li>• For the information exchange at the front end, they are still developing their systems in that area.</li> <li>• The benefit that the company gains from the information systems is that they reduce the paperwork, the timescales it takes to process orders and invoices, the manpower needed to do process the orders and invoices. Also, being able to have instant access to information, don't have to spend a lot of time compiling the information. Human error is greatly reduced because there is no need to translate information from one system to the other.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The overarching internal group are the Group Purchasing Committee.</li> <li>• The actual implementation of the policy is done at divisional level.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practice purchasing volumes aggregated on a worldwide basis.</li> <li>• The company aggregates the common elements which tend to be the lower cost items.</li> <li>• The higher cost items cannot be aggregated because many of them are built to specification, so there is no commonality.</li> <li>• But where they can aggregate, they do it. For example, for electronic components like semiconductors, resistors, capacitors.</li> <li>• The company attain huge cost reductions in aggregating the volumes.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• The company has an intranet system.</li> <li>• There is a local purchasing system within the intranet which is used for communicating information.</li> <li>• There is a portal system where suppliers can access information by using certain code words and code numbers.</li> <li>• There is an e-sourcing tool which is RFX which is currently undergoing an upgrade and called Exindus. This tool allows the purchasing team to communicate large amounts of data with suppliers without using paper. Both of these tools are in development partly because of the restrictions of security on the business. The company have to be mindful of the fact that they are dealing with sensitive information, not just company</li> </ul>

	<p>sensitive but government sensitive.</p> <ul style="list-style-type: none"> <li>• The company is developing the tools with their suppliers to ensure that they're moving together with their suppliers and not moving apart from them.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• The company has a profile.</li> <li>• The company has a process to identify potential suppliers.</li> <li>• It depends on what category they are. If they are looking at a high tech supplier then the bias is towards the technology.</li> <li>• The unique selling point as a supplier to their customers is their technology, so the company has to make sure that they are have to be able to offer their customers high tech solutions.</li> <li>• When the company is sourcing, if they are sourcing high tech parts then it has to be the technology, then looking at financial stability is important, longevity.</li> <li>• Initially the company is driven by their search for new and cutting edge technology.</li> <li>• On the other side, if they are looking at services and lower spec items, they will be looking at the supplier's ability to supply when needed, the supply chains, the organisation, the support organisation, and all those sorts of criteria which are more important than the technology.</li> <li>• The list of suppliers is compiled in a database.</li> <li>• The company uses ABC analysis, Pareto analysis, the 80/20.</li> <li>• The company keeps track of which suppliers they use and how frequent they use them. They also identify suppliers they rarely use and don't ever want to use again.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• There are multifunctional teams.</li> <li>• For high tech materials, there is a specific supply chain team for a supplier. The team also consists of people from engineering, purchasing, marketing and sales, quality control. The team manages that supplier in one to one basis.</li> <li>• For the lower tech and some services suppliers, the lead is by the purchasing department. There will be one buyer or purchasing manager assigned to each supplier.</li> <li>• Meet with key suppliers at least once a month and have site visits at least 4-5 times a year.</li> <li>• For the real high tech suppliers, there are teams embedded in the supplier's facilities.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Sourcing is one of the key success factors because the company buy-in almost all of the materials. The company makes very little in-house now. Sourcing is seen as an absolute strategic function.</li> <li>• The company spends a lot of time discussing its sourcing policy ensuring that they get it right.</li> <li>• Start establishing the sourcing goals from the board level.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• The company have the systems where they evaluate each supplier's performance.</li> </ul>



	<ul style="list-style-type: none"> <li>• Before the company decides a move to an international or global supplier situation, they will put a business case together, and find how much they can save. All the decisions are made against robust business cases.</li> <li>• The company uses financial measures through project reporting. When sourcing internationally, each project or program has an individual project financial reporting and they put the benefits to each project through the financial reporting of the project and then those project reports are delivered to the divisional boards and then the divisional board presents it to the main board.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• All the way through the senior management organisation.</li> <li>• The report comes out from the finance or purchasing organisations and they're distributed right to the top of the company.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• 80% or maybe more of the people involved in the global sourcing process are graduate calibre people.</li> <li>• The people involved must be able to think for themselves.</li> <li>• Understand tools and processes that the company uses to manage and improve and measure the suppliers.</li> <li>• Have a good knowledge of the suppliers business, that doesn't mean that they have to be technically skilled but they do have to understand the processes and the supply chains that the suppliers rely on as well.</li> <li>• Experience language barriers. In Eastern Europe and the Pacific Rim there can be issues with language, but as the company tends to deal in the high tech areas the people they deal with tend to be better educated which means their English is better.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Need to have good formal training. CIPS sponsored courses are important so that the employees understand the fundamentals of purchasing and supply chain</li> <li>• The company runs their own in-house courses that are tailored to specific needs of employees in the area of supply chain management, sub contract management and supplier management.</li> <li>• There is a mix of bespoke and standard courses.</li> <li>• The company puts a lot of effort into the training in the company.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing</li> <li>2. Availability of needed resources</li> <li>3. Structured approaches to communication and relationship building with suppliers</li> </ol> <p>“If you are trying to build a relationship with a supplier who is supplying you, a lot of times in our business, our supplier is as important to us as we are to them and sometimes they're more important to us than we are to them frankly and the only way to ensure you're getting value in your supply chain is constant communication and constant dialogue and constant working together.”</p>

<b>Other factors that were considered as important</b>	In the company's particular industry, they are limited with who they can trade with internationally due to the sensitive nature of their product. There is an additional dimension to consider when sourcing where the company can only deal with friendly countries to the UK government.
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Case (3E)	<b>Specialises in the design, testing, manufacture and assembly of a diverse range of high-performance composite and metallic structures and components for range of civil and military aerospace and space programmes</b> <b>Manufacturing Company</b> <b>Role of Interviewee: Head of Procurement</b>
<b>Current sourcing level</b>	Level 3 - International purchasing as part of sourcing strategy
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• The main board is committed to developing low cost supply relationships in the form of joint ventures and acquisitions as part of the supply chain aerospace strategy.</li> <li>• They have a role in leading the global sourcing initiative.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• The Senior Vice President of Supply Chain is the process owner and sits on the main board.</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The global sourcing process is not a rigid prescribed process.</li> <li>• It is driven by each of the major commodity. The top three commodities are metals, composites and machining.</li> <li>• For the global sourcing process, there is a commodity lead for each of those three commodities who are spread between the US and Europe.</li> <li>• The commodity leads are senior supply chain individuals.</li> <li>• The global sourcing process is in the early stages of development.</li> <li>• There isn't a formal structured sourcing process.</li> <li>• The company has developed the low cost strategy of being part of the commodity strategy in each of the major commodities.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• The company has global agreements across the major commodities with international suppliers.</li> <li>• There are representatives in the major sites own that relationship.</li> <li>• The global agreements are monitored on a site basis.</li> <li>• There is a senior commodity review meetings on a set frequency with the suppliers. The review meetings tend to be led by the Heads of Composites, the Head of Metals or the Head of Machining.</li> <li>• The company has a regional organisation between the US and Europe.</li> <li>• There are a number of those directors who wears two hats, they are the commodity lead and also have sites or multi sites responsibility.</li> </ul>

<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• Critical resources made available through the sites.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• By a monthly global supply chain review meeting that we have where each of the commodity leads and site leads updates on the various initiatives.</li> <li>• The company doesn't have a specific global sourcing database.</li> <li>• Relevant information is shared by e-mail.</li> <li>• There is a shared database between sites or shared drives but they are not bespoke to global sourcing.</li> <li>• There is an intranet so that the procurement team can use them as a data room for each of the major commodities.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• There is a contract repository.</li> <li>• Procurement managers are the custodian of the contracts.</li> <li>• There is a contracts organisation that holds the originals.</li> <li>• The purchasing team manages the review process and the triggers for renegotiation.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• The company shares information with the suppliers.</li> <li>• There is an engineering interface which enables the company to transfer electronically all the drawing information with the major suppliers.</li> <li>• Beyond engineering exchange of information, there isn't any other compatibility elsewhere.</li> <li>• Sharing engineering details is very important.</li> <li>• The benefit from being able to share information is being able to ensure that the company are giving correct issue drawings. The company have full document control, from the quality system point of view.</li> <li>• If the company decided to include another supplier, a large amount of data can transferred very quickly.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The internal group that is responsible for the global sourcing process is the supply chain organisation that is led by the Senior Vice President (SVP).</li> <li>• The SVP has full responsibility for organisational design for global sourcing process all the way from sourcing strategy, developing the opportunities, to implementation and contracting.</li> <li>• The main board has the responsibility to oversee and monitor the activities of the supply chain organisation.</li> <li>• The SVP has targets on an annual basis in aspect of cost, quality and delivery and there is this part of the annual strategy.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practise purchasing volumes aggregated on a worldwide basis.</li> <li>• This practice is driven through the major commodities.</li> <li>• The company aggregates volumes with the supply base.</li> <li>• For example on composites, there is a company who supplies six or seven of their sites globally.</li> </ul>

<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Most of the communication internally and with business partners is by teleconference calls.</li> <li>• Email.</li> <li>• Communicating with suppliers, there are quarterly performance review meetings with major suppliers and monthly site performance review meetings at a site level.</li> <li>• There are senior relationship managers that manage the relationship with the suppliers in respect of business development.</li> <li>• The company sees supplier relationship management as being absolutely critical to developing the business.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• The Head of the Commodity would have the responsibility to understand the market. He would do the market analysis of current suppliers, potential suppliers, that would be by a number of means, either by (1) internet, (2) he would look at the a digest of approved suppliers.</li> <li>• There is a process of supplier audit and supplier assessment through a scoring system.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Each of the sites reports monthly delivery and quality data.</li> <li>• The company consolidates that report centrally.</li> <li>• There is one performance chart per supplier which has multisite scope and that then it is shared with the supplier on a monthly basis.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Sourcing goals are cost driven by commodity.</li> <li>• Another driver is the fact that the business is split roughly 50/50 between military aerospace and civil. Military aerospace restricts the company from going to certain markets like China for machining.</li> <li>• Another driver is customer driven, where they have preferred market.</li> <li>• But the key driver across the sites is getting the economies of scale into a small number of preferred offshore suppliers to optimise capacity.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• Performance evaluation is managed through each of the programs.</li> <li>• The Program Director has the responsibility overall for cost that includes manufacturing, engineering and supply chain.</li> <li>• An assessment is based on a landed cost.</li> <li>• This process is handled by the Program Director and the Finance Department.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• The performance reports are distributed among the senior management team.</li> </ul>

<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• In this particularly industry, employees need to have experience in manufacturing engineering, quality engineering, project management, commercial and relationship management.</li> <li>• “a key to success would to be have cultural awareness in that local market”.</li> <li>• “I think the best way is to if you are project managing a sourcing program into an offshore market, that person should have had experience of working or living in that region”.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Train people in vast aspects of purchasing, negotiation, project management but not under the banner of global sourcing.</li> <li>• Handle all supply chain training internally.</li> <li>• There is very limited external training.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing</li> <li>2. Availability of needed resources</li> <li>3. Structured approaches to communication and relationship building with suppliers</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<p>Patience and hard work is important. Need to respect other people’s cultures and the way other people work.</p>

<p><b>Case (4A)</b></p>	<p><b>Global power systems company providing power for land, sea and air, with leading positions in civil aerospace, defence, marine and energy markets.</b> <b>Manufacturing Company</b> <b>Role of Interviewee: Director International Business &amp; International Business Team</b></p>
<p><b>Current sourcing level</b></p>	<p>Level 4 – Global sourcing strategies integrated across worldwide locations.</p>
<p><b>Factor 1: Executive commitment to global sourcing</b></p>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• There is a Chief Procurement Officer based in the UK who is responsible for all the global purchasing that covers our aerospace business, marine business and energy business.</li> <li>• Various executive vice presidents that are reporting in to the Chief Procurement Officer.</li> <li>• The Executive Vice President of Global Purchasing and Strategy is in charge of global purchasing and strategy development.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• The Executive Vice President of Global Purchasing and Strategy</li> </ul>
<p><b>Factor 2: Rigorous and well-defined processes</b></p>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• Starts with creating the vision, define what the requirements are in civil aerospace, defence aerospace, marine, energy and also the operating units in the corporate level.</li> <li>• Decide what the company will make internally and buy on the external network. Currently the company buy about 70% outside and manufacture about 30% internally. Its going to be 80/20 in the next couple of years. Increasingly buying more than making.</li> <li>• The functions, logistics, start to shape what the supply chain</li> </ul>

	<p>requirements are in terms of capacity and technology etc. Look at a 10 year forecast of what the business is likely to be and start to shape what the volume is likely to be.</p> <ul style="list-style-type: none"> <li>• Once Case 4A have pulled together the customer requirements, general business requirements, technical requirements, the company gets a future vision of what the needs are in the supply chain.</li> <li>• Then they look at the current status and see if there's a gap between what the company needs are in the future and what they've got now.</li> <li>• Study the market; look at the competitors are doing particularly in Asia. Because they are chasing similar kinds of suppliers.</li> <li>• In the industry, there are some real oligopolies in because some of the technology is quite difficult to replicate and its capital intensive. So for some commodities there is only one or few suppliers globally who can satisfy the technical requirements and so all of the competitors tend to be using similar companies.</li> <li>• Pull all of the information together and then develop a commodity strategy and that is renewed every year.</li> <li>• And from the commodity strategy develop specific supplier strategies.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• On an annual basis review the commodity strategy and supplier strategy.</li> <li>• Check performance on quality and delivery, technical capability, future capacity, and whether it's still relevant for the next year.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• Within the purchasing division the company has a full finance and human resource team. They have a dedicated resource allocated to purchasing permanently. Those resources are built in the purchasing division.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• There is a commodity group in the UK, North America and Asia. One of those people will take the global lead for that commodity depending on where the centre of gravity is. The commodity leader will take a global lead and be responsible of talking to the other regions and getting their import and influence in terms of development of a commodity strategy.</li> <li>• Use tools like an internal intranet system, Webex (able to give presentations and share data across the internet), face to face meetings few times a year to pull together strategy.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• There is a contract repository. Case 4A has an internal commercial service group within purchasing to help in terms of making the contract, provide legal guidance and deals with expiry dates.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• Not important at all. It is not relevant for Case 4A. Case 4A uses e-sourcing, so the company use simple web based systems to anybody that can access. Uses off the shelf software.</li> </ul>

<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• EVP of global purchasing and strategy, which operates the global purchasing council. Members from all areas of the company on a global basis discuss and agree changes to the process, procedure and policy.</li> <li>• There's a separate group that pulls together all the sourcing strategy and to renew strategies on a regular basis. It's handled by the International Business Director.</li> <li>• Global Purchasing Council looks after process and procedure and then the International Business Director looks after the program management of making sure that strategies are renewed for commodity and supplier strategy.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• No because at the moment, different facilities make different product. There are common parts but because they are completely different sizes and applications, aggregating volumes are not possible. Case 4A does use a common supplier base where possible and try and aggregate spend with a common supplier to increase the leverage effectively.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Internet extensively, Email</li> <li>• Internal system that everybody can access around the world and intranet.</li> <li>• Exostar to communicate with the suppliers. For example to give them volume and scheduled information electronically in real time mode.</li> <li>• Webex extensively because the people in purchasing located all over the world.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Case 4A has got an open door policy so the company invites suppliers to contact them through internet, through the Rolls Royce website, trade fairs and air shows.</li> <li>• Case 4A has in country teams who gather intelligence.</li> <li>• Regional directors meet with local trade bodies or local suppliers.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Frequency of site visits depends on what the company has to discuss.</li> <li>• If there are problems, the company visits problem suppliers more often than visiting good suppliers.</li> <li>• The International Business Director spends a lot of time meeting suppliers and has less meetings internally.</li> <li>• Spend a lot of time with suppliers in their facility.</li> <li>• If it's a very long term almost a partnership type of agreement meet them very frequently face to face to build the relationship.</li> <li>• Review quality, delivery and cost monthly.</li> <li>• In terms of quality and delivery Case 4A uses a system called a balance scorecard. Monitor parts per million performance in terms of quality (PPM), and delivery frequency schedule adherence. Done electronically as parts are received, defects or concessions. Monitor that in real time and report that every month.</li> </ul>

<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Case 4A handles sourcing as project specific. One of the sourcing goals may come from an overall objective. For example, establishing a local supply chain in Asia from an overall objective of doing more in Asia and buy more in dollars.</li> <li>• It may come from a corporate viewpoint of cost reduction targets where then, annual quality and delivery improvement targets are set.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• From the balance scorecard, primarily quality and delivery real time.</li> <li>• On cost, Case 4A has a cost standard for different components and different engines that we monitor you know overtime.</li> <li>• Use a product bust index.</li> <li>• Use Lean Engineering initiatives that are very specific to a particular plant or particular production line to free a bottle neck up and increase the capacity.</li> <li>• Now it's more about partnership and cooperation. When they need to deal with a specific problem, they will send in a team of people and who can assist the supplier to fix specific problems.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Performance reports are issued every month for quality and delivery to all the purchasing heads.</li> <li>• It will be reviewed in team meetings, on at least a monthly basis.</li> <li>• The International Business Director has visual control of the suppliers and how they perform.</li> <li>• Monitor performance through an aggregated overall score published once a month and discussed in a team meeting on a monthly basis at least.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Some of the best people under the purchasing division are engineers.</li> <li>• “Knowledge and skills are learnt continuously. Intelligent people can always learn new things. Attitude and application are far more important. If somebody brings the right attitude, and they have a good work ethic.”</li> <li>• Being open minded, being flexible, being culturally aware, quite physically resilient because need to travel a lot.</li> <li>• “I don't get to hunged up about skills, knowledge or qualification. You can teach those if somebody brings in the attitude with them”.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Number one is practical problem solving, one of the most important things.</li> <li>• The ability to break down problems quickly by using data.</li> <li>• The ability to understand cost and to develop cost models or to be able to maybe look at an engineering drawing and calculate how much we should be paying. A value analysis and cost modelling is very important to purchasing.</li> <li>• Offer in house training.</li> <li>• Encourage MSc degrees and MBAs.</li> </ul>



	<ul style="list-style-type: none"> <li>• Brighter people in the company would go on management training in terms being able to supervise groups of people.</li> <li>• Do an extensive external training. Involved in many of the big universities, such as Imperial College in London, strong link in terms of the company's engineering function.</li> <li>• Have links with universities all over the world.</li> <li>• "The real training is on the job training. You really need to be able to put in into practice. And to do that properly, you need a mentor I think. I like to partner up a more experienced person with somebody fairly new and that person acts as a mentor so that they kind of oversee and support and coach. So classroom learning and university is fine but practical experience in the application is much more important".</li> </ul>
<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing – "If the executive management are committed and set up matrix to measure performance so those things tend to get done".</li> <li>2. Rigorous and well-defined processes – "it's a way of keeping everybody honest as well and keeping everything synchronized. If you work in a process in a standardized way and everybody does the same thing, then life is less confusing".</li> <li>3. Qualified personnel – "Don't mean that they have a certificate. By qualified personnel I mean the ability to solve problems, the ability to stick to process, the ability to work with others on a global basis. That's the kind of qualification that I'm thinking about really. Maybe qualification is the wrong thing. It's the right people really with the right attitude".</li> </ol>
<b>Other factors that were considered as important</b>	<ul style="list-style-type: none"> <li>• Need to be more globally aware and not just cultural factors but also global politics and economics. - "If we make a bad decision, we're kind of stuck with it for a long time".</li> <li>• Important to establish capable, incredible, long term supply sources because of the high technical content and safety concerns of customers of the end product.</li> <li>• Hire and train and work with local people to have a local presence. Never found language to be a problem if you hire the right people.</li> </ul>

<b>Case (4B)</b>	<b>World leader in the design and production of centrifugal pumps and fluid handling systems company</b> <b>Manufacturing Company</b> <b>Role of Interviewee: Supply Chain Manager</b>
<b>Current sourcing level</b>	Level 4 – Global sourcing strategies integrated across worldwide locations
<b>Factor 1: Executive commitment to global sourcing</b>	<b>Role of the executive leadership</b> <ul style="list-style-type: none"> <li>• The board and the supply chain manager develop the global sourcing strategy.</li> </ul> <b>Process owner of the global sourcing strategy</b> <ul style="list-style-type: none"> <li>• The supply chain manager.</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<b>The global sourcing process</b> <ul style="list-style-type: none"> <li>• As the company is part owned by an Indian manufacturing company, the global sourcing process in driven by the low cost products that can be purchased from India and the specialist</li> </ul>

	<p>parts that are only sourced from certain countries.</p> <ul style="list-style-type: none"> <li>• There is one buyer dedicated to the Indian office who does all the purchasing in India. There are personnel within the Indian office that the UK office corresponds with. There is also a liaison officer who works part time between the UK and India going back and forth sorting out issues.</li> <li>• The company manufactures all of the products in the UK apart from the several assemblies the company buy from India.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• The global agreements are monitored with regard to quality and on time delivery.</li> <li>• There is no provision to calculate total cost in and total supply chain cost.</li> <li>• There is a very basic calculation which takes in reworks costs, shipping costs and price costs. It doesn't take into account any form of increase cost of administration, extended communication costs and extended supply chain.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• There's less resource for global sourcing now because the infrastructure between the UK and India has increased significantly therefore the company doesn't have the communication and language barriers that they use to have.</li> <li>• There isn't the lack of information that they use to have.</li> <li>• The resource and spend that has been put to global sourcing is less than it used to be.</li> <li>• Critical resources are distributed using a budget.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• The supply chain manager produces a report based on spend, delivery performance and quality performance.</li> <li>• Share the information with the board and production function using a monthly reporting method through email.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• There is a contract repository and a Lotus notes database.</li> <li>• It provides warnings by flashing like an email.</li> <li>• The standard agreement period is about 2 to 3 years.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• Don't have compatible system with suppliers.</li> <li>• The company doesn't have access to the supplier's systems.</li> <li>• The suppliers don't have access to the company's system.</li> <li>• Everything needs to be extracted from each others individual manufacturing system and downloaded over the internet.</li> <li>• If the supply chain manager wants to chase the suppliers for parts, the suppliers will put together a spreadsheet and email it to the supply chain manager.</li> <li>• It would be nice to have because it gives instant access to the data and the whereabouts of parts. This would save time, help with production planning and cost reduction.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The supply chain manager is responsible for oversee the global sourcing process.</li> <li>• The supply chain manager reports to the board.</li> </ul>

	<p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practice purchasing volumes aggregated on a worldwide basis.</li> <li>• There is a group purchasing committee which includes the supply chain manager and the team in India.</li> <li>• The group purchasing committee meets and decide what areas identified as being strategic and to aggregate between the UK and Indian office.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Use email, telephone, fax, personal trips and teleconferences.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Not very strategic at the moment, mostly through word of mouth.</li> <li>• Other methods include trade fairs.</li> <li>• Some of the products are supplied through approved distributors.</li> <li>• The distributors are quite limited. For instance in the UK, there is just one distributor that the company can use because the things that the company source are specialised.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• There is a formal continuous improvement, a quality performance and spend monitoring with all the suppliers which is done on a monthly basis.</li> <li>• The suppliers are graded based on that information from the manufacturing system that takes purchase orders, NCRs (Non Conformance) from the quality department and delivery performance.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• The company has a policy over the next 12 months to reduce or make savings on spend by 10%.</li> <li>• So all suppliers are monitored to see how the company can make those savings.</li> <li>• Similarly there is a task to increase sales and turnover by 10%, the company needs to also make sure that the suppliers can cope with the increase of productivity of the company.</li> <li>• The general company objective comes from the board and it drills down to supply chain manager.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• There are a couple of ways to do it. The company either measures spend, quality, performance by measuring non conformance.</li> <li>• There is also a value engineering project which the suppliers are involved with. The company takes a specific engineered project and look at reducing cost either by engineering it or by resourcing from various different suppliers.</li> <li>• Measurements are reported every month.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• It all goes into the board.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Have MCIPS</li> <li>• Need all the normal purchasing skills, plus an MCIPS qualification to appreciate the difficulties of purchasing</li> </ul>

	<p>globally.</p> <ul style="list-style-type: none"> <li>• Language barriers have improved by the Indians been able to speak English relatively better.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Would like to have all the staff with MCIPS.</li> <li>• The company have sponsored personnel before to further study.</li> <li>• In MCIPS, the international supply chain management course, negotiation skills, project and contract management are important.</li> <li>• The company does a bit internal training.</li> <li>• Also have local enterprise centre trainings as well. It's the local business regional development type, it's called Gloucestershire enterprise. It's a government sponsored, local authority that provides training to local businesses.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Availability of needed resources</li> <li>2. Supportive organisational design</li> <li>3. Qualified personnel</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<p>“People tend to see or tend to make the connection as overseas of automatically being low cost and I think that people avoid taking on the rigorous total costing analysis that they should do when they take on some on these suppliers.”</p> <p>“Total overseas sourcing costs is not always cheaper than a local cost, especially long term.”</p> <p>“People are always looking to be able to increase margin on a product and one of the ways they can increase product margin is buy cheap.”</p> <p>“And I think if your costing system just takes into account piece price then I think very often people can be mislead as to the actual cost of sourcing overseas.”</p> <p>“Totalling costs needs to include everything from the cost it all, to research, to go out there, for skilled personnel to go out there, for the learning curve as taking on a new supplier in another country, all the communication costs that may need to do video conferencing, the time difference is more significant than people think. The fact that you are not in the office at the same time. There are cultural differences in some instances. I think although it's easy to talk about these things but it's very difficult to put a cost to these things. You know simply the fact of flying somebody out there, and having to provide the insurance, medical coverage while they're out there is quite a high cost and shipping, packaging, insurance, lost, damage, quality, I think people do not include all that when they talk about the prices from overseas.”</p> <p>“It costs a lot of money to be able to organise that and the other thing I think is that it takes a long time for those relationships to be established and to work and I think people move to quickly and they think China is the cheap one this year, and then India is cheap one the next year, and then somewhere else is cheaper the following year, they just move from one another and never get the benefit.”</p>

<p><b>Case (5A)</b></p>	<p><b>A global company engaged in the development, delivery and support of advanced defence and aerospace systems.</b>  <b>Manufacturing Company</b>  <b>Role of Interviewee: Procurement Strategy Director</b></p>
<p><b>Current sourcing level</b></p>	<p>Level 5 – Global sourcing strategies integrated across worldwide locations and functional groups.</p>
<p><b>Factor 1: Executive commitment to global sourcing</b></p>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• Functionally there are two big operating units, one is North America, and the other is the UK and the rest of the world.</li> <li>• Each of those operating units has a Procurement Council, which comprises of all the senior procurement directors in each of those businesses.</li> <li>• There are two procurement councils which set the specific policies, strategies, and operational agendas unique to those operating units.</li> <li>• Then there is a Global Procurement Council which has the top five procurement directors from each side of the operating unit to form an overall Procurement Council.</li> <li>• The Procurement Council is where Case 5A set their strategies, sourcing policies, optimising things that can be done on the global scale and that can be done on an operating unit scale, people strategy, development, the succession planning, addressing the main/major suppliers.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• The Global Procurement Council and the Head of Group Executive Director.</li> <li>• The Global Procurement Council owns the sourcing strategy. Its not one individual, it's a forum. There are the senior procurement directors. There is no functional representative on the global board. The Chief Executive sponsors the procurement function on the board. But functions other than legal and HR are not represented on our global board.</li> </ul>
<p><b>Factor 2: Rigorous and well-defined processes</b></p>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• Case 5A source direct and indirect commodities.</li> <li>• Manage all the indirect through a central organisation called Shared Services, which looks after everything from infrastructure, company cars and stationary.</li> <li>• The direct commodity deals on a global basis for electronic components, raw materials and so on.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• Indirect commodities are managed through Shared Services.</li> <li>• Direct commodities are managed through the business operating unit.</li> <li>• The visibility of spend is managed through ISIS 2, which is an information management system which brings together all the spend that are happening by the various business units against the global deals.</li> <li>• Issue purchase orders from MRP systems, the enterprise management systems.</li> <li>• On direct materials, Case 5A uses EDI.</li> </ul>

	<ul style="list-style-type: none"> <li>• Also use Shared Services, EXOSTAR, Buysite.</li> <li>• EXOSTAR is an electronic purchasing tool which Case 5A sold their shares and stake in it as an equity holder a couple of years ago. But still use the EXOSTAR site to link into their enterprise systems.</li> <li>• The ISIS 2 pulls together which supplier they are spending it with, what they are spending on and developing it to bring together the performance matrix against the key performance indicators.</li> <li>• Buysite is the transaction tool within EXOSTAR. EXOSTAR will negotiate with a provider, a deal for daily rates based on geographics and so on. EXOSTAR brings together the procurement spends of Case 5A and any other of their clients. They are able to tap into a more homogenised spend, and therefore achieve a leverage.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• The human resources are managed through the Functional Resource Review which is a tiered activity on a rolling annual basis where the various Procurement Councils look at the procurement resources in the business units or in the projects.</li> <li>• The resources are addressed against the Integrated Business Planning forward over five years. This plan looks at whether they have got the right resources and the right skill sets deployed in the right areas.</li> <li>• Also, looking forward on what training and development that they need, to be in the position to execute contracts that are in the business plan over a rolling of five years.</li> <li>• The requirement of human resources feed into the training and development plan for their functional people.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Through ISIS 2.</li> <li>• There is a strategic partnership and a strategic engagement with the top seven major suppliers of the company.</li> <li>• The top three suppliers are involved in an annual board to board meeting.</li> <li>• Tier senior reviews addresses Case 5A's strategic engagement, involving the various managing directors of the major sectors close to senior procurement staff.</li> <li>• One of the senior procurement staff carries the responsibility for strategy, performance and overall relationship with a group of supplier on a global basis.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• There is a contract repository.</li> <li>• In electronic form in ISIS 2.</li> <li>• The system is accessible through appropriate security levels, the right people can access and look at the global deals.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• "If you don't have compatible information you are an unintelligent customer. On a factor of 1 to 10, you would say it's a 10."</li> </ul>

<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• It's the three Procurement Councils.</li> <li>• The Global Procurement Councils looks at the overall high level operations.</li> <li>• The overall operational specific Procurement Councils, UK rest of the world and North America, look at those that are more pertinent what happens in the North America or in the UK.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practise purchasing volumes aggregated on a worldwide basis.</li> <li>• Tap into global leverage on a worldwide basis and aggregating things like delivery of training, hotels and most of the indirect services. On direct materials Case 5A aggregates electronic components, raw materials, engineering services, design and naval architects.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• All their IT systems for the whole world wide organisation is subcontracted on global agreement with a company called CSC (Computing Services Company).</li> <li>• CSC ensures that the interface of the other tools like ISIS 2, EXOSTAR and so on are all maintained and managed at the right configurations.</li> <li>• Procurement conferences, North America, UK, and then a global one on an annual basis.</li> <li>• Local communications.</li> <li>• The functional stuff is done very formally, through their Functional Resource (FRR) profiling.</li> <li>• Individuals have their own people portal profile where they have categorised by function and job on the appropriate competences and skills necessary to perform a certain role such as a supplier manager, procurement director, or buyer or admin assistant.</li> <li>• There are about 20 criteria defines the skills that are necessary to be able to conduct that role.</li> <li>• Then calibrate within each skill the competences whether they are "I don't really understand it, I'm a learner" or "I'm a practitioner or I'm experienced or I'm an expert".</li> <li>• An expert would be somebody that could mention to somebody else, where else a practitioner will be competent in using those skills but competence in using them on their own as suppose to training others.</li> <li>• This system pulls together a picture where they are on their functional capability and that drives their development programs to develop people.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Advertise all future opportunities in the Ministry of Defence (MOD) contract bulletin, or the European equivalent.</li> <li>• In North America it's done on similar defence publications.</li> <li>• Bringing in new technology through a whole organisation, which is probably 200 or 300 people strong dedicated to research and develop new technologies.</li> <li>• Invest ¼ of a million plus a year on R&amp;D.</li> <li>• Acquire new technologies in partnership with supply base agreeing where the intellectual property and user rights.</li> </ul>

	<p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• The top seven suppliers of this company have got specific nominated senior coordinators that look on a global basis on what's happening.</li> <li>• Implement supply chain development programs for their suppliers through the UK SC21 program. Work in collaboration with their other peer primes in the UK.</li> <li>• Example being if for Supplier X, being a major supplier for a few companies the industry. Performance improvement, quality issues, auditing issues, relationship issues are managed collaboratively between Supplier X and their UK customers which includes Case 5A and other companies. Case 5A will coordinate that improvement work with Supplier X in that business group on behalf of the other customers.</li> <li>• Utilising resources across the industry customer base so that they are not overburdening the supplier with customer 1 visiting on Monday and customer 2 visiting on a Tuesday and 90% of the conversation is common.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• From the top down, there are the Executive Committee top ten objectives.</li> <li>• Then each business align their objectives to those top ten objectives</li> <li>• Each business reports their performance in a series of Quarterly Business Reviews. This deals with linking the operational performance to the corporate objectives.</li> <li>• This falls on the Integrated Business Planning processes.</li> <li>• Individual and personal objectives are also set to be aligned with the top ten objectives from the Executive Committee.</li> <li>• They tier it very formally and making sure they're aligned to what the business needs are.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• Four simple measures.</li> <li>• The first one is performance, basic simple on time and delivery performance.</li> <li>• Second, measure quality, for example measure number of components good out of every 100 and feedback forms of the quality of delivery of trainings.</li> <li>• Third, measure relationship very strongly. Example, in an automotive relationship measuring process, the supplier would fill in against 20 criteria what they think of Case 5A under some subject headings with an explanation, and Case 5A would do the same to the supplier. That then automatically gives them a gap analysis, whether they have the same view of the certain behavioural relationship view of set against a criteria or are they at different ends of the spectrum, or are they collectively low against a criteria. Then they would agree with the other party where do they want that measure to be. They don't have the same relationship with all the suppliers.</li> <li>• Fourth, cost. Case 5A benchmark value, if they go into a five year deal with the supplier, they will have benchmark points within that agreement.</li> </ul>



	<p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Amongst the procurement community and the various business functional people that need to be aware.</li> <li>• Engineering, finance and so on.</li> <li>• It's all managed in the whole infrastructure which links into the QBRs (Quarterly Business Reviews) and feeds into the overall financial performance of the company.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• They have got the knowledge and skills collaborated against each functional role.</li> <li>• This determines an individual's ability to take on a job and perform that particular role.</li> <li>• Use this information against their business planning.</li> <li>• For example, if there was a new project that were going to work on, they will look at the number of suppliers they were likely to have therefore the number of people are likely to need, how does that fit with the resource profiling looking forward. Are they low or do they have too much of one skill or not enough of the other. And they would look at developing their people and use the output of the collaboration from our FRR process and say they are low at this area so they need to do something or they have got an excess of these skills in this area, they will transfer some to another area over time.</li> <li>• They try and plan it forward.</li> <li>• Case 5A is very strong at having their people CIPS qualified, and if they're not, they will put the employee through their SCIB (Supply Excellence in Business) program. The program that they run in conjunction with Warwick University. This program is fully accredited by CIPS. Case 5A staff achieves MCIPS qualification without having to go to the CIPS schools. This program won a CIPS award.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• In the UK they conduct a course in partnership with Warwick University and are in full accreditation to CIPS. If somebody goes into the training program, they pop out the other end with MCIPS.</li> <li>• The kinds of training that they focus on, includes knowing how to negotiate and the basics of procurement, understanding the specifics of the industry, particularly defence contacting and government rules and regulations.</li> <li>• And above all, Case 5A is very much focused on behavioural sets and team work.</li> <li>• Case 5A doesn't really have a problem with language. Most of their dealings are done in the English language. Most of their procurement people in most of the businesses in countries where the base language or the business language isn't English are bilingual. It has never been an issue and never been something that they need to work on.</li> <li>• Case 5A uses competency matrix to rate their purchasing personnel's performance. The employee's experience level is determined by the competency within a skill.</li> <li>• Case 5A collaborate within a spectrum system, where they code people by deep gold, light gold, green and orange. Green is the populist, doing a good job. Orange is pull your socks off or find</li> </ul>

	<p>another job. Light gold is capable of taking on at least one level higher and one job higher than what they are currently doing. Deep gold are fast track people, potential Project Director and Managing Director of the future.</p> <ul style="list-style-type: none"> <li>• The whole company is collaborated through a colour coding system and the performance evaluation is done annually.</li> <li>• Everybody in the company has a Personal Development Review (PDR), which looks at their performance against the objectives, their capabilities of looking into the future, and the personal development plan to achieve those career aspirations. These are agreed in the annual cycle.</li> </ul>
<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing</li> <li>2. Rigorous and well-defined processes</li> <li>3. Qualified personnel</li> </ol>
<b>Other factors that were considered as important</b>	-

<b>Case (5B)</b>	<p><b>Global power systems company providing power for land, sea and air, with leading positions in civil aerospace, defence, marine and energy markets.</b></p> <p><b>Manufacturing Company</b></p> <p><b>Role of Interviewee: Supplier Development and Technical Manager</b></p>
<b>Current sourcing level</b>	Level 5 – Global sourcing strategies integrated across worldwide locations and functional groups.
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• Each strategic sourcing strategy is lead or supported by a Global Commodity Purchase Executive who reports into the Executive Vice President for Global Commodity Purchasing.</li> <li>• The Executive Vice President for Global Commodity Purchasing reports to The Chief Purchasing Officer who is a board member.</li> <li>• The Global Commodity Purchase Executives are responsible for development of strategy, ensuring stakeholder buy-in and delivery of the strategy.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• Executive Vice President for Global Commodity Purchasing.</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• A global sourcing process exists within the company’s Global Quality Procedures (GQP). GQP is a deployment process of the Business Plan into individual or team actions.</li> <li>• GQP focuses on strategies to achieve customer satisfaction, improve quality performance and satisfy legal or regulatory requirements through the deployment of quality system requirements.</li> <li>• This process requires that new or revised strategies are presented to key stakeholders within the business for buy-off.</li> <li>• No individual can approve a strategy on their own.</li> <li>• A sound business case is required commercially, and the</li> </ul>

	<p>commodity team also has to demonstrate that the suppliers in question have the capacity and capability to deliver the strategy.</p> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• Global agreements usually take the form of Long Term Agreements (LTA), and are usually reviewed every three years, although there may be 10 year agreements.</li> <li>• The Global Commodity Purchase Executive has authorisation to approve LTA's.</li> </ul>
<b>Factor 3: Availability of needed resources</b>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• As with all other functions within the business, Commodity Purchasing is required to submit an annual budget for corporate approval.</li> <li>• In addition, a 3 year commitment is submitted providing a medium term view of resource needs.</li> <li>• The budget covers human as well as financial resources required to develop and implement commodity strategy.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Global Sourcing Forums are held half yearly in addition to local "away days" where commodity teams are briefed on current status of strategies around the business.</li> <li>• Local Area Networks (LAN) hold shared information relating to process and procedure.</li> </ul>
<b>Factor 4: Integration through information technology</b>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• There is no central repository for global agreements.</li> <li>• The area approving the strategy or agreement is responsible of holding and maintenance.</li> <li>• Agreements are approved by Commodity, but Purchase Operations as well as the internal customer also have to buy into the strategy first before any agreements are approved.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• Having compatible systems is seen as key internally within the different global regions and with the supply chain.</li> <li>• Case 5B has a fully integrated SAP system and licenses are provided to suppliers for key information as well as a fully supported internet portal.</li> </ul>
<b>Factor 5: Supportive organisational design</b>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• A committee known as the PEM (Purchase Executive Meeting) made up of senior executives in both operational and commodity purchasing are responsible for organisational design.</li> <li>• The committee is chaired by the Chief Procurement Officer.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Purchasing volumes aggregated on a worldwide basis is becoming more common as the business re-organises.</li> <li>• Commodities such as raw material are done so already.</li> </ul>
<b>Factor 6: Structured approaches to communication and relationship building with suppliers</b>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• The company runs a monthly Sales and Operations Review Board (SORB) where key suppliers and domestic manufacturing plants are informed of future demand and changes to short term horizons. This is the primary co-ordination tool used.</li> <li>• Most other communication is conducted at a department to department level.</li> </ul>

	<p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Potential suppliers are identified by the Commodity team primarily by capability.</li> <li>• For example, if a supplier has demonstrated capability in a specific commodity, further analysis is conducted including technical audits.</li> <li>• The overall decision is based on Quality, Cost and Delivery Credibility.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• There is no fixed approach for managing relationships.</li> <li>• They differ from commodity to commodity and from supplier to supplier within a given commodity.</li> <li>• There are periodic face to face reviews with suppliers by both commodity and operations at both the suppliers' premises and on site at Case 5B.</li> <li>• The frequency of the meetings is predominantly driven by the size of the business and by current performance.</li> <li>• Formal Business Reviews as well as the usual annual assessments also form part of the make up of communications and contribute positively (or negatively) to the relationship.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• The company operates a process of Business Plan Deployment (BDP) where top level business goals are flowed down to all levels of the business in a pyramid, with specific objectives being defined at each level within the organisation.</li> <li>• The BDP process aligns all areas in the organisation.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• A set of balanced metrics have been developed that report performance in terms of Quality, Cost and Delivery.</li> <li>• Relative improvement can therefore be monitored by supplier or by Commodity.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Performance reports are not distributed.</li> <li>• They are available within the intranet and are displayed in Visual Management Areas throughout Purchasing.</li> <li>• Each business has its own Visual Management Area. There are also corporate ones.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Defined skills are identified within training matrices for each role type.</li> <li>• Purchasing personnel are expected to have good interpersonal skills, be able to communicate clearly and concisely at all levels, have good IT skills, be able to negotiate well and be commercially aware. They are also expected respect confidential information from the supplier.</li> <li>• Core roles within the Purchase Community (below Management level) are: Commodity Buyer, Operations Buyer, Parts Controller, MRP Controller, Supplier Development Leader, Plant Supplier Quality Engineer and Manufacturing Engineer.</li> <li>• Each role has a defined skill set.</li> <li>• The skills are defined as either primary (i.e. essential) or</li> </ul>

	<p>secondary (i.e. preferable) to the role.</p> <ul style="list-style-type: none"> <li>The matrices are used to record competence or capability and therefore determine future training needs.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>Mainly training in Case 5B's purchasing processes.</li> <li>The skills that are expected for purchasing personnel to have are taught, but to a certain extent are minimum requirements for purchasing employees.</li> </ul>
<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>Rigorous and well-defined processes</li> <li>Availability of needed resources</li> <li>Qualified personnel</li> </ol>
<b>Other factors that were considered as important</b>	-

<b>Case (5C)</b>	<p><b>Large and small jet engines for commercial and military aircraft producer and aviation services provider</b>  <b>Manufacturing Company</b>  <b>Role of Interviewee: Global Commodity Director</b></p>
<b>Current sourcing level</b>	Level 5 - Global sourcing strategies integrated across worldwide locations and functional groups.
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>Depends on the particular part of the sourcing strategy.</li> <li>For indirect goods, the President would have very little input. Majority of indirect goods are part of a broader corporate strategy.</li> <li>For direct goods, the President, executive team and executive leaders within each of the business units have input into creating and developing a strategy such as low cost strategy.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>The President of sourcing</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>For indirect goods, the processes that are in place are maintained. It's centrally around a central commodity team. The central commodity team renegotiates work which is already sourced, incumbent or new suppliers.</li> <li>The global commodity team is based in the UK, US and China.</li> <li>The global commodity team's function is to source work in line with the sourcing strategy to deliver a bottom line benefit year over year.</li> <li>The most important is about developing margin. In this industry, Case 5C needs to develop profit by sourcing at the lowest overall cost.</li> <li>It's a generic process which is milestone driven and every sourcing project is put in a Program Management Report.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>The commodity team put in place the global agreements.</li> <li>The monitoring process include (1) bi-monthly site reviews to confirm the agreement implementation in terms of delivering profit growth committed. The bi-monthly site review is more financial review driven and management review in terms of</li> </ul>

	<p>making sure the contracts are implemented on schedule. (2) quarterly business reviews with core suppliers to review contract performance of both parties. This is done to develop a relationship for strategic reasons. It is held with the seniors of the suppliers and seniors of Case 5C. Quarterly business review looks at actual performance of the supplier against the contract and of the customer against the contract. Is the supplier delivering in accordance with the committed performance agreement?</p>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• It depends on the magnitude of the activity. Somebody from HR and finance will be included if the sourcing activity is much more significant, for example in the process of outsourcing work.</li> <li>• Depending on the nature of the product, the team would be made out of somebody from a strategic perspective, a commodity team manager, site operations perspective, manufacturing engineers, design engineers.</li> <li>• Because of the complexities involved in the industry, decisions need to be a group decision and group selection process. One individual does not have the know how to make those decisions.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Before thinking about how to share information, there is a need to understand the incentive of each of the businesses to want to participate.</li> <li>• Commodity team meetings involves five or 10 different locations from affected projects.</li> <li>• Use a lot of Webex tools.</li> <li>• Face to face sessions, but try to minimise as it is incredibly expensive.</li> <li>• Data on projects are stored in Shared Folders, in the Intranet, which is an Internet based tool. Formal purchasing agreements and other formal documents are also shared on the Intranet.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• A Program Management Report will identify month by month when each of the long term agreements expire.</li> <li>• The long term agreements are in a central repository.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• At the moment Case 5C doesn't have one system across the whole of the business. Case 5C doesn't have a common MRP system yet because the company is growing from acquisition significantly.</li> <li>• It is important to have a compatible information system. Having a common process of presenting information to the supplier.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The sourcing strategy is coordinated by the commodity management team. But the commodity team generates the sourcing strategy with input from the engineering, manufacturing, operations, finance and site purchasing teams.</li> <li>• The commodity manager identifies global opportunities since the commodity manager is the expert in the particular field. But in terms of identifying opportunities, it can be anybody involved</li> </ul>

	<p>in the process (engineering, manufacturing and commodity manager). Opportunities include designs that can be changed to take out cost or make or buy opportunities.</p> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practice purchasing volumes aggregated on a worldwide basis.</li> <li>• Buy raw materials across the whole of the business to leverage spend and get a significantly better deal than the market rate.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Webex</li> <li>• Email</li> <li>• Face to face meetings with suppliers, especially those suppliers in emerging supply markets. This is done to build relationship.</li> <li>• Shared Folders in the Intranet</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• It varies across markets.</li> <li>• If there was only two or three companies in the world that have the technology to produce the products that Case 5C wants, Case 5C doesn't have a choice but to buy from those suppliers.</li> <li>• If in China, to identify emergence suppliers, Case 5C recruit people with specialist country knowledge to help Case 5C understand the supply market. Case 5C also has people in China whose job is to find suppliers and work with them and developing them. Case 5C work with government agencies to identify suppliers fit. In emerging markets, Case 5C would have someone in country to support the activity.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Using the Quarterly Business Review to review performance and keep the relationship where it should be.</li> <li>• Before having the Quarterly Business Review, Case 5C decides what kind of relationship they need with that supplier. If Case 5C has a high dependency on that supplier, that supplier is critical to the business. Case 5C has a very specific strategy for dealing with each supplier.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Its about short and near term bottom line growth and saving money in terms of total purchase price variants. Every percent that can be taken off the total purchase spend is really where the savings are.</li> <li>• Growing the total capability in terms of the company's offerings to their customer. By partnering with other suppliers, Case 5C can offer a more comprehensive systems to their customers.</li> <li>• The objective comes from the President of the business overall. That objective gets flowed down to the commodity director and it's up to the commodity director to work out how to save the money.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• A number of measures.</li> <li>• Overhead perspective, in terms of what it costs; return on investment is three to one.</li> <li>• Net Purchase Performance across the business per annum. This is the number one objective.</li> </ul>

	<ul style="list-style-type: none"> <li>• Market penetration, how many million dollars to out in China each year.</li> <li>• Part number count, how many parts Case 5C have in each country.</li> <li>• Total cost of acquisition, getting the lowest price.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• There are different levels to this. The most executive performance reports are distributed to the executive team of the business. The day to day performance reports are spread out across each of the site purchasing teams.</li> <li>• The commodity manager gets what they need from the system. The report will include long term agreement penetration, how much work have Case 5C got on long term agreements, inventory performance, supplier delivery performance, profit savings performance, annualise savings performance, how much spend in low cost regions, how much spend with preferred suppliers.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Commodity management expertise, program management, industry sector knowledge, the right organisational behaviours and people skill set.</li> <li>• The challenging bit is less about the supply issues, but more on all the organisational issues.</li> <li>• Strategic sourcing, commercial know how (negotiation skill), a legal skill set, knowledge of operations purchasing, knowledge of dealing in low cost economies.</li> <li>• Able to make something happen in a very complex organisation and actually drive the change.</li> <li>• Don't specifically require any minimum qualification, but all of the people who work in the commodity team have got a degree. Most of them have got MBA, MCIPS.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Key thing is the interpersonal skills to make things happen within the business.</li> <li>• Secondly having the program management skills and having the training around that</li> <li>• Thirdly, it's less around supply chain skills; it's not the key determinant but is important. Emphasis is more on internal organisation and knowing how to get things done.</li> <li>• Case 5C conducts training in house. Many training facilities worldwide. Majority training in house. Don't tend to send out personnel on external trainings.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing</li> <li>2. Qualified personnel – “if you have the right people, who are smart and clever enough, they can normally work their way through the complexities of all the other issues.”</li> <li>3. Availability of needed resources</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<p>“It's not just about having a great sourcing strategy, it's about having the ability to implement that sourcing strategy in the business by using their credibility, their kudos, and know how to get key people in the organisation to buy and support the process.”</p>



Case (5D)	<b>Home appliances and appliances for professional use company</b> <b>Manufacturing Company</b> <b>Role of Interviewee: Supply Chain Director</b>
Current sourcing level	Level 5 - Global sourcing strategies integrated across worldwide locations and functional groups
<b>Factor 1:</b> <b>Executive commitment to global sourcing</b>	<b>Role of the executive leadership</b> <ul style="list-style-type: none"> <li>• There is a central purchasing panel called the Group Purchasing Council that evaluates different purchase decisions, global purchase decisions. The Supply Chain Director takes part in the panel.</li> <li>• There is an active strategy of strategic sourcing on cost down.</li> <li>• There is one purchasing function which is Group Purchasing.</li> <li>• There is also the Business Units Purchasing that is specific to the products that are made within that business unit.</li> <li>• The Group Purchasing function covers things like services, logistics and marketing.</li> </ul> <b>Process owner of the global sourcing strategy</b> <ul style="list-style-type: none"> <li>• Vice President Group Purchasing</li> </ul>
<b>Factor 2:</b> <b>Rigorous and well-defined processes</b>	<b>The global sourcing process</b> <ul style="list-style-type: none"> <li>• It's done by commodity by commodity review.</li> <li>• There is a fairly standard tender process.</li> <li>• It's an international tender process, where they are compared across business units.</li> <li>• Then for manufacturing decisions, in terms of decision to locate factories, there are specific purchasing teams who then look for suppliers local to those factories.</li> <li>• One process is a general system as far as tender and heading up to the purchasing council.</li> <li>• The other one is done locally, when opening new factories in different areas of the world.</li> </ul> <b>How global agreements are monitored and reviewed</b> <ul style="list-style-type: none"> <li>• There is a legal team who oversees the agreements.</li> <li>• There's a standard agreement and it's a base of all discussions.</li> <li>• The agreements are reviewed by the departmental heads in each of the business units for monitoring performance.</li> </ul>
<b>Factor 3:</b> <b>Availability of needed resources</b>	<b>How critical resources made available</b> <ul style="list-style-type: none"> <li>• Pretty well supported actually through the function.</li> </ul> <b>How relevant information is made accessible and shared</b> <ul style="list-style-type: none"> <li>• There is a web portal that shares information between the interested parties together with the normal communication routes for internal communication.</li> <li>• It is like an Intranet where employees can view things like supply details, contract details and location.</li> </ul>
<b>Factor 4:</b> <b>Integration through information technology</b>	<b>How global agreements are managed</b> <ul style="list-style-type: none"> <li>• There is a contract repository but doesn't provide warning.</li> <li>• It's all handled by the Legal team and Global Purchasing.</li> </ul> <b>Importance of having compatible information system with suppliers</b> <ul style="list-style-type: none"> <li>• Important to have compatible information system with suppliers but it's not a prerequisite.</li> <li>• Share information with suppliers depending on the supplier and their location.</li> <li>• Some suppliers have very structured EDI connections and for</li> </ul>

	<p>production information.</p> <ul style="list-style-type: none"> <li>• Others are more email and standard.</li> <li>• It's a combination, some of the major suppliers at major factories are linked quite closely into Case 5D's systems through EDI and other systems, but there are others, some of the smaller suppliers in some of the countries which aren't very well connected, it's more through email &amp; manual discussions.</li> <li>• The benefits from having compatible information systems include saves time, accuracy, faster reaction to change and flexibility.</li> </ul>
<b>Factor 5: Supportive organisational design</b>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• Group Purchasing</li> <li>• They oversee the legal and services, control how purchasing is conducted within the group and are the owners of the core processes.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• There are global deals aggregated volumes across different market places for some of the key electronic components.</li> </ul>
<b>Factor 6: Structured approaches to communication and relationship building with suppliers</b>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Email, NetMeeting, video conferencing.</li> <li>• NetMeeting allows you to share files in real time over the Internet.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Through a tender process.</li> <li>• There are purchasing professionals in each major geographic area, who would be experts in that area for who will be looking for different suppliers.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• There are supplier scorecards, performance monitoring, contract reviews, KPI development and agreements, cost and plans.</li> </ul>
<b>Factor 7: Methodologies for measuring savings or performance</b>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• It's linked into new product development.</li> <li>• It's principally built around a cost down strategy.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• Overall it is around reduction in total delivered cost.</li> <li>• Measure total delivered cost through purchase price of all items, all internal overheads, logistics, supply chain and leading to a total build up cost by product by unit into each market.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Distributed to all business unit heads, and all purchasing heads in each market on a quarterly basis.</li> </ul>
<b>Factor 8: Qualified personnel</b>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Three things, language, negotiating skills and cultural awareness.</li> <li>• Case 5D recruits from the local markets quite regularly to overcome language and cultural issues.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Negotiation training, language training, and cultural awareness training. Negotiation training is done internally.</li> <li>• Cultural awareness and language training is done externally.</li> </ul>

<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing.</li> <li>2. Supportive organisational design.</li> <li>3. Rigorous and well defined processes.</li> </ol>
<b>Other factors that were considered as important</b>	-

<b>Case (5E)</b>	<p><b>Global provider of engineering, design, and manufacture for seat comfort, driver and motion control systems, fluid assemblies, and industrial driver interface products</b></p> <p><b>Manufacturing Company</b></p> <p><b>Role of Interviewee: Vice President of Global Purchasing</b></p>
<b>Current sourcing level</b>	Level 5 – Global sourcing strategies integrated across worldwide locations and functional groups
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• The Vice President of Global Purchasing is on the executive committee, the board and head up the new group called the Purchasing Council which cuts across all the divisions of Kongsberg.</li> <li>• There are 4 divisions of Kongsberg, each division with its own Profit and Lost responsibility in that particular market sector. The Purchasing Council is in a position where it can influence all the divisions and cut across all the divisions independently.</li> <li>• The divisions divided into product focus groups in line with the customer.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• Vice President of Global Purchasing</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The basic global sourcing strategy is to join up 50 locations globally in 22 different countries.</li> <li>• The approach is a commodity lead process, where the purchasing and sourcing process are broken down into several key groups: (1) the commodity lead, (2) project management for new product implementation and other projects that come up on a business level, (3) transactional or a tactical purchasing process, (4) low cost country sourcing to take our commodity groups and have both Asian and Pacific sort of sourcing office and that will be done regionally and (5) indirect spend.</li> <li>• Each global commodity lead will be responsible for developing the commodity strategy and the foot print for the supply base. The key strategy for the whole group is to narrow down the number of suppliers. Currently the company is running with 3500 suppliers globally, with an objective to bring it down to roughly to about 150.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• At the moment, there are only two global agreements which were both negotiated and oversee by the VP of Global Purchasing.</li> <li>• The majority of the suppliers are local.</li> </ul>

<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• Savings targets form part of the overall budgetary process.</li> <li>• The resources are balanced against the payback that purchasing is responsible for. Purchasing puts together a plan to self fund the purchasing organisation from the savings.</li> <li>• There's a number that has been put out there as a percentage, roughly about 2 ½ percent of the total spend supports the activity for purchasing and also customer giveback.</li> <li>• The contracts that the company has with it's customers require that there's a continual cost reduction that's given back to the customer every year for the life of the project. The life of the project can be 5-7 years and in that time the company will contractually be obliged to payback to the customer anywhere between 2-5% of the total turnover and purchasing is required to offset that giveback by cost reduction programs and also cover it's own cost.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Before, the company had several different ERP systems and there were several locations without any ERP system at all.</li> <li>• So the 1<sup>st</sup> task was actually getting all the data lined up and using a web portal rather than to try and alter the ERP systems to come up with the same data reporting.</li> <li>• Because of its different parts and formats, different supplier formats even within the group there is huge differences, so the data basically is being shared through a web portal in order that every body can contribute towards a single format.</li> <li>• The web portal is like an Intranet which is only accessible internally.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• There is no formal automatic system at the moment to provide warnings of expiring agreements simply because there are only two contracts.</li> <li>• The agreements have expiry dates, which are drop dead dates which are diarised at the moment, but there will be a system in place, which is about to go live which will actually going to trigger warnings of expiring agreements and allowing a large amount of contracts to be managed.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• It's absolutely vital.</li> <li>• The web portal is used for every business that comes into the company now and basically allows for every supplier to have a user name and password, so they can exchange information like RFQ and quote information directly online in a secure way.</li> <li>• The ability to share information is critical.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• There is a Purchasing Director for each division, so there are four purchasing directors that are responsible for the whole of the division purchasing organisation.</li> <li>• The Purchasing Directors head out a Sourcing or Purchasing Committee within the division.</li> <li>• The Sourcing or Purchasing committees report into a Purchasing Council which the VP of Global Purchasing head up.</li> </ul>

	<ul style="list-style-type: none"> <li>• The Purchasing Council is made up of the Purchasing Directors and the representation from quality.</li> <li>• The Purchasing Committee is responsible for bringing opportunities and identifying opportunities to the Purchasing Council who then makes a final decision on which direction the company is going to in terms of the sourcing strategy.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practice purchasing volumes aggregated on a worldwide basis.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Tremendous amount of email.</li> <li>• Rolling out a sort of an instant messenger system so that everybody in the purchasing community is actually linked to each other in real time and can have conversations and share not just information via email but also a proper communication with each other.</li> <li>• The web portal brings the purchasing community and suppliers together.</li> <li>• Site visits are arranged at a local level depending on who has responsibility for the commodity group and who has responsibility for the supplier. Every purchasing person in the organisation has a supplier they're responsible for and anything that happens with that particular supplier goes through the point person that's got responsibility.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Anybody can bring a proposal of a good supplier to the table</li> <li>• There is a supplier quality manual which is an in-depth process for evaluating a supplier. There is a set of fixed criteria that the supplier has to meet in order to be a supplier. Part of those criteria is that they sign up to the conditions of the manual, which covers both commercial requirements and also quality requirements and expectation. The supplier needs to go through a site assessment physically on about 80 or 90 different questions to identify the supplier's overall score, on their systems and ability. Once the company is satisfied with that, then the supplier is put into the potential supplier list. There is a central supplier listing, so only suppliers on that list can be used for sourcing.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• There is a central supplier list, and every three months senior purchasing people plus quality people get together and review the list and look at supplier performance in terms of PPM (parts per million), payment days, contractual compliance.</li> <li>• Go over again some of the criteria of the selection, and through that the company decides whether or not a supplier is in the green list or the red list.</li> <li>• Red means they're on the exit plan and green means that they're in the development plan.</li> <li>• Because the company don't have all the resources to cover all the suppliers, the company narrows the supplier development process down to those suppliers that are considered to be worth the investment.</li> <li>• The red suppliers are then removed from the list.</li> </ul>

<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Sourcing goals comes through the Purchasing Council.</li> <li>• The Purchasing Council determines the sourcing goals.</li> <li>• The sourcing goals get rectified by the Executive Committee.</li> <li>• The Executive Committee basically gets a say in whether or not these are the goals that they want to support or they want to recognise.</li> <li>• Then the Purchasing Council is responsible for filtering that through the whole of the business.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• There are three key measures that have been adopted.</li> <li>• The first measure is based on savings which is measured as PPV (purchase price variants). Every year each business unit in every division roll their current cost interest into a standard cost, and those standards are then fixed for the 12 month period and the performance of purchasing is measured against that standard.</li> <li>• The second measure is PPM (parts per million), which is basically the number of failures or failed parts that the supplier is introducing to the business.</li> <li>• The third measure is to reduce the cost of purchasing by 15% each year.</li> <li>• The fourth measure is payment terms. It's measured in averaged days on accounts payable to keep control of the cash flow.</li> <li>• There are several sub KPI's i.e. inventory levels which is an acid velocity index calculation, delivery performance and vendor rating system.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Performance reports are done at a business unit level and then rolled up into a divisional level and then rolled up into a global level and then the VP of Global Purchasing ultimately reports the global position to the Executive Committee.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Ability for somebody to sell, have to be sales orientated in order to sell the concept both internally and externally to the supplier.</li> <li>• More important than a basic level of education is the personality of the person that you're talking to. They have to have a commercial mind and attitude.</li> <li>• "I'm not too bothered about the experience as long as there is some experience because people who gain experience you can train them but it's very difficult to train someone to be naturally commercial, you know commercially orientated. I find that people either got it or they don't."</li> <li>• It's a behavioural sort of thing.</li> <li>• Need people that demonstrate high values and high personal standards that are self driven.</li> <li>• Doesn't necessarily mean that they have to be graduates or had any particular commercial training.</li> <li>• Having CIPS is not very important. "I'm a member of CIPS. I've got CIPS myself. But frankly, if I live through the last 15 years again, I wouldn't bother."</li> </ul>

	<p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Negotiation tactics and processes. “I believe everything in life is a negotiation and the formal training that I would like to see people have is in negotiation tactics and processes. The best people that I’ve hired have got some kind of formal qualification in either negotiation or like myself I’m a qualified psychologist, so I look for people to have the ability to actually probe the other person’s mind.”</li> <li>• Most of the trainings are done externally.</li> <li>• “I actually personally do an awful amount of coaching. I believe in actual coaching.”</li> <li>• Everybody has a succession plan, like a personal development plan which is reviewed annually.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing.</li> <li>2. Rigorous and well-defined sources.</li> <li>3. Qualified personnel.</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<p>“It’s really important to <b>lay out what you intend</b> to do in terms of the rationalisation of the supply chain and the compression of the supply chain because it has a massive resource requirement on the rest of the business particularly from engineering with the re-qualification of the product.”</p> <p>“We’re in an automotive world where any change whatsoever, any change, even moving a machine a meter to the left within our own plant has to have our customer approval. So you can imagine the complexity of changing a supplier from lets say Germany to China. Everybody in the organisation needs to be involved in that process not just purchasing, purchasing might drive it but it has be supported from engineering, it has to be supported by sales, it has to be supported by logistics and quality and if you don’t have all of those resources available and mapped out for what you are trying to achieve then you wont achieve anything.”</p> <p>“So the importance of the whole business not just the executive but all of the business units being involved is absolutely critical because everybody gets affected by a supplier move, and if you’re going to consolidate your supplier in order that you can maximise your spend and in order for you to lower costs, so it’s kind of a chain reaction, so I say that is really important consideration for any business looking at global sourcing, you should not underestimate that.”</p> <p>“The other issue is, I guess is going the other way and that is <b>the importance for the global purchasing community</b> whether it’s in strategy, commodity led or project or whatever it is <b>to have a very good understanding of what the sales direction of the business is</b> because purchasing is really only a service provider and purchasing should be in a position where it can recommend and produce the right supply footprint to meet the sales requirement, so if all your customers are starting to move to producing in lets say in Slovakia, there’s no good purchasing strategy to move all of it’s supplies to China therefore for cost reduction that does not stack up and it doesn’t line up with the objectives or sales. It is absolutely critical that the overall organisation goes in one direction.”</p>

	<p>“Those are the two critical things that any organisation has to have got in place before it can even really start the journey on a global sourcing sort of strategy.”</p> <p>In terms of qualified personnel, “the big issue really is in two parts, first of all <b>qualified purchasing personnel need to be in the same vicinity or at least have an excellent communication with the engineering departments</b>, but also the strategic part of purchasing, what we found is that the <b>identification capture and retention of personnel in low cost regions is a real problem</b>, so what you can do is you can move the tactical element of the business fairly easily if you’ve got the standard systems in place but what we find is very difficult is to find good qualified people with the right acumen if you like, in the low cost regions we’re aiming at.”</p>
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<p><b>Case (5F)</b></p>	<p><b>A diversified global company, distinguished by a significant presence in healthcare, with niche businesses that also serve the aerospace and commercial markets</b>  <b>Manufacturing Company</b>  <b>Role of Interviewee: Production Systems Director Europe</b></p>
<p><b>Current sourcing level</b></p>	<p>Level 5 – Global sourcing strategies integrated across worldwide locations and functional groups</p>
<p><b>Factor 1: Executive commitment to global sourcing</b></p>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• The executive leadership was very much involved gave top level direction to the implementation of the global sourcing strategy.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• Sourcing Director of each division.</li> <li>• The Sourcing Director is part of the Strategic Development Group.</li> <li>• The Sourcing Director is responsible for purchasing and the global sourcing specialist in the group.</li> </ul>
<p><b>Factor 2: Rigorous and well-defined processes</b></p>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• It’s a balance between operational excellence and low cost manufacture.</li> <li>• The Production Systems Director manages the operational excellence and the purchasing team are involved in looking for low cost opportunities in emerging markets.</li> <li>• If the company was bringing in new products, they will do a Supplier Quality Assurance (SQA) review and then followed by a review of the manufacturing process to make sure that the supplier was meeting the operational standards as well.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• The process of monitoring those agreements was done locally.</li> <li>• In each of the low cost regions, there are local specialists who dealt with people locally.</li> <li>• There is a Supplier Quality Assurance (SQA) manager who would go out independently from Europe, to India and China and make sure that the processes were being followed.</li> <li>• The company has a very rigorous feedback process.</li> <li>• The global agreements are reviewed at least annually.</li> </ul>



<p><b>Factor 3:</b> <b>Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• Finance is totally integrated.</li> <li>• The President of the Automotive Group would travel round the world with the Automotive Finance Director to visit potential suppliers.</li> <li>• The human resources function is nested with the Strategic Development Group.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• There is a system called the Global Knowledge Network (GKN), which was on the Intranet, which enables you to find all and everything about, anyone, anywhere on that GKN system.</li> <li>• The company used SAP to share information with suppliers.</li> </ul>
<p><b>Factor 4:</b> <b>Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• The sales team manages global agreements.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• Important to have compatible information system with suppliers.</li> </ul>
<p><b>Factor 5:</b> <b>Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• There is a Centre of Excellence, which is a group development team whose responsibility was to guide the global sourcing strategy.</li> <li>• The group would look at cost reduction opportunities by looking at piece parts maintenance and value engineering initiatives.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practice purchasing volumes aggregated on a worldwide basis.</li> <li>• There are global preferred suppliers. For example, for plastic, raw materials and logistics.</li> </ul>
<p><b>Factor 6:</b> <b>Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• The GKN (Global Knowledge Network) which is a general communication system.</li> <li>• The Internet. The employees all have Blackberry. They are able to keep in touch with anyone at anytime of the day, anywhere in the world. The Blackberry system is connected to the SAP.</li> <li>• Have telephone conferences.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• -</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Done by the SQA (Supply Quality Assurance) manager.</li> <li>• If something went wrong then the company will immediately send people out to the suppliers to help them improve.</li> </ul>
<p><b>Factor 7:</b> <b>Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Set an annual budget.</li> <li>• The budget links with the sourcing goals with company objectives through the business plan.</li> <li>• The company objectives of material cost reductions and cost of quality were built into the business plan.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• Piece Price Variant (PPV)</li> <li>• Tracking parts to make sure that the overall material price are holding steady.</li> </ul>

	<p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Performance reports on KPIs are pulled together and sent up globally for the whole division.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Negotiation skill is important.</li> <li>• Understanding cultural diversity.</li> <li>• Use of an interpreter to communicate with someone who runs an operation in a foreign country.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Leadership techniques.</li> <li>• Psychological techniques.</li> <li>• Reading body language</li> <li>• Training of soft skills is very important.</li> <li>• There is quarterly operational excellence training session on the different sites in Europe every three months.</li> <li>• There were people within the group that have quite a lot of expert knowledge and so the training was done internally.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing</li> <li>2. Structured approaches to communication and relationship building with suppliers.</li> <li>3. Methodologies for measuring savings or performance.</li> </ol>
<p><b>Other factors that were considered as important</b></p>	<p>Cross functional team is needed between purchasing, operations and logistics to manage longer lead time, cost and quality challenges from global sourcing.</p>

<p><b>Case (5G)</b></p>	<p><b>Motorcycles Manufacturing Company Manufacturing Company Role of Interviewee: General Manager</b></p>
<p><b>Current sourcing level</b></p>	<p>Level 5 - Global sourcing strategies integrated across worldwide locations and functional groups</p>
<p><b>Factor 1: Executive commitment to global sourcing</b></p>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• The role of the executive leadership is to establish the strategic approach to global sourcing.</li> <li>• There are a number of key factors that can the strategic approach. Cost, engineering quality and commitment to supply are important considerations when sourcing products.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• The Chairman of the company.</li> </ul>
<p><b>Factor 2: Rigorous and well-defined processes</b></p>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The decision of where to go to for a certain product can be influenced by a number of factors.</li> <li>• Once the company has decided on an appropriate source, the first thing is always to get approval by the quality engineers and quality department.</li> <li>• The first stage in any process would be to establish a potential supply source and then the first direct action would be to have a quality audit done of that potential supply source and get a report back from the quality engineers to the suitability of their processes, their equipment and their business structure to support the demands of supply to the company.</li> </ul>

	<p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• The key measurables are three things: quality of supply, quality of product and cost.</li> <li>• Once a supply agreement has been established, if the supplier is meeting the expectations in terms of supply quality, product quality and price then generally the company will look to develop the supply relationship with them.</li> <li>• The company doesn't actively look to change the supply agreement unless the supplier gave the company a good reason to change, by causing a supply difficulties, quality difficulties or giving the company a reason to believe that a cost of supply were an issue.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• The critical resources are made available through project type scenario.</li> <li>• Human resource and financial resource can move to tackle a particularly large project the company is dealing with or a troublesome project that really isn't going to plan and the company really need to attack it to deal with the concern</li> <li>• The senior executive management level will identify resources and channelled them accordingly.</li> <li>• But as part of the business planning process, financial and human resources are planned in a budget and allocated in line with the budget expectations.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Relevant information is made accessible through the provision of data.</li> <li>• The senior management sits down once a week and share information about projected growth, any new models of motorcycles that were coming in, any new processes that may come in as a result of that in terms of the demand and our supply base, also any significant increases in volume.</li> <li>• Longer term planning is done through the weekly managers meeting and the information generally is extracted from their systems and displayed in Excel, Access and sometimes PowerPoint, just looking at the sort of general KPI's that they use internally and comparing them in general on the longer term with the growth plans.</li> <li>• They can then see where there's a potential shortfall in resource or a skill set in terms of a new process that they need to identify and deal with.</li> <li>• Use email and video conferencing to share information.</li> <li>• A specific location where employees can access to relevant information is shared drives. It specifies different user groups to have different access levels.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• There is a contract repository that sits with the relevant purchasing department,</li> <li>• There are two UK purchasing teams, one related to the actual original equipment manufacturing and there is a separate purchasing team in the parts and accessories business.</li> <li>• Each of them would centrally store the agreements relating to the direct supply that they've secured.</li> </ul>

	<ul style="list-style-type: none"> <li>• The company doesn't have expiring agreements.</li> <li>• The company doesn't range supply agreements for specific terms of duration.</li> <li>• The company makes sure that they have suppliers who are flexible and likeminded and that they are moving forward with the business and can continue to support the business.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• Having compatible information system with suppliers is business critical in the Computer Aided Design (CAD) side of the business.</li> <li>• The design engineers are able to move drawings electronically around the world. Design engineers can swap information electronically and full technical 3D drawings</li> <li>• The suppliers are able to take in engineering drawings in various CAD formats and then open it upon their CAD terminals and use that data to produce products or quote on products or advise on products accordingly.</li> <li>• Prefer to have video conferencing with larger suppliers to make it easier to share information with them.</li> <li>• A lot of the design processes are very technical and very precise and it is absolutely critical that that the precise nature and the full technical nature of that design is passed through the supplier without any ambiguity or confusion and to be able to do that electronically.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The UK based Original Equipment (OE) purchasing team headed up by the global purchasing manager.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Sometimes actively aggregate spend to give some leverage in negotiations.</li> <li>• It's an issue of consolidating a spending to a single supplier of a product or service.</li> <li>• It very much depends on the product or service of whether the company decide strategically how that fits in with how they want to protect their business from the risk of having all their eggs in one basket.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Within the company there are key weekly meetings.</li> <li>• There are "project managers" playing a coordination role, and they link what's going on with the design departments through the buying departments to the quality, production and any other effected departments like finance and IT.</li> <li>• The weekly meetings are project driven and use video conferencing technology to communicate with all the relevant production branches around the world.</li> <li>• Similar with the suppliers, there are regular reviews with the suppliers via video conference and also supply visits.</li> <li>• Certain suppliers of a critical nature are visited every two to three months to monitor their progress on projects and day to day production issues.</li> </ul>

	<ul style="list-style-type: none"> <li>• The volume and complexity of business of the suppliers will set the agenda for how regularly the company will communicate with them and visit them.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Very often from trade shows.</li> <li>• There are suppliers that approach the company.</li> <li>• Look at their competitor’s suppliers.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• The company try to ensure a level of business development with the supplier that retains that level of commitment by both parties.</li> <li>• The company tries to have open relationships with their suppliers so there’s no confusion or ambiguity over the expectations from each other.</li> <li>• Building the relationship basically means having more meetings and more face to face discussions.</li> <li>• Particularly with our large suppliers, the video conferencing facility is important.</li> <li>• There is a difference between talking through video conferencing and talking to somebody on the telephone or communicating via email, particularly with the Far East. Complimenting with regular face to face visits is very important.</li> <li>• With certain supplier that the company want to maintain very strong relationships, they visit on a monthly basis.</li> <li>• This is done so that the supplier understands each others businesses and the demand on each others businesses.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• It depends on the three key factors quality of supply, quality of product, and cost, which comes from the executive leadership.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• Standard industry measurables on quality of product, quality of supply and cost.</li> <li>• Engineering competence.</li> <li>• Data driven measurables.</li> <li>• Subjective elements or views that help evaluate suppliers include the amount of disruption that the supplier causes to get to the end result, of providing a quote or coming up with a detailed summary of the supply scenario.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• The performance reports are distributed to the senior management and the company directors on a twice yearly basis, the half year summary and a full year report.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• A lot of their buyers are CIPS (The Chartered Institute of Purchasing and Supply) qualified.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Technical knowledge is critical.</li> <li>• People’s communication skills and their ability to communicate with different languages, different cultures, through a translator.</li> <li>• General qualifications like the CIPS.</li> <li>• Soft skill side, communication and presentation skills,</li> </ul>

	<ul style="list-style-type: none"> <li>• Getting suppliers to understand about the expectations of the company and how the suppliers can support the company.</li> <li>• Having knowledge of international sourcing.</li> </ul>
<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>1. Rigorous and well-defined processes</li> <li>2. Integration through information technology</li> <li>3. Qualified personnel</li> </ol>
<b>Other factors that were considered as important</b>	“It’s an ever changing market place and you need to monitor the market and respond and react accordingly in the context of what’s best for your business.”

<b>Case (AA)</b>	<b>International Information Technology Services Company Consulting Company</b> <b>Role of Interviewee: Executive Consultant (Procurement)</b>
<b>Current sourcing level</b>	-
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• Deal with Procurement Director on the board and for peripheral functions – Financial Director</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• If not the Procurement Director, it’s the Financial Director</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• First agree on the global sourcing strategy with client and then produce a business case</li> <li>• Case AA consult in strategic supplier sourcing and have a clear methodology</li> <li>• Start off with a proposal then turn it into an opportunity and assessment which contains a high level approach to how the client categorise their current expenditure.</li> <li>• Category management covers what the client buys, categorisation of similar products into groups, what the market can provide to maximise spend and maximise spend leverage with a particular supplier.</li> <li>• Gauge the maturity of using global sourcing using the maturity matrix. (In company website). There are a range of factors which relate to the people, the product, the business’s approach to procurement and then against each of those categories, score the capability from one to five where one is poor and five is extremely mature. Then discuss with the client areas for improvement. Provide clients with the maturity matrix so the client can review and go through it all over again in future.</li> <li>• The critical success factors that Case AA look at are usually financially driven and client specific. Why does the client need consultancy? One of the critical success factors can be head count reduction or meeting margin on particular product line.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• Case AA provides a framework and a very clear structure.</li> <li>• The client needs to break down business requirement in terms of quality, cost, logistics, development, management (QCLDM)</li> <li>• Quality – is it parts per million, percentages or right first time?</li> <li>• Cost – how much does it cost and whether the client can afford it?</li> </ul>

	<ul style="list-style-type: none"> <li>• Logistics – what kind of packaging and delivery solutions, partnership with a specific logistics partner?</li> <li>• Development – what the future looks like in the short, medium and long term for the client’s category spending?</li> <li>• Management – how the business is structured, how the client intend to communicate at the managerial level, how the client intend to monitor progress, whether to conduct weekly/monthly meetings, what measures are going to be in place to review QCLD?</li> </ul>				
<p><b>Factor 3:</b> <b>Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• Clients may have a procurement arm which has their own budget, path of the ledger and make decisions on how many people they need to recruit.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• Case AA has servers that provide electronic data in any form the client needs.</li> <li>• Case AA has a fully implemented SAP system that manages Case AA’s procurement on behalf of Case AA and their clients.</li> <li>• Case AA does global procurement for their clients as well as for themselves.</li> </ul>				
<p><b>Factor 4:</b> <b>Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• Global organisations should have contract repositories and global account managers.</li> <li>• Portfolio analysis:</li> </ul> <div style="text-align: center;"> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Technical</td> <td>Strategic</td> </tr> <tr> <td>Leverage</td> <td>Acquisition</td> </tr> </table> </div> <ul style="list-style-type: none"> <li>• Horizontal Axis: How important you are to your supplier, measured in financial terms. What proportion does the supplier’s business does the client represent.</li> <li>• Vertical Axis: Product difficulty, how easy is it for the client to switch suppliers.</li> <li>• From a buyer’s perspective, the client would like to get the suppliers all in the “acquisition” corner, where the client is important to the suppliers but it is easy to switch suppliers.</li> <li>• “Technical” corner is where suppliers live in. The suppliers are very important to the client but financially the client would not want to be particularly reliant on them.</li> <li>• “Leverage” corner is where the client’s commodity is set. The client can swap suppliers for things like stationary.</li> <li>• “Strategic” corner is where the long term relationship that is mutually dependant in terms of partnership and shared risk.</li> <li>• Top two sectors will be managed by global account managers.</li> <li>• Bottom left, you have buyers who understand the market and are able to switch suppliers very easily.</li> <li>• It’s not about having global agreements, it’s about getting the best price.</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• There are significant benefits to be had through P2P interface.</li> <li>• These days it is increasingly something that you can’t do without.</li> </ul>	Technical	Strategic	Leverage	Acquisition
Technical	Strategic				
Leverage	Acquisition				

<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The Global Procurement department.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Not relevant</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools (client's case)</b></p> <ul style="list-style-type: none"> <li>• Email, EDI systems linked to monitoring systems on production lines, Electronic Kanban.</li> <li>• Depend on the nature of the product.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Depend on the nature of the product.</li> <li>• Recommend internet business information software or database like OneSource.</li> <li>• Trade magazines, many of those now can be found online.</li> <li>• Clients have a repository of suppliers that they already use.</li> <li>• Case AA has portfolios of suppliers from a number of different customers and gets a good idea of what the market looks like</li> <li>• Market research.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Not relevant</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Not relevant</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• Case AA has a specific matrix that they use to measure savings.</li> <li>• From a consultancy perspective, first thing to nail down is how is Case AA going to prove that they have delivered value for money. This is done through the contract negotiation process.</li> <li>• Measuring savings, the first thing in any contract negotiation is the cost model that identifies current cost. Understand the current cost and work from there.</li> <li>• Follow what is important, based on QCLDM, if quality is more important than cost go that way</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Not relevant</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• understand procurement</li> <li>• strategic supply management and category management</li> <li>• CIPS</li> <li>• understand the three things in extreme detail - (1) business requirement, (2) what the market can offer you, (3) genuinely understanding the product you are buying right down to the manufacturing process so that you can go back to the raw material and to have a feel for your supplier's cost</li> <li>• negotiating skills</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Put all the UK procurement team through CIPS</li> <li>• Provide training with own methodology such as category management.</li> <li>• In website Case AA offers trainings that include customer-facing skills, project management and leadership development.</li> <li>• Managing employee performance – Case AA have in place a</li> </ul>



	<p>Performance Management process that uses simple assessment criteria to identify clear objectives that can be achieved each year and to assess any training and development needs to meet these goals. (In company website)</p> <ul style="list-style-type: none"> <li>• Case AA has a virtual university that brings together all the training and development resources in one place. It is a global resource centre that offers advice, plan the next steps and find the courses and training programs the employees need. (In company website)</li> <li>• Case AA provides a global eLearning program that helps maximises the accessibility of training for employees (In company website)</li> <li>• Case AA has a Global Organizational and Leadership Development Program (GOLD) which is an integrated work-based program that aims to create the next generation of leaders within the business (In company website)</li> </ul>
<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>1. Qualified personnel</li> <li>2. Executive commitment to global sourcing</li> <li>3. Rigorous and well-defined processes</li> </ol>
<b>Other factors that were considered as important</b>	<ul style="list-style-type: none"> <li>• Understand what you are buying</li> <li>• Understand how difficult to buy it</li> <li>• How important is it to your company</li> <li>• How important you are to your suppliers</li> </ul>

<b>Case (BB)</b>	<p><b>Business Support Services Company Consulting Company</b>  <b>Role of Interviewee: Business Development Director</b></p>
<b>Current sourcing level</b>	-
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• As part of their overall business strategy, Case BB would leverage their procurement experience. This has allowed them to open an office in China, procure from Poland and USA.</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• Supply Chain Director</li> <li>• Supply Chain Director owns the procurement team.</li> <li>• All the procurement people report to the Supply Chain Director.</li> <li>• The Supply Chain Director will give directions to what is needed in terms of how product is sourced, pricing, cost savings, benchmarking and to leads for business development.</li> </ul>
<b>Factor 2: Rigorous and well-defined processes</b>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• Upon a request from a client to source a product for them, there is a process for understanding the specification for checking on the volume of the product, looking at target pricing, understanding the client's market to develop products that will have a long life.</li> <li>• Once the initial set of information is prepared, Case BB will source the product. After benchmarking, Case BB will confirm samples from a couple of companies and test them, before sending it to the client.</li> <li>• At that stage, the product should be capable of being sold into the market.</li> </ul>

	<ul style="list-style-type: none"> <li>• Case BB has a strict new products process for evaluation. There are several steps. Potential suppliers need to demonstrate that they comply with various standards like ISO, that they have sign up to some ethical standards (for example, they're not using child labour). Once the supplier has gone through all of that process, the potential supplier will be approved as being good enough to be a supplier.</li> <li>• There is a specific guideline that includes 20 odd activities that will be inspected on before the potential supplier is approved. The activities include auditing the factory, checking their paperwork, checking their corrective action process, their ability to make samples and their cast criteria to make products consistently.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• Case BB will agree with the supplier on what's expected and monitor performance, usually to quarterly business reviews.</li> <li>• The quarterly business review covers quality, delivery performance, scoring suppliers against cost savings delivered, how innovative the supplier has been in terms of the design of the product, how innovative they supplier has been in getting the product to Case BB faster by reducing lead-times.</li> <li>• There is the scoring mechanism in the quarterly business review. Case BB will send out scorecards to the suppliers and ask them to score it and scores will be compared face to face between Case BB and the supplier.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• There is a separate finance group and a separate HR group.</li> <li>• The finance and HR group are based in Ireland and will liaise with each of location with respect to finance and HR issues.</li> <li>• In terms of finance, in each location, for example in the China operation, there is somebody in China who will monitor spend and that wages and local taxes are being paid. Then, all that information will be reported back to the Central Finance Team in Ireland.</li> <li>• In terms of HR, The Central HR Team will monitor activities such as ensuring that everyone has an annual appraisal, employees are being paid the right amount of money,</li> <li>• The final administration is managed centrally from Ireland.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• The operating ERP system is SAP. SAP covers all aspects of the business from goods receipts, warehouse locations, shipping, purchase order information and order status.</li> <li>• The finance team are also linked to SAP, for example, when the materials team places a Purchase Order (PO) to buy a product, the PO is immediately registered on SAP. Goods delivered are then confirmed against the PO and the finance team will then be triggered to pay the supplier.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• Since the bulk of Case BB's activity is related to materials procurement, the materials team manages and monitors the agreements.</li> <li>• The material team looks into whether there are special clauses that need to be written in an agreement, the duration of it and any confidentiality aspects.</li> </ul>

	<p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• All the agreements are in the same format for all their suppliers, unless there is a specific difference needed on the product or by country.</li> <li>• If for example, there maybe something specific that has to be monitored, there will be additional appendix.</li> <li>• Case BB uses a standard agreement for each new supplier and therefore doesn't need to create a new document for each new supplier.</li> <li>• Case BB share all the information related to the supplier because Case BB operate a consigned dock model or Vendor Managed Inventory (VMI).</li> <li>• The majority of the stocks that is stored in the warehouse are owned by the supplier. The deal is that Case BB place the purchase order on them, the product is delivered to the warehouse and Case BB doesn't pay for it until the product ships to the customer. There are certain clauses built in, where if it doesn't ship within 60 days, Case BB would pay the supplier for the product and Case BB has a similar back to back agreement with their customers, so Case BB doesn't have any liability.</li> <li>• The kind of information that are shared with the suppliers through the SAP system include the customer's part numbers, how long the product is in the warehouse and how much of the product is in the warehouse.</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The materials team in conjunction with the engineering team particularly where some of the product is a bit technical and complicated, which need engineering effort.</li> <li>• If it is a straight forward procurement item, the materials team will manage it.</li> <li>• The directors report to the Chief Executive. The materials team come under the Supply Chain Director.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• Practise purchasing volumes aggregated on a worldwide basis.</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• Internally there will be daily meetings, like an operations meeting where the warehouse team will meet with procurement and IT and finance, to discuss any day to day issues that may have occurred.</li> <li>• A matrix supplied by each group and they're reviewed each week.</li> <li>• Email.</li> <li>• Regular weekly meetings that is ongoing to review different issues.</li> <li>• Communications with the supplier, for critical suppliers there will be a conference call each morning and that will be followed up by email to confirm what was agreed, suppliers are also able to dial in through the internet to see the status of their parts and then as suppliers need they will talk to different departments about different issues.</li> <li>• Suppliers have a pack that will have them measure themselves</li> </ul>

	<p>against their performance, and look at matrix. The matrix will be reviewed with the suppliers every 3 months as part of the quarterly business review.</p> <ul style="list-style-type: none"> <li>• The matrix looks things like delivery performance and quality. The deliveries are recorded in the matrix pack and if the deliveries are late and also there's quality issues, that's how Case BB flag that there are problems and then decide to choose to either leave that supplier or find a better supplier.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• Have a large supplier database by categories of product</li> <li>• Case BB will initially talk to the suppliers at the beginning of the project to see who might be best suited to carry out the work.</li> <li>• Then Case BB would then send the suppliers an audit document to understand about the company, like a company survey, ask the size of the company, turnover, quality systems, IT systems, the number of people in the company, design capability</li> <li>• Then select suppliers for a visit to their factory.</li> <li>• If everything the suppliers are doing is satisfactory, Case BB would negotiate with those companies and select them on their ability to deliver quality of service and price.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• Managed through the matrix on daily, weekly monthly performance. These information are gathered and sent to suppliers and reviewed every quarter. The matrix would vary by supplier depending on what they're supplying and complexity of the product.</li> <li>• The frequency of visiting suppliers would depend on how critical the suppliers are to Case BB</li> <li>• If they are a major supplier, Case BB will see them once every quarter, and at that time conduct a quarterly business review.</li> <li>• If they are supplying a non critical part, Case BB may meet them every 6 months.</li> <li>• If they're category 3 where the parts can be obtained from anywhere, Case BB may not visit them at all.</li> <li>• It depends on the relationship and if there are any issues that needs to be addressed.</li> <li>• For suppliers that are working on new designs, Case BB would visit them formally once a quarter, but may have people visiting them every 2<sup>nd</sup> week at particular times.</li> <li>• If there is a quality issue, Case BB will visit them and stay on site until the issue is fixed.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• From an overall company point of view Case BB clearly wants to have product delivered that's of the right quality and from a company that has design capability, and their ability to reduce lead-time and produce a plan that would show cost savings.</li> <li>• Case BB would take those items and work them into the quarterly business review scorecard and then able to judge companies performance against that scorecard. The scorecard looks at lead-time reduction, cost savings, quality and delivery.</li> <li>• If there are suppliers are struggling, Case BB will then need to make a decision to help the supplier or go to a new supplier.</li> </ul>

	<p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• The key ones would be lead time reduction, cost reduction and maintaining consistent quality.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• They would be circulated to the internal quality team, materials team. These teams will monitor performance and watch for trends and that data would be rolled up into the quarterly business review.</li> </ul>
<b>Factor 8: Qualified personnel</b>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Ability to negotiate on price and lead-time.</li> <li>• Understanding of the culture.</li> <li>• Communication skills are critical. “making sure that what we are asking for is very clear, and sometimes you can be in a conference call and you can say certain things in a particularly local manner well you need to make sure that the person at the other end of the phone understands what you area saying, and similarly when you are writing emails they’re very clear their concise and minimum number of words. So the communication piece I think is absolutely one of the most critical parts the skill”.</li> <li>• Some of the employees have IPICS, Institute of Production And Inventory Control.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Ideally somebody who has a qualification in procurement as a start and then their ability to negotiate and their communication skill is absolutely critical.</li> <li>• Case BB runs courses on communication and on negotiations.</li> <li>• If their employees want to study, Case BB also provide finance for them to study.</li> </ul>
<b>Between the eight factors, top three factors considered most important</b>	<ol style="list-style-type: none"> <li>1. Qualified personnel</li> <li>2. Executive commitment to global sourcing</li> <li>3. Integration through information technology</li> </ol>
<b>Other factors that were considered as important</b>	<p>It’s important to have all the skills in the organisation particularly communication and to understand culture. Face to face meetings are very important in order to understand the culture and build relationship with suppliers.</p>

<b>Case (CC)</b>	<p><b>Supply chain and operational solutions company</b>  <b>Consulting Company</b>  <b>Role of Interviewee: Director</b></p>
<b>Current sourcing level</b>	-
<b>Factor 1: Executive commitment to global sourcing</b>	<p><b>Role of the executive leadership</b></p> <ul style="list-style-type: none"> <li>• In most companies there tends to be a person who is head the role of a supply chain director or a manufacturing director still.</li> <li>• Sometimes that role is not actually on the board so it’s an executive position but not actually on the main board</li> </ul> <p><b>Process owner of the global sourcing strategy</b></p> <ul style="list-style-type: none"> <li>• The supply chain director or a manufacturing director.</li> <li>• Some clients the company has worked with, although they have</li> </ul>

	<p>a global sourcing group, they have subsidiary companies for instance in Italy, or in Russia or elsewhere in the world and those countries have their own sourcing units. Then those sourcing units do not work together with the global sourcing group. There are sometimes some friction and some battles between the country and global sourcing group and that stops good global sourcing.</p>
<p><b>Factor 2: Rigorous and well-defined processes</b></p>	<p><b>The global sourcing process</b></p> <ul style="list-style-type: none"> <li>• The global sourcing as its set in most of the client's companies is not rigorous and it's poorly monitored and poorly reviewed.</li> </ul> <p><b>How global agreements are monitored and reviewed</b></p> <ul style="list-style-type: none"> <li>• There is not a rigorous and well defined process, in the majority of the clients that the company work with.</li> </ul>
<p><b>Factor 3: Availability of needed resources</b></p>	<p><b>How critical resources made available</b></p> <ul style="list-style-type: none"> <li>• The financial resources are not a problem and that is made available because the groups are buying large value, amount in a year, with a large high spend.</li> <li>• However the human resource side, the groups are often very restrained.</li> <li>• The reason the clients use the company's service is because the clients haven't got their own internal human resource capacities.</li> </ul> <p><b>How relevant information is made accessible and shared</b></p> <ul style="list-style-type: none"> <li>• A large number of the clients still work on paper systems.</li> <li>• Some of them use e-trade, emails and spreadsheets for calling of orders, PeopleSoft, SAP internally but that doesn't give much flexibility of e-sourcing.</li> </ul>
<p><b>Factor 4: Integration through information technology</b></p>	<p><b>How global agreements are managed</b></p> <ul style="list-style-type: none"> <li>• Global agreements are very poorly managed by most of the clients.</li> <li>• The agreements are managed through the individual's memory and the individual system of individual buyers and sources.</li> <li>• "Without having the transparency and visibility they can't see what the workload, they cant see the risk that are there and they are dependant on individuals work pressures and individual's loyalty."</li> </ul> <p><b>Importance of having compatible information system with suppliers</b></p> <ul style="list-style-type: none"> <li>• -</li> </ul>
<p><b>Factor 5: Supportive organisational design</b></p>	<p><b>Internal group responsible to oversee the global sourcing process</b></p> <ul style="list-style-type: none"> <li>• Normally falls under a purchasing or a supply chain organisation. Normally one or two levels below board level.</li> </ul> <p><b>Purchasing volumes aggregated on a worldwide basis</b></p> <ul style="list-style-type: none"> <li>• -</li> </ul>
<p><b>Factor 6: Structured approaches to communication and relationship building with suppliers</b></p>	<p><b>Communication and coordination tools</b></p> <ul style="list-style-type: none"> <li>• The clients use email to a large extent.</li> <li>• Spreadsheets for information of numbers and volumes.</li> <li>• Word documents for specifications and orders.</li> <li>• Face to face meetings.</li> <li>• Video conference software.</li> </ul> <p><b>How potential suppliers are identified</b></p> <ul style="list-style-type: none"> <li>• It tends to be from personal knowledge of the buyers.</li> <li>• Some of the clients are increasingly recruiting buyers from</li> </ul>

	<p>different geographical areas such as China and India to have local knowledge of supplies.</p> <ul style="list-style-type: none"> <li>• Local based agencies.</li> </ul> <p><b>How relationship with current suppliers are managed</b></p> <ul style="list-style-type: none"> <li>• The clients manage the relationship with current suppliers poorly.</li> <li>• The clients put insufficient effort into producing goods specifications and therefore when they provide those specifications to suppliers, they have too much latitude to make changes.</li> <li>• Most of the clients are looking to source more cheaply rather establishing long term relationship with the supplier.</li> <li>• There are some suppliers who are key suppliers in a company's development so they should develop a business relationship with those suppliers, as suppose to just moving supply based on the latest price change.</li> <li>• Some relationships should be on a partnership basis, others which are for products which are more commodity like, companies can just shop around and go for cheapest price.</li> <li>• Many companies don't have an ability to manage both types of supply groups. They tend to lump them all into the same categories, commodity supplies.</li> </ul>
<p><b>Factor 7: Methodologies for measuring savings or performance</b></p>	<p><b>How sourcing goals are established and linked to the overall company objectives</b></p> <ul style="list-style-type: none"> <li>• Sourcing goals are generally linked through year on year measurements of cost reductions.</li> <li>• If there is a reduction, it then links through financial planning on the profit and loss level of what the expected cost of goods would be.</li> </ul> <p><b>Measures to evaluate performance improvements or benefits from global sourcing</b></p> <ul style="list-style-type: none"> <li>• One of the clients, the measure is looking at the proportion of how much the sourcing is now coming from the Far East as oppose to Europe or the US. The measure of how well they are doing is how much of the sourcing has moved to a low cost area.</li> <li>• Having a proper measurement is important because within most companies measures are still important and people tend to deliver on what they are measured on so therefore it's a good way trying to ensure that the company does achieve something.</li> </ul> <p><b>Performance reports distribution</b></p> <ul style="list-style-type: none"> <li>• Distributed almost solely within the supply chain group and would very rarely go outside the supply chain group.</li> <li>• Would occasionally go out to the CEO.</li> </ul>
<p><b>Factor 8: Qualified personnel</b></p>	<p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>• Need to have skills in order to work across other parts of the globe. "The good purchasing people that I meet are those that are used to travelling and working all round the globe and not just within one area."</li> <li>• Personal qualifications are less important than having a person with the right personal skills and motivation. "I've met buyers who are very good buyers but without any formal qualifications. If you are in a technical industry then the requirement to have an understanding the technical product is important. But again I don't think it's a formal qualification, I think its just knowledge</li> </ul>

	<p>about your own particular business and technical area.”</p> <ul style="list-style-type: none"> <li>• Language and cultural barriers have decreased a great deal.</li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• The majority of the training is on the job training. They work along side another colleague.</li> </ul>
<p><b>Between the eight factors, top three factors considered most important</b></p>	<ol style="list-style-type: none"> <li>1. Executive commitment to global sourcing</li> <li>2. Availability of needed resources</li> <li>3. Supportive organisational design</li> </ol> <p>“Factor 1, because without sufficient support at the highest level and the support to change the sourcing strategy, the company wouldn’t make progress.”</p> <p>“Factor 5, I frequently see that poor design of organisation of historical organisations severely hinders global sourcing, and having the right people available who can have the right time to investigate and sources are important. So those are the three I say are the most important.”</p> <p>“Contrary wise the reason I haven’t pick the other ones is that I’ve seen successful global sourcing with very poor processes, Factor 2. I’ve seen successful global sourcing with very poor integration of IT. I have seen again successful global sourcing with very unstructured approaches. I’ve seen successful global sourcing when there are very few processes or objectives set for doing it and as I’ve said before I’m not sure that qualified personnel are important in terms for the process compared to having the right person available with the right knowledge.”</p>
<p><b>Other factors that were considered as important</b></p>	<p>“Where the market is for the product I think is fairly key. To be able to consider the question of where the sourcing is compared to where the market is for each product, I think is quite important.”</p> <p>“And I think the type of product is very important as well. Particularly maybe in terms of the weight of the product or the lead time required by the customer. So a heavy product being obviously more expensive to move around the world and if the response time for a customer wanting something is very2 short it may not match up with the global sourcing.”</p>



## Appendix 9 – Cross cases summary

### FACTOR 1: EXECUTIVE COMMITMENT TO GLOBAL SOURCING

#### Role of the executive leadership

- The executive leadership played an **active role** in most of the cases.
- The executive leadership is an **important** part of the sourcing strategy (Case 3B) and **very much involved** (Case 5F).
- The only case where the executive leadership had **limited involvement** was in a company which was at Level 2 of the sourcing level, where they used a virtual procurement network to source products (Case 2A).
- Role of executive leadership:
  - **providing some leadership and direction** (Case 2B, 3E, 5F)
  - **objective setting** (Case 2B)
  - **setting targets about the degree of global sourcing that is required and cost reductions** (Case 2B)
  - **determine what proportion of spend should be done through global partners** (Case 2B)
  - **develop strategies** (Case 2C, 4A, 4B, 5B, 5C)
  - **deals with issue such as offset or industrial participation** (Case 2C)
  - **sets the vision and direction** (Case 3A)
  - **set strategies such as outsourcing, decision not to go to China, selecting a certain partner based in Europe** (Case 3B)
  - **committed to developing low cost supply relationships in the form of joint ventures and acquisitions** (Case 3E)
  - **ensuring stakeholder buy-in** (Case 5B)
  - **ensuring delivery of strategy** (Case 5B, 5F)
  - **establish strategic approach to global sourcing** (Case 5G)
- The vision from the executive leadership is **turned into specific objectives and cascades down to the appropriate level** that will roll out the strategy that has been developed (Case 3A, 3B).
- The company has a **top down initiative** to reduce costs as much as possible (Case 3C).
- **Depends on the particular part of the sourcing strategy.** For indirect goods, the President would have very little input. For direct goods, the President, executive team and executive leaders within each of the business units have input into creating and developing a strategy such as low cost strategy (Case 5C).

## Process owner of the global sourcing strategy

- The process owner of the global sourcing strategy is usually the person at the **executive level**. Examples of some process owners include:
  - **Head of Procurement Network** (Case 2A)
  - **Group Operations Director** (Case 2B)
  - **Trade Development Manager** (Case 2C)
  - **Group Procurement Director** (Case 3A)
  - **Operations Manager** (Case 3B, 3C)
  - **Vice President of Purchasing** (Case 3D)
  - **Senior Vice President of Supply Chain** (Case 3E)
  - **Executive Vice President of Global Purchasing and Strategy** (Case 4A)
  - **Supply Chain Manager** (Case 4B)
  - **Global Procurement Council** (Case 5A)
  - **Executive Vice President for Global Commodity Purchasing** (Case 5B)
  - **President of Sourcing** (Case 5C)
  - **Vice President of Group Purchasing** (Case 5D, 5E)
  - **Sourcing Director** (Case 5F)
  - **Chairman of the company** (Case 5G)
- The **Operations Manager** is responsible for manufacturing, logistics, purchasing, world and factories in the UK. In terms of the company as a whole group company, the **Central Purchasing Group** looks at the different divisions in the company. The Central Purchasing Group sets strategy and guidelines for the UK division to follow (Case 3B).
- The **global sourcing strategy is led by the individual divisional groups in the company** for most of the parts. The company is divided into divisions, and each division has the responsibility of providing services and goods to the customer. Direct high tech materials and services is the responsibility of the divisional purchasing management. The indirect materials and common components is the responsibility of the corporate purchasing. Each division has its own Board of Directors and then the divisional purchasing people have to report to the Corporate Vice President of Purchasing (Case 3D).
- Functionally there are two big operating units, one is North America, and the other is the UK and the rest of the world. **Each of those operating units has a Procurement Council**, which comprises of **all the Senior Procurement Directors** in each of those businesses. The two procurement councils set the specific policies, strategies, and operational agendas unique to those operating units. Then there is a **Global Procurement Council** which has the **top five Procurement Directors from each side of the operating unit** to form an overall Procurement Council. The Global Procurement Council set strategies, sourcing policies, optimising things that can be done on the global scale and that can be done on an operating unit scale, people strategy, development, the succession planning and addressing the main/major suppliers (Case 5A).
- The process owner of the global sourcing strategy is the **Sourcing Director** of each division. The Sourcing Director is responsible for purchasing and the global sourcing specialist in the company (Case 5F).

- There are **some process owners** that **head a purchasing or procurement group**. From the case studies, the companies in Level 5 have a purchasing or procurement group which are led by an executive leader and are active in making sourcing decisions.
- In Case 5D, the purchasing or procurement group is formally called **Group Purchasing Council**. This central purchasing panel evaluates different global purchase decisions. The Supply Chain Director takes part in the council.
- In Case 5E, the **Vice President of Global Purchasing** is on the executive committee, the board and head up a group called the **Purchasing Council**. There are 4 divisions in the company. The Purchasing Council is in a position where it can influence all the divisions and cut across all the divisions independently.
- Case 3A has a **Sourcing Council** but it only gives advice on finding the best suppliers and does not make decisions on which supplier would be chosen.

## FACTOR 2: RIGOROUS AND WELL-DEFINED PROCESSES

### The global sourcing process

- After identifying a product requirement, the **Virtual Procurement Network** is used to understand sources and cost savings in order to source globally (Case 2A).
- There is a process of **validating any new suppliers** that have been identified using a **supplier questionnaire**. Upon the completion of the questionnaire, it will be reviewed. If acceptable, then move to the next stage of sending in a person from the company to go and do a quality audit of the facility. Assuming that's successful, then the final steps is to do a review of the criticality of the supplier. How much will the company spend with this supplier, what sort of services will the supplier provide and a financial assessment of the company. Then they will become a validated supplier (Case 2A).
- The process starts off with **identifying the local requirements** and identifying what the factory needs. Then the company decides whether the products can be **sourced locally or sourced cheaper outside the UK**. The process is **fairly ad-hoc and not a very formal process**. The company also looks at a common supply base and negotiate with some global suppliers to pool the common needs throughout the company (Case 2B).
- **There isn't a global sourcing process** (Case 2C).
- In Case 3A, **the decision, power and spend is rightfully with the projects**. The projects send out the purchase orders instead of the purchasing function. The purchasing function sets the policy and strategy around helping people to develop skills, education, and works with other functions to make sure the company's tied up.
- The company tries to buy things as locally as possible with the lowest price. Since the company buys **very specialist items**, there are a limited number of suppliers in the world that they can buy them from. The company have to go abroad to purchase items for technical reasons. The company look at suppliers that have big enough capital equipment to machine the items cost effectively and is driven by cost and technology when sourcing for products (Case 3B).
- The company has a **process and guideline for qualifying suppliers**. If a supplier is a strategic supplier, which is making a very important part of the machine, the company will look into the potential of forming partnerships with the supplier. Technically, the company is looking for companies that are robust financially. There are a number of factors that effect the decision of selecting suppliers. For example, the kind of quality systems and quality control the supplier has (Case 3B).

- The first step of **qualifying suppliers** is to **send the company's engineers out** to look at the suppliers, establish suppliers abroad and making sure that the procedures are up to standards, and if not, the company would help bring up the supplier bring the procedures up to standard. When the supplier is already **chosen**, then the company will have the **buyers work with the suppliers** looking at pricing per kilo, bringing in quotes, sending drawings out to the supplier, waiting for the quotes to come back. From there the company will **collect all the information** on the process, look at the prices the company is paying at the moment, the FOB (freight on board) price. **This process is basically to make sure the supplier can supply to the quality the company requires** (Case 3C).
- The global sourcing process has **two strands**. Firstly the company looks at **technology**, for a high end sourcing. The company mainly sources from United States more than anywhere else where high tech equipment is available. The company is not looking particularly at the cheapest option, but looking more for the **best high tech solution** because the company is in a technology driven industry. Secondly, the company considers **value for money and low cost sources for more common parts** (Case 3D).
- The global sourcing process is **driven by each major commodity** in the company. The top three commodities are metals, composites and machining. There is a **commodity lead for each of those three commodities that are senior supply chain individuals**. There isn't a formal structured sourcing process. The company has developed a low cost strategy of being part of the commodity strategy in each of the major commodities (Case 3E).
- **Starts with creating the vision and defining what the requirements are in the corporate level**. Decide what the company will make internally and buy on the external network. Once the company have pulled together the customer requirements, general business requirements, technical requirements, the company gets a future vision of what the needs are in the supply chain. **Then the company looks at the current status and see if there's a gap** between what the company needs in the future and what they've got now. **Study the market**; look at the competitors are doing particularly in Asia. In the industry, there are some real oligopolies in because some of the technology is quite difficult to replicate and its capital intensive. So for some commodities there is only one or few suppliers globally who can satisfy the technical requirements and so all of the competitors tend to be using similar companies. **Pull all of the information together and then develop a commodity strategy** and that is renewed every year. **And from the commodity strategy develop specific supplier strategies** (Case 4A).
- As the company is part owned by an Indian manufacturing company, the global sourcing process is **driven by the low cost products** that can be purchased from India and the specialist parts that are only sourced from certain countries (Case 4B).
- The global sourcing process **differs between direct and indirect commodities**. Examples of indirect commodities are infrastructure, company cars and stationary. Examples of direct commodities are electronic components and raw materials (Case 5A).

- A global sourcing process exists within the company's Global Quality Procedures (GQP). GQP is a deployment process of the Business Plan into individual or team actions. GQP focuses on strategies to achieve customer satisfaction, improve quality performance and satisfy legal or regulatory requirements through the deployment of quality system requirements. This process requires that new or revised strategies are presented to key stakeholders within the business for buy-off. A sound business case is required commercially, and the commodity team also has to demonstrate that the suppliers in question have the capacity and capability to deliver the strategy (Case 5B).
- The global sourcing process is a generic process which is milestone driven and every sourcing project is put in a Program Management Report. The company emphasises on developing margin by developing profit by sourcing at the lowest overall cost (Case 5C).
- The global sourcing process is done through a fairly standard tender process. For manufacturing decisions, in terms of decision to locate factories abroad, there are specific purchasing teams who look for suppliers local to those factories (Case 5D).
- The basic global sourcing strategy is to join up 50 locations globally in 22 different countries. The approach is a commodity lead process, where the purchasing and sourcing process are broken down into several key groups: (1) the commodity lead, (2) project management for new product implementation and other projects that come up on a business level, (3) transactional or a tactical purchasing process, (4) low cost country sourcing to take our commodity groups and have both Asian and Pacific sort of sourcing office and that will be done regionally and (5) indirect spend. Each global commodity lead will be responsible for developing the commodity strategy and the foot print for the supply base. The key strategy for the whole group is to narrow down the number of suppliers (Case 5E).
- The global sourcing process is a balance between operational excellence and low cost manufacture. The Production Systems Director manages the operational excellence and the purchasing team are involved in looking for low cost opportunities in emerging markets. If the company was bringing in new products, they will do a Supplier Quality Assurance (SQA) review and then followed by a review of the manufacturing process to make sure that the supplier was meeting the operational standards as well (Case 5F).
- Once the company has decided on an appropriate source, the first thing is always to get approval by the quality engineers and quality department. The first stage in any process would be to establish a potential supply source and then the first direct action would be to have a quality audit done of that potential supply source and get a report back from the quality engineers to the suitability of their processes, their equipment and their business structure to support the demands of supply to the company (Case 5G).

- **Categorising a company's expenditure** was considered important to maximise and leverage spend with suppliers. This is done by identifying what the company buys, categorising similar products into groups and identifying what products or services that are available in the market or from the company's current suppliers (Case AA).
- **Potential suppliers** need to demonstrate that they comply with various standards like ISO, and have sign up to some ethical standards (for example, they're not using child labour). Suggested activities that companies should perform before the supplier is approved include auditing the factory, checking their paperwork and their ability to manufacture the products (Case BB).
- **From the case studies, the companies starts the global sourcing process with identifying what are the company's future requirements.** Based on the requirements, strategies are then developed on **purchasing spend**.
- **The global sourcing process is highly influenced by the nature of the product being sourced and the global sourcing strategy** (focus low cost or high end).

#### How global agreements are monitored and reviewed

- **Formal supplier reviews are done monthly, half yearly or yearly basis** (Case 2A).
- There are **quarterly meetings of the procurement managers** who share information at meetings and share progress against the targets (Case 2B).
- An agreed framework will be set up in a global agreement and compliance will be monitored through the **integrated supplier information system** (Case 3A, 5A). The system pulls together which supplier they are spending it with, what they are spending on and the performance matrix against the key performance indicators (Case 5A).
- The **Central Purchasing Group** negotiates the legal agreements with suppliers. The **legal department** deals with the contracts and reviews them (Case 3B).
- The global agreements are monitored at a **corporate level**, through regular **Quarterly Business Reviews** (QBR) with their suppliers. The company monitors suppliers on quality, delivery and relationship (Case 3D).
- The global agreements are monitored on a **site basis**. There is a senior commodity **review meeting** on a set frequency with the suppliers. The review meetings tend to be led by the Heads of Composites, the Head of Metals or the Head of Machining (Case 3E).
- The global agreements are on an **annual basis review of the commodity and supplier strategy**. The company checks performance on quality and delivery, technical capability, future capacity, and whether it's still relevant for the next year (Case 4A).



- The global agreements are **monitored with regard to quality and on time delivery**. There is **no provision to calculate total cost in and total supply chain cost**. There is a very basic calculation which takes in reworks costs, shipping costs and price costs. It doesn't take into account any form of increase cost of administration, extended communication costs and extended supply chain (Case 4B).
- The **Global Commodity Purchase Executive approves Long Term Agreements** (Case 5B).
- The commodity team put in place the global agreements. The monitoring process include (1) **Bi-Monthly Site Reviews** to confirm the agreement implementation in terms of delivering profit growth committed. The bi-monthly site review is more financial review driven and management review in terms of making sure the contracts are implemented on schedule. (2) **Quarterly Business Reviews** with core suppliers to review contract performance of both parties. This is done to develop a relationship for strategic reasons. It is held with the seniors of the suppliers and seniors of Case 5C. Quarterly business review looks at actual performance of the supplier against the contract and of the customer against the contract (Case 5C).
- The legal team oversees the agreements. The agreements are reviewed by the Departmental Heads in each of the business units for monitoring performance (Case 5D).
- Global agreements are negotiated and oversee by the **Vice President of Global Purchasing** (Case 5E).
- The process of monitoring global agreements is **done locally** and reviewed at least annually. In each of the low cost regions, there are local specialists who deal with people locally. There is a **Supplier Quality Assurance (SQA) manager** who would go out independently from Europe, to India and China and make sure that the processes were being followed (Case 5F).
- The key measurables are three things: **quality of supply, quality of product and cost**. Once a supply agreement has been established, if the supplier is meeting the expectations in terms of supply quality, product quality and price then generally the company will look to develop the supply **relationship** with them. The company **doesn't actively look to change the supply agreement unless the supplier gave the company a good reason to change**, by causing a supply difficulties, quality difficulties or giving the company a reason to believe that a cost of supply were an issue (Case 5G).
- **Regarding the process of qualifying suppliers, most cases have a formal process and guideline for qualifying suppliers.**
- **A formal process is important to ensure quality and delivery. In addition, this process will also reduce the risk to the company by having specific criteria that need to be met in order to qualify as a new supplier.**



## FACTOR 3: AVAILABILITY OF NEEDED RESOURCES

### How critical resources made available

- Need to have the **right buying resource** in place to support any global sourcing process (Case 2A).
- Having the **right people in the right place** is very critical (Case 2B).
- **Pull human and financial resources on a program by program basis** (Case 2C). The critical resources are made available through project type scenario (Case 5G).
- All the specialists from all the functions, finance, human resource, engineering, purchasing and supply chain play their part in an **integrated project team** (Case 3A, 3D). All the resources are provided through the projects (Case 3A, 3D). The functions in the company are very small (Case 3A). The projects have got the right staff with the range of skills to discharge the project (Case 3A).
- It **depends on the size of the supplier and how critical is the supplier**. If the supplier is common to the other divisions of the company and if it's a critically **important big spend supplier**, the **Central Purchasing Group** would manage the process on a group basis. If it's a supplier that only Case 3B uses, they would tend to manage that supplier process themselves.
- The resources are distributed using a **budget** (Case 3C, 4B, 5E, 5G). As with all other functions within the business, Commodity Purchasing is required to submit an annual budget for corporate approval (Case 5B).
- **Within the purchasing division** the company has a full finance and human resource team. The company has a dedicated resource allocated to purchasing permanently. Those resources are built in the purchasing division (Case 4A).
- A common practise to **overcome cultural barriers** is to **recruit a local person** in the foreign country. Recruit a local person in China with good procurement skills and knowledge of the area (Case 2A).
- **Extensive resources are needed to support the global sourcing process in terms of finding qualified personnel, identifying potential suppliers and understanding foreign cultures.**

## How relevant information is made accessible and shared

- Relevant information that is required for the global sourcing process across the cases, are made accessible and shared mostly through:
  - **an Enterprise Resource Planning (ERP) system** (Case 2A, 2B, 3B, 5F)
  - **face to face meetings** (Case 2A, 2B, 3B, 4A, 5C, 5G)
  - **email** (Case 2A, 2B, 3B, 3E, 4B, 5G)
  - **spreadsheet** (Case 2A, 2B, 5G)
  - **integrated supplier information system** (Case 3A, 5A)
  - **Intranet or internal web portal** (Case 3C, 3D, 3E, 4A, 5C, 5D, 5E, 5F)
  - **shared database or shared drives** (Case 3C, 3E, 5G)
  - **video conference** (Case 4A, 5C, 5G)
  - **Local Area Network** (Case 5B)
- **Relevant information is not readily** available because of the disparate systems available in the company (Case 2A).
- There is **no formal structure** on how relevant information is made accessible and shared. It is **poorly done** (Case 2B).
- The **integrated supplier information system** allows procurement and supply chain people to see who places the purchase order, when, what's outstanding and debt (Case 3A). In addition, which suppliers the company is using today, what the spend is and the supplier's performance. The database is used to make sourcing decisions.
- **Suppliers are not allowed to access any IT systems** because the risk is too high (Case 3B).
- **Information is starting to be shared among the groups in the company.** The company is looking at a better system at the moment and will eventually move to one complete system (Case 3C).
- The company has a top level **Group Purchasing Committee (GPC)** that meets once a month and all the information are shared through this medium. The GPC comprises of all the hands of purchasing from the divisions and the Vice President of Purchasing for the entire company. The GPC handles all purchasing issues such as making strategy and policy (Case 3D).
- Information is shared through a **monthly global supply chain review meeting**, where each of the commodity and site leaders updates on the various initiatives (Case 3E).
- Share the information with the board and production function using a **monthly reporting** method. The supply chain manager produces a report based on spend, delivery performance and quality performance (Case 4B).

- There is a **strategic partnership and a strategic engagement with the top major suppliers of the company**. The top suppliers are involved in an annual board meeting (Case 5A).
- **Global Sourcing Forums** are held half yearly where commodity teams are briefed on current status of strategies around the business (Case 5B).
- The **senior management** sits down once a week and share information about projected growth, new products coming in, new processes that may affect the demand and supply base, any significant increases in volume and long term planning. They can then see where there's a potential shortfall in resource or a skill set in terms of a new process that they need to identify and deal with (Case 5G).
- **Being able to share information across worldwide business units would benefit companies in terms of collating the information for future planning and facilitating the decision process.**
- **Although most information can be shared through the Internet, face to face interactions and personal contact** are still considered important.

## FACTOR 4: INTEGRATION THROUGH INFORMATION TECHNOLOGY

### How global agreements are managed

- Case 2A has a central repository, but it's not a system.
- No contract repository (Case 2B, 5B).
- There is a contract repository that stores agreements electronically (Case 2C, 5A). The system is accessible through appropriate security levels, the right people can access and look at the global deals.
- There is a designated purchasing personnel for each supplier and that person is responsible for maintaining that contract (Case 2B).
- Agreements are posted online in the company information system (Case 3A).
- All contracts are copied to the financial department locally and major contracts shared with the Central Purchasing Group. The contracts will be sent to the Central Purchasing Group for approval (Case 3B).
- Not all contracts necessarily have an expiry date. Normally the contracts are around until they are terminated by either party (Case 3B).
- Agreements are managed by a senior buyer. There is a spreadsheet available to the senior buyer which informs the dates of when contract reviews are coming up (Case 3C).
- There is a depository of global agreements in one central area. There is a mechanism to alert the purchasing team when agreements expire so they can renew them (Case 3D).
- There is a contract repository (Case 4B, 5C, 5D) that is managed by the purchasing team (Case 3E, 4A, 5G). The purchasing team manages the review and renegotiation process (Case 3E). An internal commercial service group within purchasing, manages the contracts, provide legal guidance and deals with expiry dates (Case 4A).
- The contract repository provides warnings by flashing like an email (Case 4B). The standard agreement period is about two to three years (Case 4B).
- The Commodity group is responsible for approving, holding and maintaining the agreements (Case 5B).
- A Program Management Report will identify month by month when each of the long term agreements expire (Case 5C).
- The contract repository is handled by the Legal and Global Purchasing team (Case 5D).

- The sales team manages global agreements (Case 5F).

### Importance of having compatible information system with suppliers

- Across the cases, the benefits that have been identified from having compatible information system with suppliers include:
  - changes are noticed quicker (Case 2B)
  - pushes away the responsibility to the suppliers and makes the supplier more accountable (Case 2B)
  - reduction of paper transactions (Case 2C, 3D) by getting rid of paper based invoices and billing system
  - savings in terms of hard copy printing and cost of postage (Case 2C, 4B)
  - savings in terms of time as the documents can be accessed and shared anytime (Case 2C, 3C, 3D, 4B, 5D)
  - configuration management and control (Case 2C, 3E)
  - make things easier (Case 3C)
  - reduce paperwork (Case 3D)
  - reduce the time it takes to process orders and invoices (Case 3D)
  - reduce the time to compile information (Case 3D)
  - reduce human error (Case 3D) because no need to translate information from one system to the other
  - facilitate the sharing of accurate information and technical specifications (Case 3E, 5G)
  - large amount of data can be transferred quickly (Case 3E)
  - facilitate the production planning (Case 4B)
  - having a common process of presenting information to the supplier (Case 5C)
  - increase accuracy (Case 5D)
  - faster reaction to change (Case 5D)
  - flexibility (Case 5D)
  - ability to share information (Case 5E)
- Some cases consider having compatible information system with suppliers as **not critical** to a business (Case 2A, 3C, 4A). Having compatible systems would be fantastic but not critical to the business (Case 3C). Case 4A just uses a simple web based systems that is accessible to anyone.
- As long as the company is able to exchange data through SAP, word, excel and email, it was considered sufficient (Case 2A).
- Some cases consider having compatible information system as **important** (Case 2B, 2C, 3D, 5A, 5B, 5C, 5D, 5E, 5F, 5G). **Not a prerequisite** (Case 5D).

- Some suppliers, the company is **very integrated** with. For the other suppliers, the company are **not integrated at all or not well connected** (Case 2B, 5D). Major suppliers are linked quite closely with the company's system. With some smaller suppliers, communications are done more just through email and manual discussions (Case 5D).
- It is important that suppliers can readily **access information on supply and forecasting** (Case 2B).
- The decision to have a compatible information system **depends on the extent of sourcing activity conducted globally**. In Case 2A, the usage of email and spreadsheet as a means of sharing information was considered sufficient.
- Use a **trading portal (EXOSTAR)**. Set up by the Defence and Aerospace community. This trading portal allows online auctions with the suppliers, receive payment, put purchase orders out and to some extent, share a read only document on design information. Companies in the industry can find new suppliers through this trading portal as suppliers can register and put their profile in it.
- There is **no problem of sharing information** because most of the information needed is sent through email (Case 3C).
- The company exchanges **engineering information** with suppliers electronically (Case 3E).
- The company **don't have compatible or access to the supplier's system** (Case 4B, 5C). Everything needs to be extracted from each others individual manufacturing system and shared through spreadsheet and email (Case 4B).
- The company has a **fully integrated SAP system with suppliers**. Communication with suppliers is supported through an internet portal. Licenses are provided to suppliers for key information (Case 5B).
- The **web portal allows for every supplier to have a user name and password**, so they can exchange information like RFQ and quote information directly online in a secure way (Case 5E).

## FACTOR 5: SUPPORTIVE ORGANIZATIONAL DESIGN

### Internal group responsible to oversee the global sourcing process

- The internal group that is responsible to oversee the global sourcing process is the **group that is headed by the global sourcing process owner**. Examples of some internal groups that are responsible to oversee the global sourcing process include;
  - **Head of Group Procurement Network** (Case 2A)
  - **Commercial Procurement Group** (Case 2C)
  - **Procurement Director** (Case 3A)
  - **Sourcing Council** (Case 3A)
  - **Central Purchasing Group** (Case 3B)
  - **Purchasing department is responsible which is headed by the Operations Manager** (Case 3C)
  - **Group Purchasing Committee** (Case 3D)
  - **Senior Vice President** (Case 3E)
  - **Global Purchasing Council** (Case 4A)
  - **Supply Chain Manager** (Case 4B)
  - **Procurement Council** (Case 5A)
  - **Purchase Executive Meeting Committee which is chaired by the Chief Procurement Officer** (Case 5B)
  - **Commodity team** (Case 5C)
  - **Group Purchasing** (Case 5D)
  - **Purchasing Council** (Case 5E)
  - **Centre of Excellence** (Case 5F)
  - **Original Equipment (OE) Purchasing Team headed up by the Global Purchasing Manager** (Case 5G)
- The **Head of Group Procurement Network** is responsible to oversee the global sourcing process and drafting templates to use in agreements (Case 2A).
- The **Category team** is responsible to identify global opportunities, develop the opportunities into sourcing agreements and implement the tools and techniques that the Head of the Group Procurement Network has identified (Case 2A).
- Depend on three elements, major equipment, direct commodities and indirect commodities. For major equipment and indirect procurement, it's led by a **Procurement Director**. For direct commodities, take advice from the **Sourcing Council** (Case 3A).
- Part of the **Central Purchasing Group**'s role is to negotiate with big strategic suppliers using the total group spend to obtain price leverage (Case 3B).
- The **Centre of Excellence**'s responsibility is to guide the global sourcing strategy and look at cost reduction opportunities by looking at piece parts maintenance and value engineering initiatives (Case 5F).

## Purchasing volumes aggregated on a worldwide basis

- Practice purchasing volumes aggregated on a worldwide basis (Case 2A, 2B, 2C, 3A, 3B, 3C, 3D, 3E, 4B, 5A, 5B, 5C, 5D, 5E, 5F, 5G).
- There is group negotiation and supplier management process with key suppliers for the entire group (Case 3B).
- The company aggregates the common elements which tend to be the lower cost items. Many of the higher cost items cannot be aggregated because they are built to specification, so there is no commonality (Case 3D).
- The decision to aggregate volume depends on the extent the company wants to strategically protect their business from the risk of having all their eggs in one basket (Case 5G).
- In terms of aggregating purchasing volumes on a worldwide basis, there was only one case study that didn't practice it (Case 4A). The reason for this was that their different facilities made different products and required completely different size parts. However, they do use a common supplier base where possible to aggregate spend.
- The benefits from aggregating purchasing volumes on a worldwide basis include:
  - being in a better position in negotiations (Case 2A, 3A)
  - getting a better deal than the market rate (Case 3A, 5C)
  - price leverage (Case 2C)
  - get a better price (Case 3A)
  - cost reductions (Case 3D)
  - global leverage (Case 5A)
  - leverage spend (Case 5C)



## **FACTOR 6: STRUCTURED APPROACHES TO COMMUNICATION AND RELATIONSHIP BUILDING WITH SUPPLIERS**

### **Communication and coordination tools**

- Across the cases, the common communication and coordination tools that were used extensively include:
  - **email** (Case 2A, 2B, 2C, 3A, 3B, 3C, 3E, 4A, 4B, 5C, 5D, 5E, AA, BB, CC)
  - **tele/video conferencing** (Case 3B, 3C, 3E, 4A, 4B, 5C, 5D, 5F, 5G, BB, CC)
  - **face to face meetings** (Case 2A, 2C, 3B, 3C, 3E, 4B, 5C, 5G, BB, CC)
  - **Intranet** (Case 2C, 3A, 3D, 4A, 5C) through Shared Folders (Case 5C)
  - **Internet** (Case 4A, 5D, 5F, BB)
  - **Telephone** (Case 4B)
  - **Fax** (Case 4B)
  - **Instant messenger system** (Case 5E)
- If there is a launching of new products, there is a **project management team** who facilitate communication and coordination (Case 2A).
- A combination of a **good strong project manager** who will do the coordination and the communication through face to face and email (Case 2A, 5G).
- There are **senior relationship managers that manage the relationship with the suppliers** in respect of business development (Case 3E).
- **Financial systems** that give an overview of the business (Case 2B).
- Use **SAP** (Case 2B, 2C, 3A, 3B, 5F). Data collected includes on time delivery and quality (Case 3B).
- Use **reports** (Case 2C, 3B).
- Use **supplier portals** on the Internet (Case 2C, 5C, 5E). There is a **portal system** where suppliers can access information by using certain code words and code numbers (Case 3D). Case 5C has a Supply Chain web portal available for suppliers to obtain information and communicate with the company (reference from the application form).
- Use an **internal integrated supplier information system** (Case 3A, 5A). Case 3A uses this tool as a supplier relationship management tool and a global data warehouse (reference from supplychainbrain.com article).
- Use **EXOSTAR** to communicate and collaborate externally with suppliers (Case 3A, 4A, 5A). Share volume and scheduled information electronically in real time mode. EXOSTAR is a leading provider of multi-enterprise solutions for secure information sharing, collaboration and business process integration throughout the extended value chain (reference from exostar.com).

- Use **phone** (Case 3C).
- There is a **local purchasing system within the intranet** which is used for communicating information (Case 3D).
- Using an **e-sourcing tool for suppliers online**, on the company website. This tool allows the purchasing team to communicate large amounts of data with suppliers without using paper. This tool is developed partly because of the restrictions of security on the business. The company have to be mindful of the fact that they are dealing with sensitive information, not just company sensitive but government sensitive (Case 3D).
- Use a process of **supplier audit and supplier assessment** through a scoring system (Case 3E).
- Through **procurement conferences** (Case 5A).
- Use a monthly **Sales and Operations Review Board (SORB)** where key suppliers and domestic manufacturing plants are informed of future demand and changes to short term horizons (Case 5B).
- **Every purchasing person in the organisation has a supplier they're responsible** for and anything that happens with that particular supplier goes through the point person that's got the responsibility (Case 5E).

### How potential suppliers are identified

- The methods that were used to identify potential suppliers:
  - vary depending on the **nature of the product**. In one of the cases, the company source specialist products that only two or three suppliers in the world have the technology to manufacture, and the company have no choice but to buy from those suppliers (Case 4B, 5C).
  - vary depending on the **familiarity of the company in the source market**. In the case where the company were trying to source from China, the company recruited people with specialist country knowledge to find suppliers (Case 5C).
  - vary depending on **whether the company is sourcing high tech parts or services and low spec items**. In Case 3D, when sourcing high tech parts the company will look at the technology that the supplier offers and then financial stability. If they are looking for services and low spec items, the company will look at the supplier's ability to supply when needed, the supply chains, the organisation and the support organisation.

- Some methods of identifying potential suppliers which was identified from the case studies include:
  - the tender process (Case 5D)
  - having a designated purchasing personnel in each geographic area to identify new suppliers (Case 5D)
  - internet/websites (Case 2A, 2C, 3B, 3E, 4A)
  - trade fairs/trade shows (Case 2C, 4A, 4B, 5G)
  - exhibitions (Case 3B)
  - meet with local trade bodies or local suppliers (Case 4A, CC)
  - through other suppliers (Case 2A, 2C)
  - word of mouth/recommendations (Case 2A, 3A, 3B, 4B)
  - a supplier that is already being used by the other divisions in the group (Case 2B, 3B, 3C)
  - some suppliers might just approach the company (Case 2A, 2C, 3C, 5G)
  - use a third party (Case 2B, 3B), a consultant company that has a supply base overseas (Case 2B)
  - catalogues (Case 2C)
  - invite suppliers to regular events around the country (Case 3A)
  - daily mail shots from suppliers (Case 3A)
  - digest of approved suppliers/ distributors (Case 3E, 4B, AA)
  - advertise in an industry bulletin or publication (Case 5A)
  - using a Commodity team, looking at capability, quality, cost and delivery credibility (Case 5B)
  - work with government agencies to identify suppliers fit (Case 5C)
  - recruit a designated person in the foreign country to find suppliers, work with the suppliers and develop them (Case 5C, CC)
  - central supplier listing (Case 5E). Only suppliers from the list can be used.
  - look at competitor's suppliers (Case 5G)
  - internet business information software or database (Case AA)
  - trade magazines (Case AA)
  - market research (Case AA)
  - supplier database (Case BB)
  - personal knowledge of the buyer (Case CC)
  
- Communicate this process through face to face structured meetings, email and asking questions by picking up the phone (Case 2B).
  
- In an industry which is relatively quite small compared to other industries, the company will have a fair personal and corporate knowledge on suppliers. Plus they will also have databases of the capabilities of those suppliers (Case 2C).
  
- Use “Technology Watch”, a scientific community which are very methodically going around universities and technological start-up, trying to find out what's new (Case 3A).
  
- Constantly do “Technology Scanning”, which is looking for good ideas all the time and then decide is it sufficiently mature to take a real business interest (Case 3A).

- Most suppliers they already know because there are only a certain number in the world (Case 3B).
- For new suppliers, qualifying them by looking at their systems and their capability (Case 3B, 3C).
- There is list of suppliers compiled in a database. The company keeps track of which suppliers they use and how frequent they use them. They also identify suppliers they rarely use and don't ever want to use again (Case 3D).
- The Head of the Commodity would have the responsibility to understand the market, do the market analysis of current suppliers and potential suppliers. This is done either by internet or a digest of approved suppliers (Case 3E).
- Use in country teams who gather intelligence (Case 4A).
- Regional directors meet with local trade bodies or local suppliers (Case 4A).

### How relationship with current suppliers are managed

- The methods that were used across the cases to manage the relationship with current suppliers include:
  - Quarterly Business Review (Case 5B, 5C, BB)
  - face to face meetings (Case 4A, 5B, 5G)
  - visiting the supplier on site (Case 2B, 3B, 5G)
  - balance/supplier scorecard (Case 4A, 5D) Monitor in real time and reported every month on quality and delivery performance.
- Across the cases, the relationship with current suppliers is managed through some form of performance review process. The performance review process looks into two things, (1) to build the business relationship with the supplier (Case 5C) and (2) to review the performance of suppliers in terms of quality, delivery and cost.
- The frequency of visiting suppliers depends on:
  - how the company rates the suppliers in terms of importance of the suppliers to the company (Case 2A, 5G, BB)
  - risk of the product (Case 2A)
  - whether the product is single sourced or multiple sourced (Case 2A)
  - if the supplier is new, they are visited more often (Case 3B)
  - what the company has to discuss and if there are problems (Case 4A, BB). The company visits problem suppliers more often than visiting good suppliers (Case 4A)
  - if it's a long term, partnership type of agreement, the company meets the suppliers very frequently face to face to build relationship (Case 4A)
  - size/volume of the business (Case 5B, 5G)
  - the supplier's current performance (Case 5B)
  - complexity of the business (Case 5G)
  - if the company working on new designs with the supplier (Case BB)

- **Measure supplier performance** through **lead time** (Case 2A), **delivery** (Case 2A, 2C, 4B), **quality** (Case 2A, 2C, 4B) and **cost** (Case 2C, 5D). Identify and state a specification of the product that is expected and measure the suppliers against that. If a product arrives and it doesn't make that expectation, the suppliers are rated accordingly. Feedback and some corrective action will also be given (Case 2A).
- **Formal calculations of performance review** are done on a monthly basis, however if there are any pressing issues and deterioration in quality of the product, it will be addresses sooner (Case 2A).
- **Somebody in the supply and logistics team** who places the purchases orders has a **day to day operational relationship** with his equivalent in the suppliers. And that relationship is more detailed, more operational and multiple times per month. **Sitting above them are the lead buyers**, and they've got a set of finished goods suppliers each. And so **for negotiations and any more formal activities, the lead buyer will interact with the supplier** (Case 2A).
- Conduct visits to **audit the supplier's technical and quality capability**. Plus conduct **cost negotiation** having identified the component or identified the standard that is required (Case 2B).
- Case 2B runs a **vendor rating system**, where the suppliers are rated on quality delivery and cost. The assessment is done once a year for all the major suppliers.
- Use a **formal relationship management exercise**, the Relationship Measurement Matrix (RMM) under the SC21 (21<sup>st</sup> Century Supply Chains) (Case 2C, 3A).
- **Senior people in the company meet the supplier's senior people** (Case 3A).
- Use a **supplier management matrix** (Case 3A).
- Relationship with the supplier depends on the **types of supplier**. If it's a small local supplier, they can be on the phone every other day (Case 3B).
- Use a **formal supplier evaluation program** where they formally sit down with suppliers on a regular basis, to go through the performance, quality, price, issues, in a structured way (Case 3B).
- Actively managing each supplier on a **price road map** (Case 3B).
- **Balance risk and price and quality for continuity of supply** (Case 3B).
- Manage relationship with current suppliers through **building of supplier partnerships through service level agreements** (Case 3C). The company would place bulk orders with the suppliers and the company would agree to take all of that stock that the supplier has produced if something happens. The suppliers basically produce one month stock for the company, so that way, the company never runs out of stock (Case 3C).

- Use **multifunctional teams**. For high tech materials, there is a specific supply chain team for a supplier. The team also consists of people from engineering, purchasing, marketing and sales, quality control. The team manages that supplier in one to one basis. For the real high tech suppliers, there are teams embedded in the supplier's facilities. For the lower tech and some services suppliers, the lead is by the purchasing department. There will be one buyer or purchasing manager assigned to each supplier. (Case 3D).
- Use **one performance chart per supplier** which has multisite scope and that then is shared with the supplier on a monthly basis (Case 3E).
- The **International Business Director spends a lot of time meeting suppliers** and spends a lot of time in their facility (Case 4A).
- Use **formal continues improvement process** to monitor performance (Case 4B).
- **Senior coordinators are nominated to manage the top suppliers of the company** (Case 5A).
- One of the senior procurement staff carries the responsibility for strategy, performance and overall relationship with a group of supplier on a global basis (Case 5A).
- **Implement supply chain development programs for their suppliers through the UK SC21 program**. Work in collaboration with their peer primes in the UK to manage major suppliers in the industry. The company would manage and coordinate performance improvement, quality issues, auditing issues and relationship issues with a major supplier in that industry on behalf of the other customers to avoid the supplier being bogged down with a repetitive process from each customer (Case 5A).
- **Decide what kind of relationship they need with the supplier based on level of dependency**. If the company has a high dependency on that supplier, that supplier is critical to the business (Case 5C).
- **Use performance monitoring, contract reviews, KPI development and agreements** (Case 5D).
- **Review a central supplier list and look at supplier performance** in terms of parts per million, payment days and contractual performance (Case 5E). Go over again some of the criteria of the selection, and through that the company decides whether or not a supplier is in the green list or the red list. Red means they're on the exit plan, later removed from the list. Green means that they're in the development plan. Because the company doesn't have all the resources to cover all the suppliers, the company narrows the supplier development process down to those suppliers that are considered to be worth the investment.

## **FACTOR 7: METHODOLOGIES FOR MEASURING SAVINGS OR PERFORMANCE**

### **How sourcing goals are established and linked to the overall company objectives**

- Through the **budget** process (Case 2A, 5F). Work with buyers on where savings can be made if the budget is too high (Case 2A).
- The **budget links** with the sourcing goals with company objectives **through** the **business plan**. The company objectives of material cost reductions and cost of quality are built into the business plan (Case 5F).
- Case 2A feels that the company need to firstly understand the **global purchasing spend map**. Then, analyse opportunities on where the company can get benefits across categories of products. Finally, prioritise and implement the sourcing goals.
- **Top management decides** how much savings need to made and where they can source from (Case 2B).
- **Through analysis of suppliers** (Case 2C). The overall corporate measure would include the performance of a certain supplier. Additional management attention is given if a supplier starts to fall short in terms of on time delivery, cost and quality.
- Top level vision and objectives are set by the **Executive Committee**. That then cascades to each appropriate level and then **flows down** to employee's personal objectives (Case 3A, 5A).
- If the **product margin** is not satisfactory on a certain product, the company will improve it through a cost reduction or an outsourcing program (Case 3B).
- Sourcing goals are established through **value of the product and how much the company is spending**. A certain product is considered very important if it is an expensive part in the manufacturing process. The company will look at strategic dealings with that particular product through cutting down the number of suppliers and moving to overseas suppliers in order to reduce cost and achieve savings (Case 3C).
- Start establishing sourcing goals from the **board level** (Case 3D, 4B). Then it drills down to the supply chain manager (Case 4B).
- Through the **company policy**. Example: (1) To reduce or make savings on spend by 10%. So all suppliers are monitored to see how the company can make those savings. (2) To increase sales and turnover by 10%, the company needs to make sure that the suppliers can cope with the increase of productivity of the company (Case 4B).
- Performances are reported in a series of **Quarterly Business Reviews** (QBR). This deals with linking the operational performance to the corporate objectives (Case 5A).



- Through a process of **Business Plan Deployment** (BDP) where top level business goals are flowed down to all levels of the business in a pyramid, with specific objectives being defined at each level within the organisation (Case 5B).
- The objective comes from the **President** of the business overall. That objective gets **flowed down to the commodity director** and it's up to the commodity director to work out how to save money in terms of total purchase price variants (Case 5C).
- Linked into **new product development** and built around **cost down strategy** (Case 5D).
- The **Purchasing Council** determines the sourcing goals. The sourcing goals get rectified by the **Executive Committee**. The Executive Committee determines whether they want to support the goals or not (Case 5E).
- The **executive leadership** determines the quality of supply, quality of product and cost (Case 5G).
- Through **financial planning on profit and lost** (Case CC).

### Measures to evaluate performance improvements or benefits from global sourcing

- The measures that were used to evaluate key performance improvements or benefits from global sourcing from the case studies include **cost** (Case 2C, 3A, 3C, 3E, 4A, 4B, 5A, 5B, 5C, 5D, 5E, 5G, AA, BB), **quality** (Case 2C, 3A, 4A, 4B, 5A, 5B, 5G, AA, BB), **delivery** (Case 2C, 3A, 4A, 5A, 5B, 5E, BB) and **lead time reduction** (BB).
- The **measurement of the total cost** of sourcing globally needs to consider **not only the obvious cost of the product and establishing the infrastructure** for the sourcing activity, but also take into account:
  - **the need to do research on the business environment of a foreign country**
  - **communication costs that needs to be done in the future**
  - **time difference**
  - **cultural differences**
  - **providing insurance and medical coverage to the personnel the goes overseas to visit a supplier**
  - **high cost of shipping and packaging**
  - **lost and damaged products**
  - **time to establish relationship with new suppliers**
  - **the learning curve on taking a new supplier**
- **Quarterly finance review** tracks how the company is doing against the targets (Case 2A).



- **Financial measures** such as cost comparisons or cost savings (Case 2B, 3C, 3D). When sourcing internationally, each project or program has an individual project financial reporting and they put the benefits to each project through the financial reporting of the project and then those project reports are delivered to the divisional boards and then the divisional board presents it to the main board (Case 3D).
- Use **SC21** (21<sup>st</sup> Century Supply Chains) tool of the aerospace and defence industry (Case 2C, 3A).
- In Case 2C, quality, cost and delivery gives background information. Using the SC21 (21<sup>st</sup> Century Supply Chains), Relationship Measurement Matrix (**RMM**) gives them additional information.
- Work with suppliers using **lean six sigma** (Case 2C, 4A).
- Through a formal **supply chain performance recognition process in SC21** that covers performance of delivery, quality, sustainable improvement and improvement frameworks (Case 3A). Award level gold, silver and bronze.
- Monitor entire **purchase value and cost savings on SAP** (Case 3B).
- Through a **price road map** for the supplier that is included in the contract. The price road map details yearly reduction of current cost (Case 3B).
- Before the company decides a move to an international or global supplier situation, they will put a **business case** together and find how much they can save by evaluating each supplier's performance (Case 3D).
- Through **balance scorecard** (Case 4A).
- Through a **value engineering project** which the suppliers are involved with. The company takes a specific engineered project and look at reducing cost either by engineering it or by resourcing from various different suppliers (Case 4B).
- Measure **relationship** with suppliers (Case 5A).
- Measure **return on investment, Net Purchase Performance, market penetration** (how many million dollars are spent overseas), **part number count** (how many parts in each country), **total cost of acquisition** (lowest price) (Case 5C).
- Measure performance using PPV (**Purchase Price Variants**), PPM (**Parts per Million**), **cost of purchasing, payment terms** and sub KPI's such as inventory levels (**acid velocity index**), **delivery performance** and **vendor rating system** (Case 5E).
- Measure **Piece Price Variant** (PPV) and **overall material price** (Case 5F).
- Measure **engineering competence** (Case 5G).

## Performance reports distribution

- Goes to the **category teams** and **factories** (Case 2A).
- Goes to **site managers** and **procurement managers** quarterly (Case 2B).
- Distributed through the **supply chain organisation, enterprise excellence and program management people** (Case 2C).
- The overall performance of the procurement community is reviewed by the Procurement Council and the report is provided to the **main board** (Case 3A).
- Distributed to **top management** and **central management groups** (Case 3B).
- Distributed amongst the **purchasing department** (Case 3C), **the head of the purchasing department** (Case 4A, 5D) and also the **executive board** (Case 3C, 4B).
- Distributed to **senior management** (Case 3D, 3E, 5G).
- Distributed amongst the **procurement community** and the various **departments such as engineering and finance** (Case 5A).
- Distributed at **different levels**. The most executive performance reports are distributed to the **executive team** of the business. The day to day performance reports are spread out across each of the **site purchasing teams** (Case 5C).
- Distributed to **business unit heads** (Case 5D).
- Performance reports are **done at a business unit** level and then rolled up into a **divisional level** and then rolled up into a **global level** and then the VP of Global Purchasing ultimately reports the global position to the **Executive Committee** (Case 5E).
- Distributed to **company directors** (Case 5G).

## FACTOR 8: QUALIFIED PERSONNEL

### Knowledge and skills

- Across the cases, there were two contradicting views on the **importance of** purchasing personnel having a formal qualification such as The Chartered Institute of Purchasing & Supply (**CIPS**) to perform global sourcing successfully.
- On one end, there are cases where they had very **strong emphasis** about having their people **CIPS qualified**. If their personnel were not CIPS qualified, the company will put the personnel through the program (Case 3A, 5A).
- **Ideally CIPS qualified** (Case 3A, 4B).
- On the other end, having personnel with a formal qualification such as CIPS was considered **not important** to perform global sourcing successfully (Case 2A, 2B, 5E, CC).
- **Don't insist on specific qualification** (Case 3B).
- Personal qualifications are less important than having a person with the **right personal skills and motivation** (Case CC).
- Having personnel with the **right attitude** (Case 4A) **and experience** (Case 3B) was considered more important.
- The significant **knowledge and skill** that were emphasised across the cases include **negotiation skills** (Case 2A, 3A, 3B, 3C, 5B, 5D, 5F, AA, BB), **cultural awareness** (Case 3C, 3E, 5D, 5F, BB), **communication skills** (Case 3B, 5B, BB), **interpersonal skills** (Case 2B, 5B).
- **Able to communicate clearly** with non-English suppliers and with the group/team (Case 3B).
- Use of **competency matrix** to rate purchasing personnel's performance (Case 2C, 3A, 5A, 5B). The matrices are used to record competence or capability and therefore determine future training needs (Case 5B).
- There are companies that **support employees to do a formal qualification**, such as CIPS or any other forms of qualifications and degree (Case 2A).
- It is important to have somebody who has an extremely good **understanding of culture** in order to do business in countries like China (Case 2A).
- Have someone in the offshore market that has had **experience in working or living in that region** (Case 3E).
- **Recruit local people** to overcome language and cultural barriers (Case 2A, 5D).

- Have **people locally in the markets** they are buying in to deal with local suppliers (Case 2B).
- Use an **interpreter** to communicate with the person who runs the operation in the foreign country (Case 5F).
- The **local people employed** in India and China needs to be able to **speak English** (Case 3C).
- Important to have **commercial skills** (Case 2B, 5C, 5E) and **commercially aware** (Case 5B).
- Important to have competences in **relationship management with suppliers** (Case 3A).
- Important to have **experience** in wide ranges of suppliers in Europe and UK (Case 3B).
- Important to understand **product technically** (Case 3B, CC).
- Important to have **purchasing legal knowledge for contracts** (Case 3B).
- Important to **keep up with fluctuations in price of materials** such as metal (Case 3C).
- People in purchasing need to have some **engineering knowledge and experience** (Case 3C, 3E).
- Important to **understand supplier's business** in terms of the processes and the supply chain (Case 3D).
- Important to **understand tools and processes** the company uses to **manage, improve and measure suppliers** (Case 3D).
- Important to have **project management** skill (Case 3E).
- There is a **prescribed profile that defines the appropriate competences and skills that are necessary to perform a particular role/function/job**. Categorise competence for each skill as below (Case 5A):
  - I don't really understand it, I'm a learner
  - I'm a practitioner / experienced - competent in using those skills but competence in using them on their own as suppose to training others
  - I'm an expert - somebody that could train somebody else
- Important to have **commodity management** expertise (Case 5C).
- Important to have **program management** skill (Case 5C).
- Important to have **industry sector knowledge** (Case 5C).

- Important to have **the right organisational behaviour and people skill set** (Case 5C).
- Important to have knowledge on **strategic sourcing, operations purchasing and dealing in low cost economies** (Case 5C).
- Important to demonstrate **high values and high personal standards that are self driven** (Case 5E).
- Important to understand **strategic supply management and category management** (Case AA).
- Understand three things in extreme detail - (1) business requirement, (2) what the market can offer the company, (3) genuinely understanding the product that the company is buying right down to the manufacturing process so that they can go back to the raw material and have a feel for the supplier's cost (Case AA).

## Training

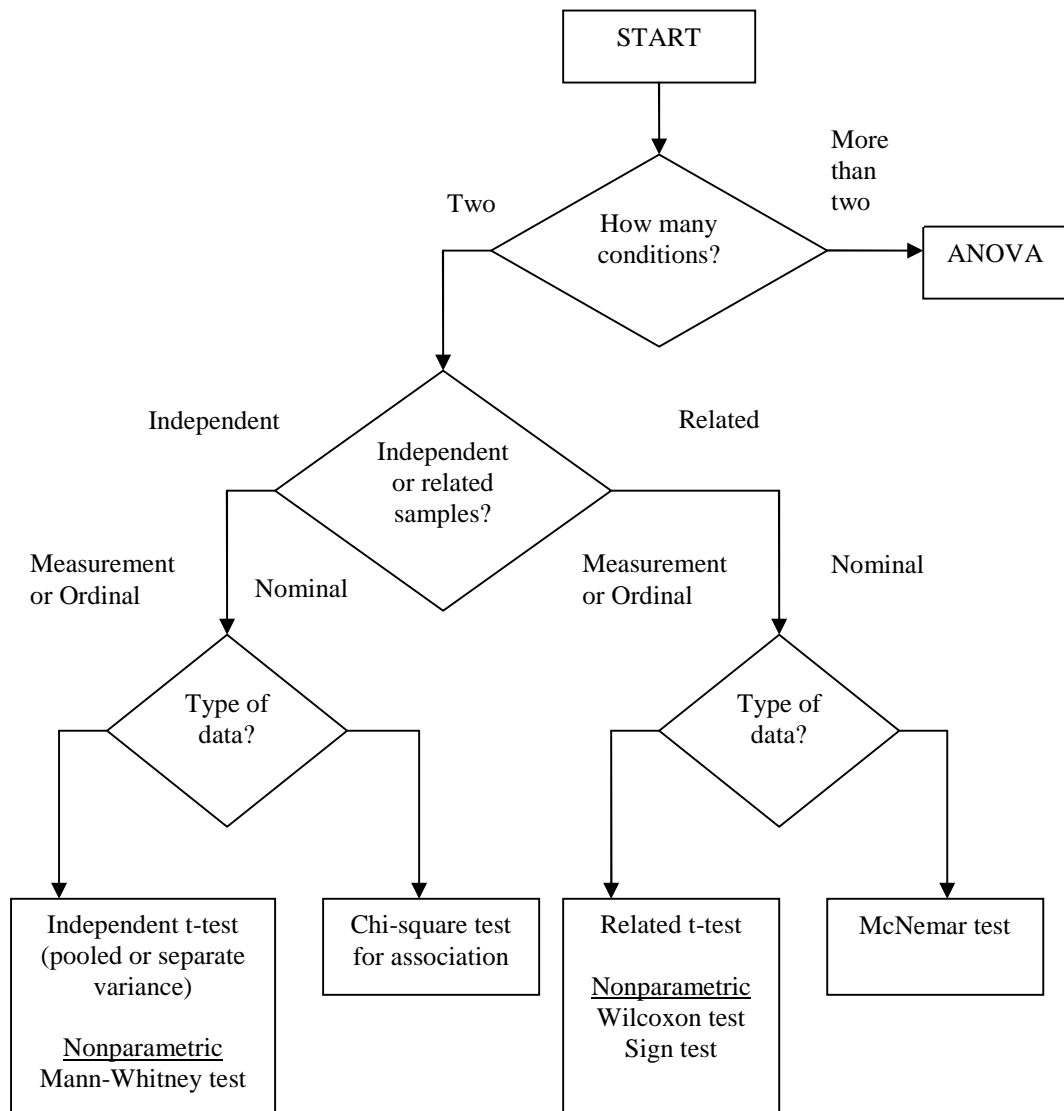
- **Training** on:
  - **negotiation** (Case 2A, 3A, 3B, 3E, 4B, 5A, 5D, 5E, BB)
  - **finance** (Case 2A)
  - **business awareness** (Case 2A)
  - **general business course** (Case 2A)
  - **interpersonal** (Case 2B)
  - **leadership** (Case 2B), **interpersonal skills** (Case 5C) to drive change and make things happen within the business
  - **project management** (Case 3A, 3E, AA)
  - **risk management** (Case 3A)
  - **supply chain management** (Case 3A, 3D, 4B)
  - **personal effectiveness** (Case 3A)
  - **contract knowledge** (Case 3B)
  - **purchasing law** (Case 3B)
  - **engineering related to products manufactured** (Case 3C)
  - **sub contract management** (Case 3D)
  - **supplier management** (Case 3D)
  - **purchasing and procurement** (Case 3E, 5A, 5B)
  - **practical problem solving** (Case 4A)
  - **value analysis and cost modelling** (Case 4A)
  - **contract management** (Case 4B)
  - **project management** (Case 4B)
  - **specifics of the industry** (Case 5A)
  - **program management** (Case 5C)
  - **language** (Case 5D)
  - **cultural awareness** (Case 5D)
  - **leadership techniques and development** (Case 5F, AA)
  - **psychological techniques** (Case 5F)
  - **reading body language** (Case 5F)
  - **soft skills** (Case 5F, 5G)

- **technical knowledge** (Case 5G)
  - **communication skills** (Case 5G, BB)
  - **category management** (Case AA)
  - **customer-facing skill** (Case AA)
- 
- Having experience through **on the job training** was considered as an important aspect (Case 3B, 4A, BB). In Case 4A, the company partners up more experienced personnel with somebody fairly new. The experienced personnel act as a **mentor** to oversee, support and coach the less experienced personnel. In Case 5E, the Vice President of Global Purchasing does a lot of coaching.
  - **Need to have good formal training** such as CIPS so that the employees fully understand the fundamentals of purchasing and supply chain (Case 3D, 4B).
  - Efforts to **retain and develop employees** through a structured training and development plan (Case 2B).
  - A **formal measurement of employee performance** was found to be conducted together with a **personal development plan** (Case 3C, 5E) of the employee (Case 2C, 3A, 5A, AA). This process is done through a discussion between a superior and the employee. The purpose of having the personal development plan is to allow the company to plan for future requirements. The assessment of employee performance was based on objectives that were determined the year before. The future objectives that are then planned for the next year will determine any training and development the employee needs to meet the objectives.
  - Case 3A makes sure that their personnel are qualified and motivated, so they put a lot of effort in personal development of their procurement personnel. They support employees by having **personnel development plans** so that they have the right skills.

## **OTHER FACTORS THAT WERE CONSIDERED AS IMPORTANT**

- Reward and recognition for the buyers.
- Having well defined needs in terms of common specifications that are clearly understood by the supplier. The specification covers how the product will be delivered, lead time and technical specifications.
- The sensitivity of the product can be a constraint when sourcing because of the nature of the product that is related to the defence industry. Thus, restricting and limiting from which countries and suppliers the company can source from.
- Raw material shortages can cause long lead times. Companies need to work with suppliers to make sure the supply of products doesn't suffer as a result of the supplier not being able to get raw material to manufacture a certain product.
- The company need to be aware when suppliers outsource to far off places. As the suppliers outsource, the supply chain becomes longer and the risks become much greater. This activity puts the company's business at risk. Companies can overcome this risk by building up strategic stocks of items to buffer themselves from the risks that the suppliers take.
- Patience and hard work.
- Need to respect other people's cultures and the way other people work.
- Need to be more globally aware, not just on cultural factors but also global politics and economics.
- Important to establish capable, credible, long term supply sources because of high technical content and safety concerns of customers of the end product.
- Hire and train and work with local people to have a local presence.
- Companies need to look at total overseas sourcing costs and not just taking into account piece price and product margin.
- Not just having a great sourcing strategy but also having the ability to implement the sourcing strategy.
- Purchasing personnel need to be in excellent communication with the engineering department.
- Cross functional team is needed between purchasing, operations and logistics to manage longer lead time, cost and quality challenges from global sourcing.
- In an ever changing market, companies need to respond and react accordingly in the context of what's best for the business.
- Understand what the company is buying, how difficult it is to buy it, how important it is to the company and how important the company is to the suppliers.
- Have all the skills in the organisation particularly communication and to understand culture.
- Face to face meetings are very important in order to understand the culture and building relationship with suppliers.
- The market for the product, the type of product (weight of product influence the cost of moving products around), the lead time required by the customer are important considerations when deciding where to source from.

**Appendix 10 – Flowchart showing the selection of a suitable test for differences between averages (Source: Kinnear and Gray, 2004)**





## Appendix 11 – Wilcoxon test results

### Wilcoxon test results for Level 2&3 companies

Factors	Gap score	Asymp Sig.	Significant
<b>Factor 1</b>			
(i) Top management support and commitment	-0.15	0.317	
(ii) Executive steering committee to guide the process	-0.15	0.380	
(iii) Cross-functional leaders participate on a global sourcing steering committee	0.2	0.417	
(iv) Designated executive has the authority to translate a global vision into reality	0.3	0.177	
(v) Global sourcing leaders make strategy presentations to the executive committee and board of directors	0.6	0.008	√
<b>Factor 2</b>			
(i) Planning for global sourcing	0.85	0.003	√
(ii) A well-defined process is in place	0.8	0.005	√
(iii) “Lessons learned” sessions are conducted and findings are distributed	1.1	0.005	√
(iv) Global agreements are continuously reviewed	0.65	0.046	√
(v) Foreign supplier qualification methods defined	0.7	0.012	√
<b>Factor 3</b>			
(i) Executives make critical resources available to support global initiatives	0.45	0.083	X
(ii) The process involves individuals who have the ability to take a global sourcing perspective	0.5	0.019	√
(iii) Availability of required information	1	0.007	√
(iv) Availability of suppliers that are interested in global contracts and have global capabilities	0.15	0.564	
(v) Obtaining expert assistance	0.4	0.033	√
<b>Factor 4</b>			
(i) Data warehouses provide access to required information on a real-time basis	0.4	0.194	X
(ii) A companywide intranet provides access to information related to global sourcing activities	0.1	0.711	
(iii) Ability to identify common requirements across buying units	0.5	0.108	X
(iv) Common part coding system across buying units	0.2	0.377	
(v) Compatible information systems with suppliers	0.35	0.052	
<b>Factor 5</b>			
(i) Use of cross-functional teams to develop global strategies	0.45	0.029	√
(ii) A formal executive steering committee oversees the global sourcing process	0.55	0.020	√
(iii) Organisational design includes the separation of strategic and operational activities	0.75	0.066	X
(iv) Establishing foreign buying offices	0.15	0.530	
(v) Foreign buying offices support global sourcing requirements	0.4	0.046	√
<b>Factor 6</b>			
(i) Advanced communication and coordination tools are available	0.5	0.100	X

(ii) Project teams meet regularly to coordinate efforts	0.35	0.107	
(iii) Project teams regularly report progress to executive leaders	0.2	0.449	
(iv) Establishing long-term relationships with suppliers	0.55	0.005	√
(v) Direct site visits to suppliers	0	0.957	
<b>Factor 7</b>			
(i) Ability to measure performance improvements or benefits from global sourcing	1.1	0.000	√
(ii) Global sourcing participants meet regularly with executive leaders to review savings	0.7	0.004	√
(iii) Measurement systems support the calculation of companywide savings	1	0.003	√
(iv) Measurement systems support the calculation of the impact sourcing initiatives have on corporate financial measures	1.15	0.004	√
(v) Measurement systems support the calculation of the return on investment for individual projects	1.55	0.000	√
<b>Factor 8</b>			
(i) Developing the skills unique to global sourcing	0.95	0.010	√
(ii) Developing communication skills	1.3	0.001	√
(iii) Developing knowledge on exchange rates	0.55	0.085	X
(iv) Developing knowledge on foreign business practices	1.2	0.000	√
(v) Understanding global opportunities	1.45	0.000	√

The lowest gap cut off point is  $\geq 0.4$

(√) Significant when the Asymp Sig. is  $< 0.05 = 22/40 = 55\%$

(X) Subfactors that have gaps more than 0.4 but was not significant =  $6/40 = 15\%$

### Wilcoxon test results for Level 4&5 companies

Factors	Gap score	Asymp Sig.	Significant
<b>Factor 1</b>			
(i) Top management support and commitment	0.45	0.034	√
(ii) Executive steering committee to guide the process	0.35	0.129	
(iii) Cross-functional leaders participate on a global sourcing steering committee	0.15	0.475	
(iv) Designated executive has the authority to translate a global vision into reality	0.5	0.088	X
(v) Global sourcing leaders make strategy presentations to the executive committee and board of directors	0.3	0.262	
<b>Factor 2</b>			
(i) Planning for global sourcing	0.25	0.166	
(ii) A well-defined process is in place	0.45	0.058	X
(iii) "Lessons learned" sessions are conducted and findings are distributed	1.05	0.009	√
(iv) Global agreements are continuously reviewed	0.9	0.005	√
(v) Foreign supplier qualification methods defined	0.5	0.087	X
<b>Factor 3</b>			
(i) Executives make critical resources available to support global initiatives	0.55	0.166	X
(ii) The process involves individuals who have the ability to take a global sourcing perspective	0.5	0.058	X
(iii) Availability of required information	1.1	0.009	√
(iv) Availability of suppliers that are interested in global contracts and have global capabilities	0.85	0.005	√
(v) Obtaining expert assistance	0.1	0.087	
<b>Factor 4</b>			
(i) Data warehouses provide access to required information on a real-time basis	0.45	0.185	X
(ii) A companywide intranet provides access to information related to global sourcing activities	-0.1	0.627	
(iii) Ability to identify common requirements across buying units	0.85	0.006	√
(iv) Common part coding system across buying units	1.1	0.032	√
(v) Compatible information systems with suppliers	0.75	0.017	√
<b>Factor 5</b>			
(i) Use of cross-functional teams to develop global strategies	0.65	0.005	√
(ii) A formal executive steering committee oversees the global sourcing process	0.35	0.223	
(iii) Organisational design includes the separation of strategic and operational activities	0.3	0.161	
(iv) Establishing foreign buying offices	-0.15	0.719	
(v) Foreign buying offices support global sourcing requirements	0.25	0.319	
<b>Factor 6</b>			
(i) Advanced communication and coordination tools are available	-0.05	0.710	
(ii) Project teams meet regularly to coordinate efforts	0.35	0.083	
(iii) Project teams regularly report progress to executive	0.3	0.109	

leaders			
(iv) Establishing long-term relationships with suppliers	0.65	0.033	√
(v) Direct site visits to suppliers	0.25	0.272	
<b>Factor 7</b>			
(i) Ability to measure performance improvements or benefits from global sourcing	0.7	0.005	√
(ii) Global sourcing participants meet regularly with executive leaders to review savings	0.15	0.490	
(iii) Measurement systems support the calculation of companywide savings	0.65	0.041	√
(iv) Measurement systems support the calculation of the impact sourcing initiatives have on corporate financial measures	0.5	0.083	X
(v) Measurement systems support the calculation of the return on investment for individual projects	0.8	0.009	√
<b>Factor 8</b>			
(i) Developing the skills unique to global sourcing	0.5	0.021	√
(ii) Developing communication skills	0.35	0.210	
(iii) Developing knowledge on exchange rates	0	0.963	
(iv) Developing knowledge on foreign business practices	0.8	0.001	√
(v) Understanding global opportunities	0.8	0.003	√

The lowest gap cut off point is  $\geq 0.4$

(√) Significant when the Asymp Sig. is  $< 0.05 = 16/40 = 40\%$

(X) Subfactors that have gaps more than 0.4 but was not significant =  $7/40 = 17.5\%$

## Appendix 12: Identification of the overall sourcing level (Section 2 of Tool 1.1)

### **SECTION (2) – GLOBAL SOURCING PRACTICES FOR EACH LEVEL**

**(please tick only one box in each practice):**

<b>(1) Executive commitment to global sourcing</b>	<b>Level 2:</b> Limited commitment to purchase internationally.	<b>Level 3:</b> Top management support of international purchasing emerges.	<b>Level 4:</b> There are designated executive leaders appointed to coordinate global sourcing efforts.	<b>Level 5:</b> Cross-functional leaders participate on a global sourcing steering committee to coordinate global sourcing efforts.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(2) Rigorous and well-defined process</b>	<b>Level 2:</b> Informal international purchasing process exists.	<b>Level 3:</b> Decentralised international purchasing process exists, where different groups use their own tailored process.	<b>Level 4:</b> A common global sourcing process exists across worldwide locations.	<b>Level 5:</b> A well-defined process is in place that requires global participants to establish goals, meet milestones and report progress to executive leaders.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(3) Availability of needed resources</b>	<b>Level 2:</b> Limited resources are allocated for international purchasing activities.	<b>Level 3:</b> Resources can be made available should a new opportunity arises.	<b>Level 4:</b> Trade-offs are made on resources between worldwide locations.	<b>Level 5:</b> Executive leaders make critical resources (such as budgets and personnel) available to support global initiatives.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(4) Integration through information technology</b>	<b>Level 2:</b> Limited need for integration through technology.	<b>Level 3:</b> Some form of information system exists to facilitate exchanges of information.	<b>Level 4:</b> An integrated information system has been established to facilitate global sourcing initiatives.	<b>Level 5:</b> A fully integrated information system links sourcing activities with other functional groups (new product development, engineering, operations, marketing) from worldwide locations.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>(5) Supportive organisational design</b>	<b>Level 2:</b> The organisational structure supports limited international purchasing activities.	<b>Level 3:</b> International purchasing exists but are not well coordinated across worldwide buying sites.	<b>Level 4:</b> An organisational structure that coordinates global sourcing activities has been established across worldwide locations.	<b>Level 5:</b> An organisational structure that coordinates global sourcing activities across worldwide locations and with other functional groups.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(6) Structured approaches to communication</b>	<b>Level 2:</b> Limited communication and coordination between departments, for international purchasing activities.	<b>Level 3:</b> A standard procedure has been established across departments, for international purchasing activities.	<b>Level 4:</b> The integration and coordination across worldwide buying locations are facilitated by a structured communication approach.	<b>Level 5:</b> The integration and coordination across worldwide buying locations and functional groups are facilitated by an advanced and extensive communication approach.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(7) Methodologies for measured savings</b>	<b>Level 2:</b> No standard guidelines for measuring and validating savings from international purchasing initiatives.	<b>Level 3:</b> There are some general guidelines for measuring and validating savings from international purchasing initiatives.	<b>Level 4:</b> There is a set of guidelines for measuring and validating savings from global sourcing initiatives.	<b>Level 5:</b> There is a comprehensive system for measuring and validating savings from global sourcing initiatives.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>(8) Qualified personnel</b>	<b>Level 2:</b> Personnel have limited skills and experience in purchasing internationally.	<b>Level 3:</b> Personnel involved are required to have some knowledge and the skills to purchase internationally.	<b>Level 4:</b> Personnel have knowledge and experience to implement and manage global sourcing efforts.	<b>Level 5:</b> Involves individuals who can view supply markets from a worldwide perspective while collaborating across functional boundaries.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix 13: Global Sourcing Practices Questionnaire (Tool 2.1)

### **GLOBAL SOURCING PRACTICES QUESTIONNAIRE (TOOL 2.1)**

**Instruction:** Please read each item carefully, and then circle the answer that best represents your opinion.

<b>1. Executive commitment to global sourcing</b>	Please indicate the degree to which your firm currently has implemented the following practices.				
	<b>Not Implemented</b>			<b>Broadly Implemented</b>	
(i) Top management support and commitment to source worldwide	1	2	3	4	5
(ii) An executive steering committee to guide the process	1	2	3	4	5
(iii) Cross-functional leaders participate on a global sourcing steering committee or council	1	2	3	4	5
(iv) A designated executive has the authority to translate a global vision into reality	1	2	3	4	5
(v) Global sourcing leaders make strategy presentations to the executive committee and to the board of directors	1	2	3	4	5

<b>2. Rigorous and well-defined processes</b>	Please indicate the degree to which your firm currently has implemented the following practices.				
	<b>Not Implemented</b>			<b>Broadly Implemented</b>	
(i) Planning for global sourcing	1	2	3	4	5
(ii) A well-defined process is in place that requires participants to establish goals, meet milestones and report progress to executives	1	2	3	4	5
(iii) "Lessons learned" sessions are conducted at the conclusion of each project, and findings are distributed to worldwide participants	1	2	3	4	5
(iv) Global agreements are continuously monitored, reviewed and reestablished as required	1	2	3	4	5
(v) Foreign supplier certification / qualification methods defined	1	2	3	4	5

<b>3. Availability of needed resources</b>	Please indicate the degree to which your firm currently has implemented the following practices.				
	<b>Not Implemented</b>			<b>Broadly Implemented</b>	
(i) Executives make critical resources, such as budgets and qualified participants, available to support global initiatives	1	2	3	4	5
(ii) The process involves individuals who have the ability to take a global sourcing perspective rather than a local or regional perspective	1	2	3	4	5
(iii) Availability of required information and data	1	2	3	4	5
(iv) Availability of suppliers that are interested in global contracts and have global capabilities	1	2	3	4	5
(v) Obtaining expert assistance or support	1	2	3	4	5

<p><b>4. Integration through information technology</b></p>	<p>Please indicate the degree to which your firm currently has implemented the following practices.</p> <p><b>Not Implemented</b>                      <b>Broadly Implemented</b></p>
(i) Data warehouses provide access to required data and information on a real-time basis	<p>1    2    3    4    5</p>
(ii) A companywide intranet provides access to global sourcing support documents, guidelines, templates and progress updates	<p>1    2    3    4    5</p>
(iii) Ability to identify common requirements across buying units	<p>1    2    3    4    5</p>
(iv) Common part coding system across buying units	<p>1    2    3    4    5</p>
(v) Compatible information systems with suppliers	<p>1    2    3    4    5</p>
<p><b>5i. Supportive organisational design</b></p>	<p>Please indicate the degree to which your firm currently has implemented the following practices.</p> <p><b>Not Implemented</b>                      <b>Broadly Implemented</b></p>
(i) Use of cross-functional teams to develop global strategies	<p>1    2    3    4    5</p>
(ii) A formal executive steering committee oversees the global sourcing process	<p>1    2    3    4    5</p>
(iii) Organisational design includes the separation of strategic activities (such as global sourcing) and operational activities (such as the routine reordering of material)	<p>1    2    3    4    5</p>
<p><b>5ii. Foreign buying offices establishment and support</b></p>	<p>Please indicate the degree to which your firm currently has implemented the following practices.</p> <p><b>Not Implemented</b>                      <b>Broadly Implemented</b></p>
(i) Establishing foreign buying offices	<p>1    2    3    4    5</p>
(ii) Foreign buying offices support global sourcing requirements	<p>1    2    3    4    5</p>
<p><b>6. Structured approaches to communication and relationship building with suppliers</b></p>	<p>Please indicate the degree to which your firm currently has implemented the following practices.</p> <p><b>Not Implemented</b>                      <b>Broadly Implemented</b></p>
(i) Advanced communication and coordination tools are available (videoconferencing & Web-based collaboration tools)	<p>1    2    3    4    5</p>
(ii) Project teams meet regularly to coordinate efforts (either face-to-face or electronically)	<p>1    2    3    4    5</p>
(iii) Project teams regularly report progress to executive leaders	<p>1    2    3    4    5</p>
(iv) Establishing long-term relationships with suppliers	<p>1    2    3    4    5</p>
(v) Direct site visits to suppliers	<p>1    2    3    4    5</p>

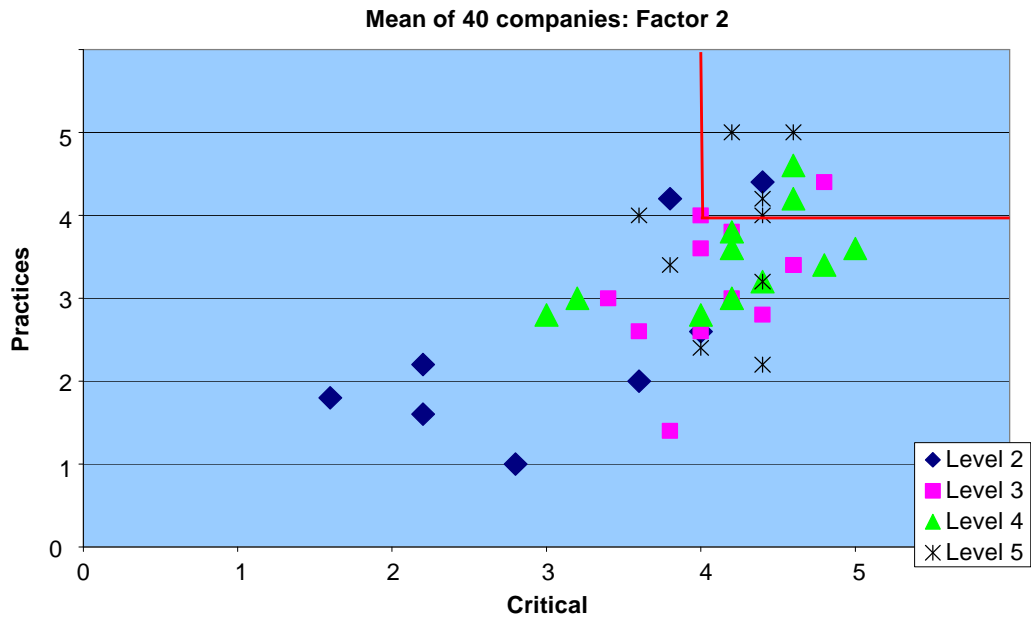


<b>7. Methodologies for measuring savings or performance</b>	Please indicate the degree to which your firm currently has implemented the following practices.				
	<b>Not Implemented</b>			<b>Broadly Implemented</b>	
(i) Ability to measure and evaluate performance improvements or benefits from global sourcing	1	2	3	4	5
(ii) Global sourcing participants meet regularly with executive leaders to review savings	1	2	3	4	5
(iii) Measurement systems support the calculation of companywide savings	1	2	3	4	5
(iv) Measurement systems support the calculation of the impact that sourcing initiatives have on corporate financial measures (e.g. return on assets)	1	2	3	4	5
(v) Measurement systems support the calculation of the return on investment for individual projects	1	2	3	4	5

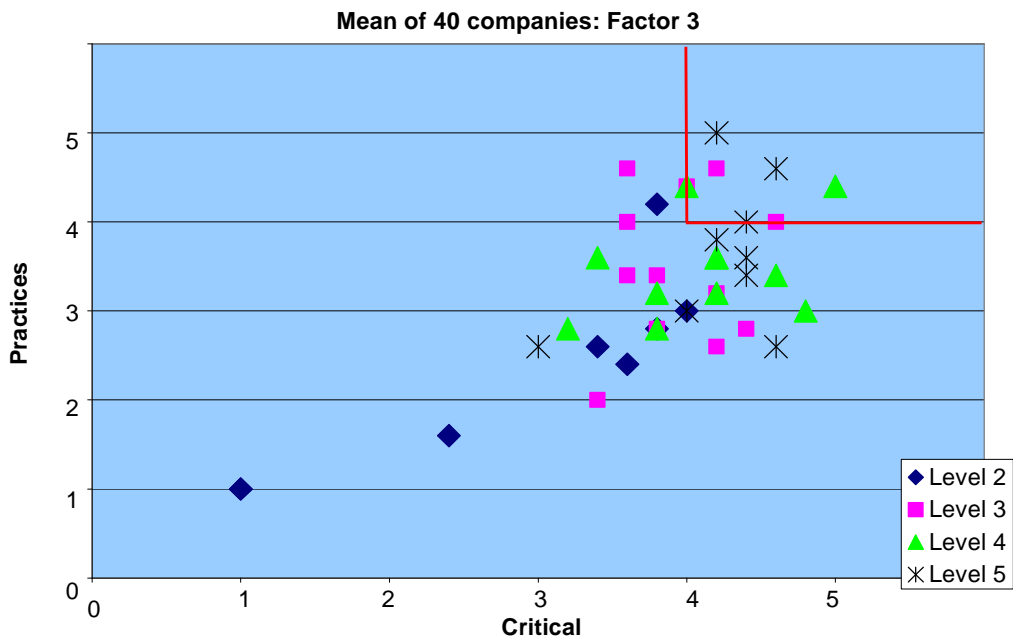
  

<b>8. Qualified personnel</b>	Please indicate the degree to which your firm currently has implemented the following practices.				
	<b>Not Implemented</b>			<b>Broadly Implemented</b>	
(i) Developing the skills unique to international purchasing and global sourcing	1	2	3	4	5
(ii) Developing communication skills	1	2	3	4	5
(iii) Developing knowledge on exchange rates	1	2	3	4	5
(iv) Developing knowledge on foreign business practices or customs	1	2	3	4	5
(v) Understanding global opportunities	1	2	3	4	5

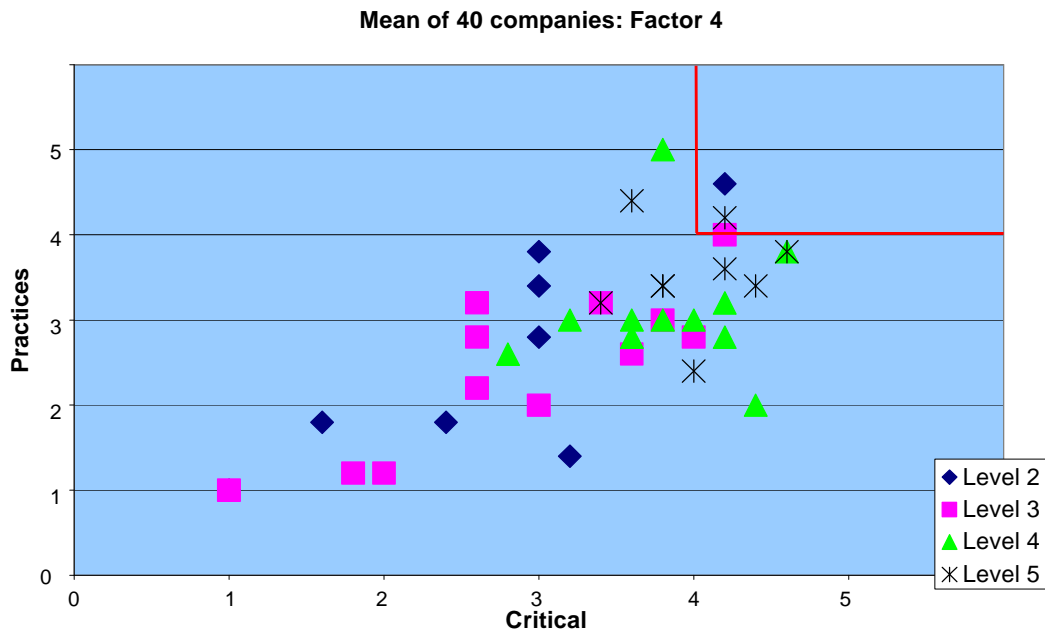
**Appendix 14: Mean to calculate leading practices score of 40 companies for Factor 2, 3, 4, 5, 6, 7 and 8**



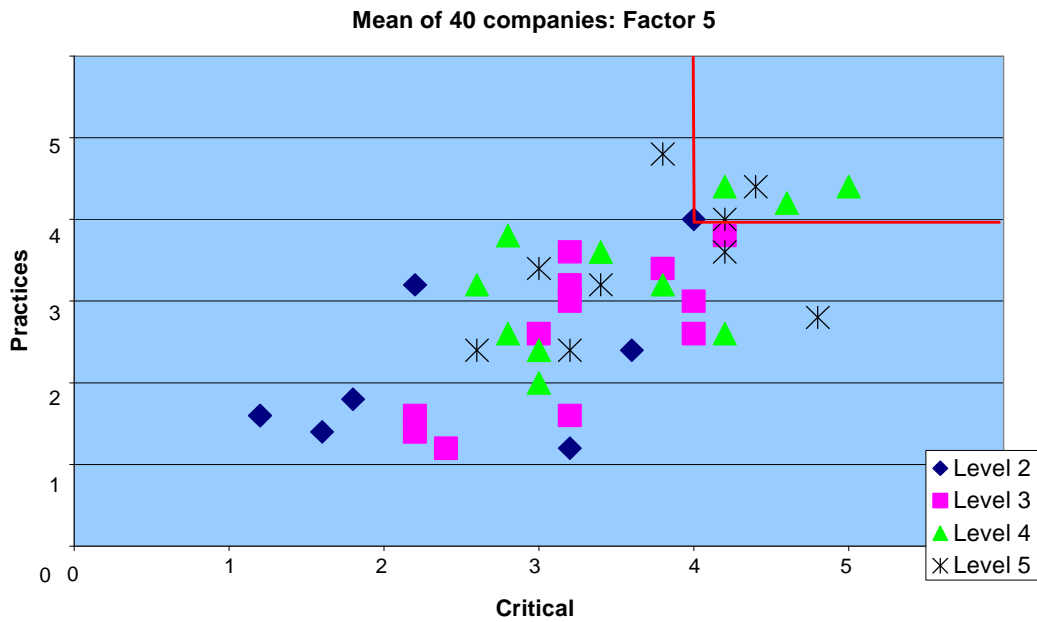
Leading practices score for Factor 2 =  $\frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{39.8}{9} = 4.42$



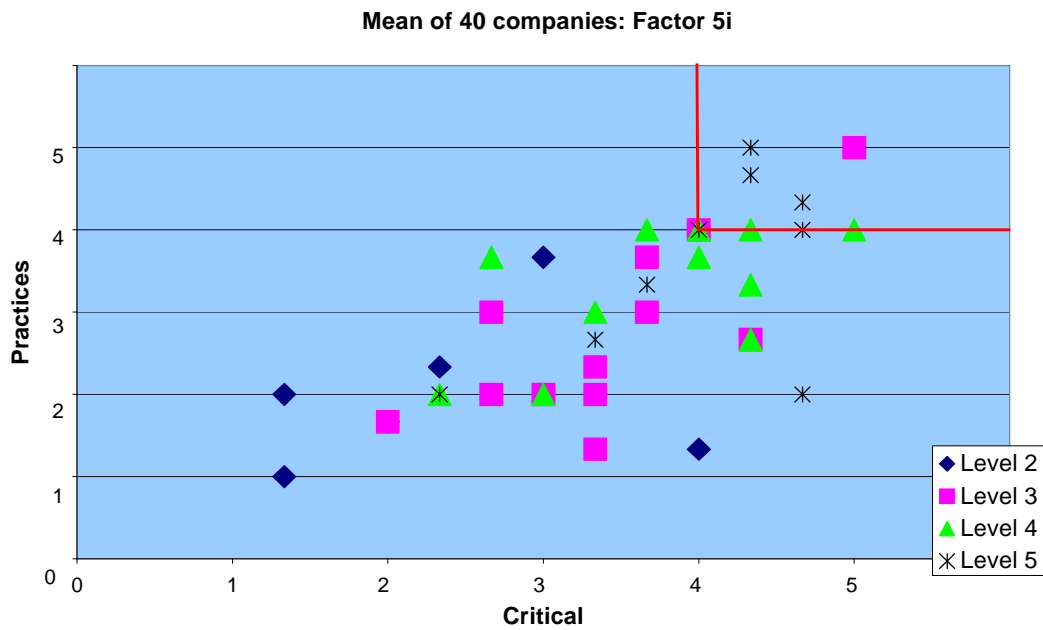
Leading practices score for Factor 3 =  $\frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{35.4}{8} = 4.43$



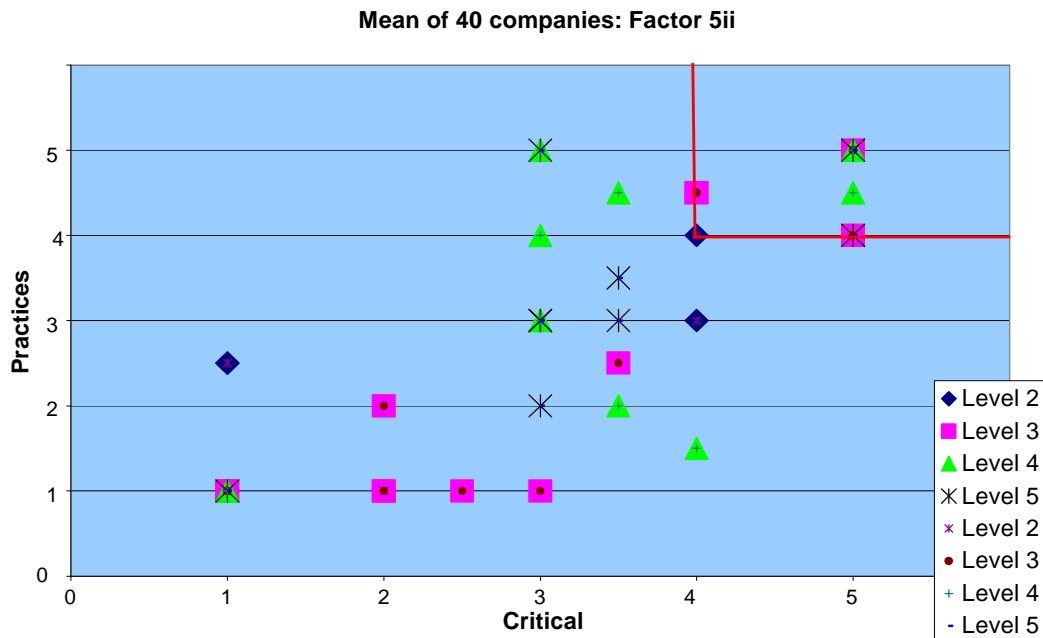
Leading practices score for Factor 4 =  $\frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{12.8}{3} = 4.27$



Leading practices score for Factor 5 =  $\frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{25.4}{6} = 4.23$

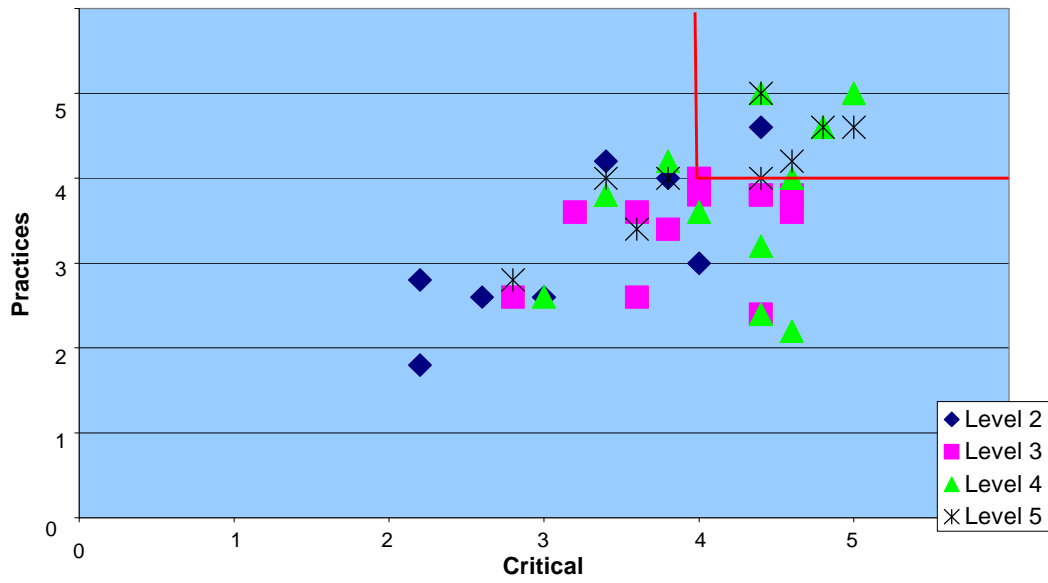


Leading practices score for Factor 5i =  $\frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{47}{11} = 4.27$



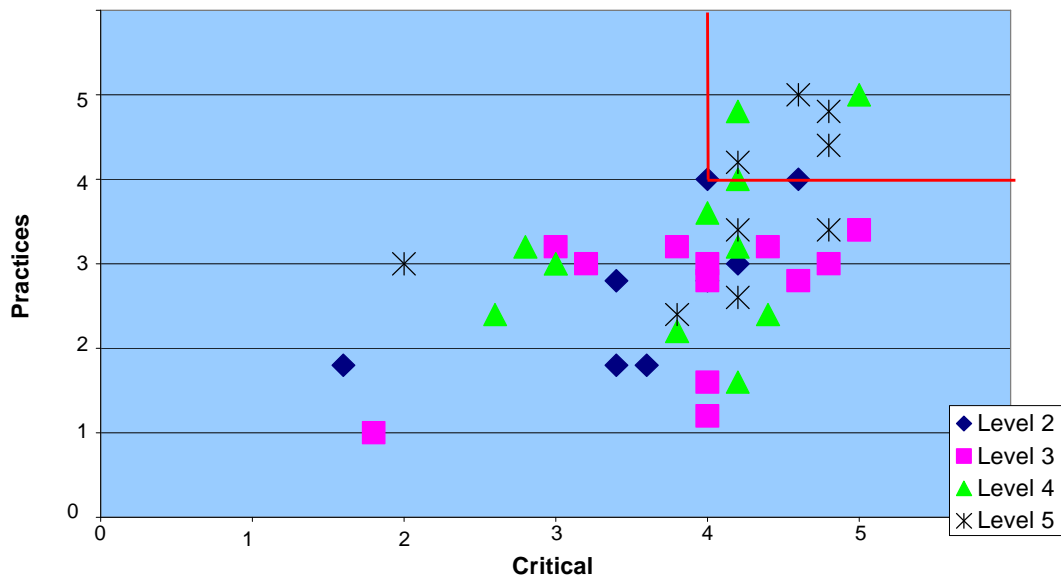
Leading practices score for Factor 5ii =  $\frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{45.5}{10} = 4.55$

Mean of 40 companies: Factor 6



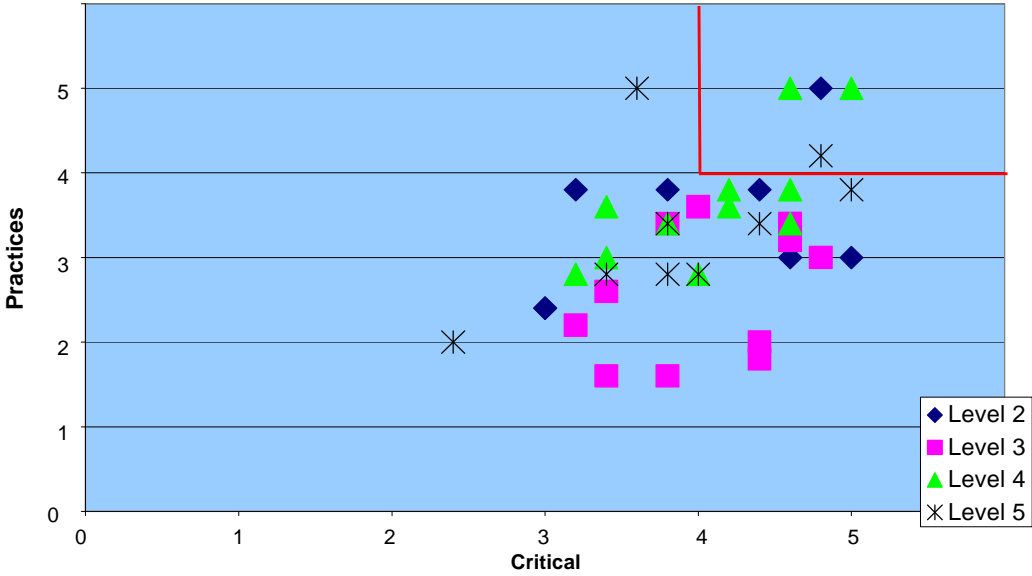
$$\text{Leading practices score for Factor 6} = \frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{49.6}{11} = 4.51$$

Mean of 40 companies: Factor 7



$$\text{Leading practices score for Factor 7} = \frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{40.2}{9} = 4.47$$

Mean of 40 companies: Factor 8



Leading practices score for Factor 8 =  $\frac{\text{Total practices score}}{\text{No of selected companies}} = \frac{19.2}{4} = 4.8$



