

**The Determinants of Knowledge Transfer in
Turkish Textile and Apparel Industry**

By

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Dedication

*My Mother and Father
&
Special dedication to my director of studies.*

The Determinants of Knowledge Transfer in Turkish Textile and Apparel Industry

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Abstract:

The knowledge transfer activities in Turkish Textile and Apparel Industries have been explored in this study. The knowledge transfer is undisputedly important subjects as knowledge provides competitive advantage to firms. Only few percentages of the Turkish textile and apparel industries are engaged in knowledge transfer activity although it is recorded as the largest industry in Turkish economy. Turkish textile and apparel industries are mostly run by family and most of them are either unaware or reluctant to involve in the knowledge transfer activities. This study examines the knowledge transfer activities in Turkish SMEs through qualitative research and quantitative analysis by undertaking extensive literature reviews and present situation in Turkey and proposes hypotheses to test the knowledge transfer activities in Turkish SMEs. The proposed hypotheses consider various related factors (determinants) such as knowledge sharing, organisational culture, communication channel, knowledge acquisition and IT resource to analyse the overall scenario of knowledge transfer behaviour in Turkish textile and apparel industries. The analysis results indicate that in case of Turkish textile and apparel industries, the pattern of knowledge transfer activities are different from the available literature and mostly affected by local environments. This report points out several thought provoking findings and concludes with recommendation for researchers and practitioners.

The work presented in this thesis suggests a novel way forward in the development of knowledge transfer activities in Turkish textile and apparel industries and, therefore it is considered that the work constitutes a valuable contribution to knowledge in this area of study. Also, there are a number of ways in which the work presented in this thesis can be extended to many other challenging domains.

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List of Abbreviations

KT	Knowledge Transfer
TOBB	The Union of Chambers and Commodity Exchanges of Turkey
CAGR	Compound Annual Growth Rate
SMEs	Small and Medium Enterprises
GDP	Gross Domestic Product
OECD	Organisations for Economic Co-operation and Development
KOSGEB	Small and Medium Sized Industry Development Organization
R&D	Research and Development
EU	European Union
TGSD	Turkish Clothing Manufacturers Association
ITKIB	Istanbul Textile and Apparel Exporter Associations
WTO	World Trade Organisation
MFA	Multi-Fibre Agreement
IGEME	Export Promotion Centre of Turkey
SOEs	State Owned Enterprises
ELG	Export-led Growth
SIS	State Institute for Statistics
USD	US Dollar
DEIK	Foreign Economic Relations Board
SPSS	Statistical Package for the Social Sciences
ITO	Istanbul Chamber of Commerce
KM	Knowledge Management
KMS	Knowledge Management System
SECI	Socialisation, externalisation, combination and internalisation
IC	Intellectual Capital

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Author's Declaration


I hereby declare that this thesis is my own work and that to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the qualification or any other degree or diploma of a university or other institution of higher learning, except where due acknowledgement is made in the study.

The following activities, pertaining to the programme of related study, have been undertaken:

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 2. Datta, Palto, Chowdhury, Dababrata, Bonya R Chakraborty. (2005). Viral Marketing: New form of Word-of-Mouth through Internet. *The Business Review*, Cambridge, 3(2), 69-75.
- VIII. **Attendance at various conference and presenting relevant research work**
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- 2- **Chowdhury, Dababrata, Butel, Lynne (2008)** Knowledge Transfer Through Networks: the case of Turkish Small and Medium Sized Enterprise (SMEs) development and survival. The GBATA Tenth Annual International Conference, July 8 – 12, 2008, in Madrid, Spain.
- 3- **Chowdhury, Dababrata, Butel, Lynne (2008)**: Knowledge Transfer through Networks: the case of Turkish SMEs .4th International Strategic Management (ISM) Conference 18-21 June, 2008, Sarajevo, Bosnia-Herzegovina.
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- 5- **Esra, Arikan, Dababrata. Chowdhury, I. Hakki Eraslan (2007)** Business-to-business Marketing and Competitive advantage: International 6th Knowledge, Economy and Management Congress, December 26-28, 2007, Istanbul. TURKEY
- 6- **Chowdhury, D, Butel, L, Mishra A' Bulbul, H, Durna, U (2007)**: Managing innovation and knowledge transfer in Turkish manufacturing firms. For International Business and Local Development and Science –Technology, 33rd EIBA Annual Conference, 2007, Catania, ITALY.
- 7- **Chowdhury, Dababrata. (2007)**: Knowledge Transfer between Turkey's Small to Medium-Sized Enterprises (SMEs): A Network Approach .Proceeding of the Plymouth Business school and school of Sociology, Politics and Law, Postgraduate symposium, 2007. UK
- 8- **Chowdhury, Dababrata, Butel, Lynne. (2007)**. Knowledge Transfer-A Network Approach To Turkey's Small and Medium Sized Enterprises (SMEs): 3rd International Strategic Management Conference 2007. Antalya, TURKEY
- 9- **Chowdhury, Dababrata. (2006)**: knowledge transfer between EUROPE and ASIA: is Turkey a bridge Between Networks. Proceeding of the Plymouth Business school and school of Sociology, Politics and Law, Postgraduate symposium, 2006. UK
- 10- **Datta, Palto, Chowdhury, Dababrata, Bonya R Chakraborty. (2005)**. *Viral Marketing: New form of Word-of-Mouth through Internet*. The Global Management & Information Technology Research Conference 2005, New York, USA

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Chapter 1

Introduction

'Knowledge has emerged as the most strategically-significant resource of the firm' (Grant, 1996, p.375)

1.1: Motivation

The primary motivation behind this thesis is that knowledge is a key strategic resource and a topic of interest in international management and business research. Much of the research to date (Davenport, 2000; Nonaka, 1994; Szulanski,2000;Uzzi,1997;Lam,1997; Dyer & Nobeoka, 2000; Grotenhuis & Weggeman; 2002; Gupta & Govindarajan 2000a; Lam, 1997; Simonin, 1999; Zander & Kogut, 1995) indicated achieving success through knowledge transfer and already is in use in many big enterprises around the World. For example, Toyota utilised effective knowledge transfer for its success (Dyer and Nobeoka, 2000). Simonin (1999) addressed the key role of knowledge transfer in international strategic alliances. Gupta and Govindarajan's (2000a) explained that a positive association between firms is motivated by knowledge transfer. Knowledge is a key element of creating and sustaining competitive advantage for any organisation (Bartlett & Ghoshal, 1991; Gupta & Govindarajan, 2000a) and link to the success of an individual firm (Dyer & Nobeoka, 2000; Dyer & Singh, 1998; Gupta & Govindarajan, 2000a; Zack, 1999). The need of knowledge transfer is further magnified and effective knowledge transfer becomes increasingly critical in this competitive environment (Bhagt, Kedia, Harveston & Triandis, 2002; Hansen, 2002). The importance of knowledge transfer at present time in the global market scenario thus motivated me to do research in this field.

Textile industry had encouraged world's industrialisation progress and now has significant amount of market share in world trade. The researcher belongs to the country of Bangladesh which has one of the largest textile and apparel industry but mostly run in family environment and lack modern technology. Some of the industries (mostly Tea

-www.teaboard.gov.bd/) in Bangladesh are already using knowledge transfer and highly successful globally. The researcher wanted to promote knowledge transfer activities in textile and apparel industries to make it globally competitive and initially started by considering Bangladesh's textile and apparel SMEs. This study required face to face interviews and follow up for quantitative data collection and researcher needed to travel Bangladesh and used various means to be in touch with them regularly. Because of geographical distance and inappropriate facilities of communications and the potential risk of researcher becoming a respondent, it was decided to conduct this study for Turkish textile and apparel industry instead of Bangladesh. Researcher has spent some time in Turkey for his graduate degree and is well familiar with the language and culture. Turkey is also placed in an important geographical location and a bridge between Asia and Europe and Turkish textile and apparel industries is also recorded as the largest industry for Turkey economy and mostly run by family. These promoted the researcher to conduct this study for Turkish textile and apparel industries and some of the other factors related to Turkish textile and apparel industries adding to the researcher motivation are explained next.

Textile and apparel sector in Turkey has played a vital role in the industrialisation process and market orientation of the economy in the last three decades. The sector is regarded as a key *locomotive industry*, pulling the country's progress along since the 1980s. Therefore, the sector is currently one of the most important sectors and described as the backbone of the Turkish economy with its share in the economic indicators. Turkish textile and apparel industry has grown rapidly and shifted from low value added commodities to high value added manufacturing goods. As a result of these developments, Turkey has a notable share in world textile and apparel trade. Turkish textile export performance of the sector in the world trade is 3%, and share of apparel

export rate is around 5%. In other words, Turkey is the 4th biggest apparel supplier and 11th textile supplier in the world in 2005 (ITKIB. 2006). As presented in Table 2.6 export rate of Turkish textile and apparel industry showed a steady increase from 1997 to 2007, and comprised 21.3% in total Turkish exports. According to the estimates of experts' opinions which are obtained from field research for this study and TGSD. it is estimated that there are more than 2 million workers employed in the Turkish textile and apparel industry and it recorded as the largest industry for Turkish economy (TGSD, 2008).

This thesis focuses on the process of knowledge transfer and its determinant factors that determine its effectiveness for Turkish textile and apparel industries. In summary, the research in this thesis is based on the understanding that knowledge transfer in a Turkish textile and apparel industry is critical to an organisation's success, and that there is a need for more empirical investigation of knowledge transfer. In this research, an attempt is made to clarify the growing importance of knowledge transfer through determinant factors to the development of textile and apparel industry in Turkey.

1.2: Aims and Objectives

Knowledge transfer activities have recently received a great deal of interest, mostly because of advancement in information technology. Successful implementation of knowledge transfer in any organisation provides competitive advantages in the global market. Turkish textile and apparel industries recorded as the largest industry of Turkish economy. However, until now, there are very limited report has been compiled to study the importance of knowledge transfer and its activities in this industry.

The overall aim of this thesis is to develop the determinants of knowledge transfer in the Turkish textile and apparel industries. This study investigates three steps of knowledge

transfer in Turkish textile and apparel industries: 1) The kind of knowledge in SME's, 2) The choice of means for knowledge transfer and 3) the acquisition and distribution of knowledge. The research investigates the relationship of various related factors with knowledge transfer to explain the importance of knowledge transfer process in Turkish textile and apparel industries.

The main objectives of this study are:

- To study brief history of Turkey to establish geographical, social, cultural and political link
- To study the working pattern of Turkish SMEs and Textile and Apparel Industry to obtain the first hand idea
- To discuss knowledge transfer process in general to see the global trend
- To show the importance of knowledge transfer and to identify the overall scenario of knowledge transfer in Turkish Textile and Apparel Industry

The results will be based on an empirical study of 265 textile and apparel companies in Turkey. The following questions is formulated to do the empirical analysis and to find the determinants of knowledge transfer in Turkish textile and apparel industry.

How and to which extent can knowledge-transfer influence by ideas obtained from supplier and buyer for benefits of knowledge transfer?

Are there any barriers in transfer of knowledge? What risks and obstacles are present in knowledge transfer implementation?

How the knowledge transfer is related to organisation culture and communication channels? How can company acquire knowledge and up to what extents it helps in knowledge transfer?

Which IT resources and up to what extents and forms that helps in knowledge transfer?

1.3: Outline of the Thesis

This research is divided into eight chapters. The first chapter provides an introduction of the thesis, aims and objective and importance and major contribution for this research and also explains the contents of each chapter.

Chapter two describes the background of Turkey with its historical, geographical and infrastructural point of view. The structure of SMEs in Turkey is described with detail analysis of Turkish textile and apparel industries. The contribution of these SMEs and lack of facilities in their progress is also discussed.

Chapter three focuses on detail literature reviews covering strategic management, knowledge management, knowledge creation, knowledge transfer and networking and importance of these for SMEs. The review then examines the basic concepts in knowledge creation, sharing and transfer and the need of the knowledge transfer activities in SMEs. The barriers and obstacles in knowledge transfer are detailed in case of SMEs. This chapter forms the basis of further contribution for analysing the different determinants necessary for the successful knowledge transfer in Turkish SMEs.

Chapter four contents the formulation of different hypotheses on the basis of qualitative research, scholarly views and considering the present situation in Turkey to test the behavioural pattern of knowledge transfer in Turkish SMEs. Various determinants related to knowledge transfer are discussed and five hypotheses with thirteen sub-hypotheses are developed to test the knowledge transfer in Turkish textile and apparel industries.

Chapter five explains the research methodological approach including choice of design, ethical issues, role of researcher, importance of research design, selection of interviewees, interview design and techniques and reference selection. It explains how the qualitative research is based on face to face interview then quantitative research is based on the similar concepts combined with available literatures and present situation in Turkey. A discussion is provided on the qualitative research method and the data collection techniques used in this research. The research framework used for the qualitative is extended to accommodate the quantitative analysis. Finally, the method used for data analysis and some discussion on validity and reliability are provided.

Chapter six describes the qualitative analysis of the data collected through face to face interview followed by quantitative analysis. It describes the questionnaires and uses statistical tools to analyse the pattern in data. This chapter then outlines the data analysis method.

Chapter seven combines the theoretical framework developed earlier with the empirical findings and reports the analytical conclusions. Statistical tools are used to check the reliability of the data for internal consistency, correlation between variables and testing of hypotheses using ANOVA, Chi-square and Crosstabulation methods.

Chapter eight concludes with the discussion of research findings. The limitations of the research findings are acknowledged and explained and recommendations that build on the research findings are offered for future research.

The Figure 1.1 shows the research process followed in this study.

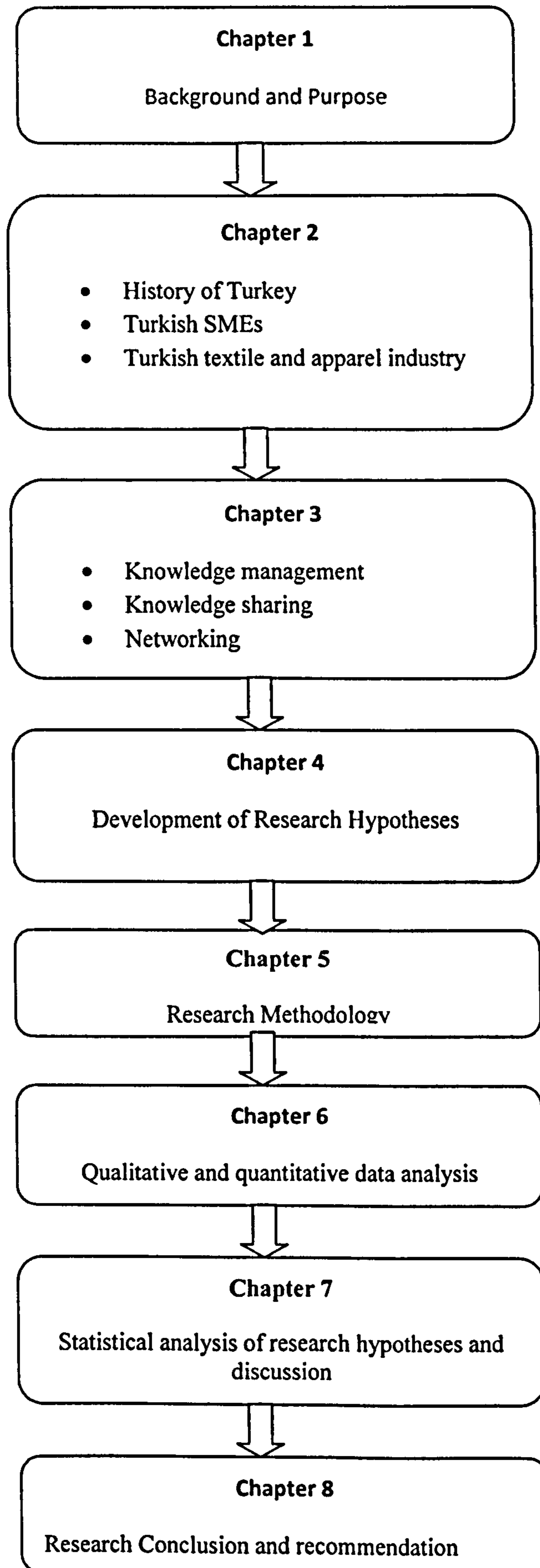


Figure 1.1: The Research Process

1.4: Contribution of the Thesis

The academic contributions of the thesis are seen as:

- Providing an up-to-date comprehensive review of the knowledge transfer activities in the literatures and in Turkish textile and apparel SMEs
- Providing a comprehensive paper-based and online knowledge transfer related questionnaires based on up-to-date literatures and present situation in Turkey
- Creation of novel themes and development of hypotheses to test the knowledge transfer mechanisms in Turkish textile and apparel industries. To author's knowledge, this is the first study of exploring knowledge transfer activities in Turkish textile and apparel industries

Chapter 2

Background of Turkey, Turkish SMEs and Textile and Apparel Industry

2.1: Introduction

This chapter addresses the relevant background of Turkey as a country and its geographical location, economy, culture and infrastructures and importance of all these factors contributing in Turkish SMEs. A detailed overview of the Turkish SMEs are presented and discussed in relation to their contribution and significance while focusing on Turkish textile and apparel industry. The purpose of this chapter is also to provide a broad basis of this research study.

2.2: Background of Turkey

2.2.1: Geographical and Administrative Aspects

The land of Turkey is important and has been the centre of commerce because of its close proximity with three continents and connections through land and seas. The country is located in the Northern half of the hemisphere at a longitude of 36 degrees N to 42 degrees N and latitude of 26 degrees E to 45 degrees E. Turkey is roughly rectangular in shape and 1,660 kilometers from East to West and 550 kilometres from North to South. Turkey has a total area of 779,452 square kilometres including 14,300 square kilometres water. The country is surrounded by the Black sea in the North, the Mediterranean Sea in the South and the Aegean Sea in the West and has 790,200 square kilometres in Asia and 24,378 square kilometres area in Europe.

It shares land boundaries with Greece and Bulgaria in the North West, Georgia, Armenia and Azerbaijan in the Northeast, Iran in the East and Iraq and Syria in the Southeast. Turkey is generally divided into five regions: the Aegean, the Mediterranean, Central Anatolia, the East and Southeast Anatolia regions and the capital of Turkey is Ankara. Istanbul is the largest city and is also the industrial, commercial, and intellectual center of the country.

(Source: <http://www.turkischeconomy.org.uk/economy.html>).

Turkey covers an area larger than most European countries with extremely diversified terrain divided into seven distinct regions. There are 81 provinces governed by local governors appointed by the central government. The Turkish map is shown in Figure 2.1 (Source: www.turkey.gov and <http://www.economist.com/countries/Turkey/>).



Figure 2.1 Political map of Turkey

(Source: www.turkey.gov and <http://www.economist.com/countries/Turkey/>)

2.2.2: Population

80% of the people in Turkey are Turkish originally from Central Asia and 17% are Kurdish residing mostly in the Eastern and Southeastern territories. Rest 3% is from minority ethnic groups from Greeks, Armenians, and Jews. 65% of the total populations live in urban area.

2.2.3: Language & Religion

Turkish is the official language of the country and based on Latin alphabet. Most of the Kurdish minorities speak Kurdish having some commonality with the Turkish

Language. Arabic is also spoken in Turkey, especially in the Southeastern provinces. English is becoming a popular foreign language and recognised as a third language. Roughly 98% of Turkey's population is Muslim (two-thirds Sunni, one-third Shia) and rest 2% are from Christians & Jews. Turkey is a secular state with complete freedom of religion.

2.2.4: Family

Turkish people are mostly having combined family culture with father acting as a head of the family. Family loyalty is vital in Turkish society and has a major impact in business practices. Many businesses in Turkey are family own and influenced by the family concepts. However younger generations prefer to live alone mostly because of jobs and economic reasons. Polygamy, although banned in the 1920s and illegal is still available in rural areas. With the introduction of civil codes in 1927, women gained the right to vote and the right to divorce.

2.2.5: Social Life

Turkish culture welcomes visit of friends, relatives, and neighbours. Visitors are offered soft drink, such as tea, coffee, or soda water, and sometimes something to eat, such as crackers or biscuits. They consider a guest visit is an occasion for harmony and enjoyment and thus personal questions, bad news or accounts of problems should be avoided and saved for another time and place. First-time visitors may bring a small gift, such as confectionery, fruit, or flowers.

2.2.6: Commerce

Businesses are generally open from Monday to Friday from 9 AM to 5 PM and some for a half day on Saturdays. Most people buy fresh products at open-air markets or

bazaars and in large cities from supermarkets or local shops. People harvest in villages and make preserves, dried fruit and vegetables, and other foods for winter. Village women mostly knit or sew their own and their children's clothing whereas women from urban areas purchase clothing from shops or employ tailors.

2.2.7: Education

Primary and secondary education in Turkey is free and co-educational. Primary education is for five years and secondary is for three years. Nearly all children complete the primary level and more than 50% proceed to the secondary level. Entry to university is based on competitive exam after completion of the secondary school. Turkey has more than 29 government-funded universities, the oldest of which was founded in Istanbul in 1453. There are nearly 600 specialist colleges and institutions offering vocational and further education

(Source: <http://www.geocities.com/resats/culture.html> and www.turkey-now.org).

2.2.8: Economy

Modern Turkey as a republic was founded in 1923 after the fall down of the Ottoman Empire and has witnessed periods of insecurity and recurrent democratic power. Turkey is now an associate member of the European Union and initiating many changes to strengthen its democracy and to integrate its economy to fit globally. Turkey's economy is based on both modern and traditional industries with an increasingly strong private sector. Turkey, because of its geographical position, is an excellent base for economic activities throughout the region and is emerging as a powerful cultural and political central point. This attractive business environment presents many advantages and potential opportunities to businesses flourishing here.

Table 2.1: Economic Outlook of Turkey

BASIC INDICATORS	
GNP	Worth \$ 361 billion (2007) (sixteenth biggest economy among 30 OECD countries with respect to GNP)
Growth rate	4.5% (2007, based on real GNP)
Population	70,586,256 (as of Dec31,2007)
GNP per capita	\$ 9,333 (2007)
Inflation rate (CPI)	PPI:5.9%(Dec-07) CPI:8.4%(Dec-07)
Central Bank	Independent (since May 2001) (Main objective is price stability. 'No lending to the Government' is an important policy tool)
Foreign exchange rates	YTL 1.2388 = \$ 1 (<i>June 16, 2008</i>) YTL 1.9113 = € 1 YTL 2.4254 = £ 1
Foreign exchange regime	Floating Exchange Rate Regime (Exchange rates are determined by demand and supply conditions. The Central Bank may hold auctions and intervene volatility)
Inflation targeting	Implicit inflation targeting as of 2006 (Main policy tool is short term interest rates, which are based only on inflation outlook)
Current account balance	-\$ 37.5 billion (2007)
Imports –in goods	\$ 162.0 billion (2007)

Exports –in goods	\$ 115.3 billion (2007)									
Foreign trade balance (in Goods and services)	\$ -32.8 billion (2007)									
Consolidated budget primary surplus	3.5% of GDP(2007)									
Central Government deficit	2.1% of GDP (2007)									
Primary Surplus (IMF Definition)	3.5% of GNP (2007)									
Public Sector’s Outstanding External Debt (All public debts are medium or long term)	\$ 65.4 billion (end- 2005)									
Consolidated Budget External Debt Stock	\$ 69.2 billion (end- 2007)									
Outstanding Domestic Debt	\$ 189.2 billion (end-2007)									
International reserves*	\$ 108.2 billion (end - 2007)									
Central Bank Interest Rates	<table border="1"> <thead> <tr> <th></th> <th><u>Borrowing</u></th> <th><u>Lending</u></th> </tr> </thead> <tbody> <tr> <td>Overnight</td> <td>16.25%</td> <td>20.25%</td> </tr> <tr> <td>Late Liquidity</td> <td>12.25%</td> <td>23.25%</td> </tr> </tbody> </table> <p>(As of June 16, 2008)</p>		<u>Borrowing</u>	<u>Lending</u>	Overnight	16.25%	20.25%	Late Liquidity	12.25%	23.25%
	<u>Borrowing</u>	<u>Lending</u>								
Overnight	16.25%	20.25%								
Late Liquidity	12.25%	23.25%								

(*) International Reserves=Central Bank’s “Gross Reserves + Gold - Overdrafts” + Banks’“Netreserves”.

(Source: <http://www.turkischeconomy.org.uk/economy.html> Last Updated on June 2008)

2.2.9: The Importance of Turkey in a Global Picture

Turkey has a long standing relationship with the West, United States and a NATO member and capitals in Europe and is an important and influential country in the region (Antonio, 2002). Antonio explained that the secular nature of Turkey has also put

Turkey in a distinct international category and Turkey is also a candidate member for European Union (Ingmar, 2004).

Turkish companies are strongly encouraged by the state to invest in Central Asia and Turkey is already engaged in medium and long term projects and concluded a number of bilateral agreements with the Central Asia republics such as Kazakhstan and Uzbekistan, covering economics and trade, business co-operation, public administration, media and education, communication and transport. Turkey's role is thus very important in gathering and transferring the knowledge between European countries and the rest of the world (ITO, 1993).

2.3: Turkish Small and Medium-Sized Enterprises (SME's)

Small and medium enterprises (SMEs) are important innovators in the economy (Kitching and Blackburn, 1999). Small and medium scale enterprises (SMEs) are a very heterogeneous group (Hallberg, 1999) and include a wide variety of firms; village handicraft makers, small machine shops, restaurants, and computer software firms. They have a wide range of sophistication and skills, and operate in very different markets and social environments. Mostly, individual performance is emphasised than business performance in SMEs (Blackburn, 2003) because the overall business performance depends on the collective effort of the individual employees working in the organisation. The statistical definition of SMEs is usually based on the number of employees or the value of assets and varies by country. The lower limits for small scale enterprise in terms of employees are 5 to 10 and upper limit between 50 to 100. For medium scale enterprise the upper limit is between 100 and 250 employees. One of the key difficulties facing by the researchers is how to define a small or a medium-sized business (Gibb, 1993). Dincer (1996) described different quantitative criteria such as

number of employees, capital, profit etc. and qualitative criteria such as managed by owner-managers, lower level of hierarchy and specialisation etc. as key factors for defining SMEs.

The characteristics of a SME reflect economic, cultural and social dimensions of a country. SME defined on the basis of revenues such as in Canada, on the number of employees as in the UK, or it can have both such as in Portugal. There is no universal definition of SME and the term covering wide variety of definitions and measures. The most common definition in Organisation for Economic Co-operation and Development (OECD) countries is based on employment figures and an SME has less than 500 employees. The Eurostat definition which is currently the most widely accepted used in 19 European countries considers less than 250 employees. Some countries have different definitions for manufacturing, services and autonomous SMEs. Almost 99.5 percent of industry in Turkey is SMEs and employ 64 percent of people and add 36 percent value in Turkish economy (Uz *et al.*, 2004). In Turkey, enterprises between 1 to 50 employees is considered small whereas with 50 to 100 employees as medium and will have less than 15 million USD as revenue. Turkish State Institute for Statistics (SIS) classifies the Small and Medium sized industries on the basis of number of employees and according to SIS (1997) it is defined as establishments with less than 200 employees. Information about employment is readily available and it is considered by managers to be less confidential than other measures of size, such as sales revenue or capital stock.

According to SIS the Turkish industries are categorised into followings:

- *Micro-enterprise*: 0-9 employees
- *Small enterprise*: 10-49 employees (may be divided into 10-24 and 25-49)

- Medium-sized enterprise: 50-99 employees
- *Large enterprise*: more than 100 employees (may be divided into 100-199, 200-499, and more than 500 employees)

(Source <http://www.kosgeb.gov.tr/Ekler/Dosyalar/Information/6/Sme.doc>)

The most common criteria for SMEs classification depends on the number of employees or persons engaged since it is easily measurable and readily available in most cases and also considered as basis for this thesis. Because of industrial and country differences the Commission of the European Communities (1992) recognised the need for flexibility in defining SMEs and Turkish formulated the official definition by KOSGEB¹ (Small and Medium Sized Enterprises Development and Support Office) to reflect these views. According to KOSGEB, firms employing ten and less employees are micro enterprises; between 11 to 50 small sized enterprises and between 51 to 200 are medium sized enterprises.

2.3.1: The Importance of SMEs in the Turkish Economy

The first decade of the twenty-first century regarded as “decade of the SMEs” in Turkey (Destici, 1998, p. 138). The leading firms are in textile and metallic sectors but increasing in every sectors ranging from electronic to automotive (Power, 1998). A survey carried out by KOSGEB revealed that 99.5 percent of the firms are SMEs in the manufacturing sector and responsible for 61.1 per cent of the employment and 27.3 per

¹ KOSBEB is an official institution founded in 1990 with the aim of supporting and developing Turkish SMEs. It is one of the major institutions that shape the government’s SME policy by playing a pivotal role between the government and SMEs. The main functions of KOSGEB are: helping SMEs to acquire modern management techniques; dissemination of advanced technologies; rendering production compatible with international standards and conditions of competition in the EU and Customs Union; providing access to international co-operation and information in technical and commercial subjects, organising training programmes in the areas of technology, financing, management and marketing with a special emphasis upon exportation; providing consulting services to enable efficient production in line with a modern understanding of management; inspecting, testing and analysing raw materials and finished products at special laboratories to remedy inadequacies in information and technology; raising the quality of local and regional output and enhancing competitiveness.

cent of the value-added (Power, 1998). SMEs role is not only limited to their economic and employment contribution but they also help in:

- improving the adaptability of the economy to changing market conditions and forces;
- supplying necessary raw and semi-manufactured materials for large firms;
- creating a competitive environment;
- accelerating the use of domestic sources;
- creating new markets and market shares;
- understanding and establishing close relations with customers;
- providing flexibility in the adoption of new technology and production systems;
- economic revival of regions and localities by creating new economic centres (i.e. Gaziantep, Corum, Denizli, Kayseri and Kahramanmaras); and
- diffusing capital to the lower stratum of the society and preventing an oligopolistic economic development (Budak, 1993; Ozgen and Dogan, 1997)

The Turkish government has recognised the importance of SMEs in the economy and set up programs such as KOSGEB-Technology Development Centres to encourage co-operation between the SMEs and the universities. The centre aims to provide necessary help to the SMEs in the areas of new product development and research and development (R&D) with the involvement of the universities. The centre also helps SMEs for marketing, provision of online access to university libraries and Internet facilities, arrangement of conferences, exhibitions and fairs, and co-ordination of co-operation programs between SMEs and the EU. KOSGEB is also creating a “financial investment partnership” project to provide financial support to SMEs. Eximbank (the export promoting credit bank of Turkey) on the other hand provides cheaper loans to the SMEs and encourage them to export (Muftuoglu, 1994; Power, 1998). The success of

small firms in the global market however depends on their ability to manage their human and technical assets, realising the impact of environmental factors (Cox, 1997; Voudouris *et al.*, 2000), clarifying the direction of the firm and creating a clear vision and short and long term objectives (Coskun, 2001) with an international perspective (Cox, 1997; Kalantaridis and Levanti, 2000; Pichler, 1997).

2.3.2: Structure and Impact of SMEs in Turkey

Sogut (1997) explained that the key role of SMEs in Turkish economy is not only because of their number and variety but also because of their

- involvement in every aspect of the economy;
- contribution to industrialisation and regional development;
- effect on unemployment problems;
- integration support and complement for large industries;
- flexibility in manufacturing fields;
- respond to market forces;
- easy adaptation to new technologies;
- reaction readily to economic fluctuations;
- success in mobilisation of untapped resources of capital and skills; and
- stability in political, economical and social structures.

Small and medium industry business in Turkey is the backbone of its healthy economy and prerequisite for a balanced development and government has taken several initiatives to support and strengthen the SMEs (KOSGEB).

2.4: Financing SMEs in Turkey

Financing of SME's is a matter of concern in the world as well as in Turkey. Turkiye Halk Bankasi (Turkish Public Bank), a state owned bank is authorised to finance Turkish SME's. It is however almost impossible for a single bank to deal with all the financial issues with diverse nature of Turkish SMEs. Development banks other than commercial banks are also actively financing Turkish SMEs but with limited success and act as an intermediary institution between Turkish SMEs and domestic or foreign funds.

Table 2.2: Comparison of Contribution of SMEs in Turkey with Other Countries

SME's (%)	USA	Germany	England	France	Italy	Turkey
Share in institutions	97.2	99.8	98.8	97.0	98.8	99.5
Share in employment	50.4	64.0	36.0	49.4	56.0	56.3
Share in investments	38.0	44.0	29.5	45.0	39.9	26.5
Share in production	36.2	49.0	25.1	54.0	53.0	37.7
Share in exports	32.0	31.1	22.2	23.0	-	8.0
Share in credits	42.7	35.0	27.2	48.0	-	3.0

(Source: Islamic Development Bank, 2006, www.isdb.org)

Table 2.2 presents that contribution of Turkish SME's are similar to these SME's from other countries as far as total percentage of sharing in institutions, employment, investments and production are concerned. However are very low in share in exports and credits compared with the others. This can served as an indicator that the Turkish SME's have insufficient access to appropriate financial sources. This may prevent SME's from their growth and development irrespective of their role in Turkish economy. After reviewing the background of Turkish SMEs, the next section explains the general pattern of Textile and Apparel industries in world and compares it with the Turkish Textile and Apparel industry.

2.5: Textile and Apparel Industry

The terms *textile industry* and *apparel industry* are used interchangeably as they are directly related industries which are in the chain of manufacture and distribution of apparel sectors. Textile industries not only manufacture yarn, thread, and fabric for apparel, but also such products as carpeting, automotive upholstery, fire hoses, cord, and twine. The major processes in these highly automated mills include yarn spinning, weaving, knitting, tufting, and non-woven production (Mittelhauser, 1997, p. 24-25).

The textile and apparel industry has been vertically structured. The manufacturing of yarn and fabric, and apparel are separate and distinct. The flow of sequence starts with raw materials being supplied to yarn manufacturing by textile producers. Following this, yarn is sold to weaving and knitting facilities. The industry covers a broad range of activities including polymerisation, spinning, weaving, knitting, printing, dyeing and finishing, and other important garment-making at the production side. On the other hand, in the supply side it contains ginning facilities, spinning and extrusion processes, processing sector, weaving and knitting factories and garment (ITKIB, 2006).

2.5.1: An Overview of World Textile and Apparel Industry

Textile and apparel industry has always been one of the major income generating industries of the world throughout the history. The industry played crucial roles in the early industrialisation stage of Britain, parts of North America, Japan, and since last two decades in the world economy (Rossen, 2004).

Since 1970 there has been a continuing shift in the production and export of textiles and apparel from developed countries to the developing ones. On the other hand, the high cost of production and labour shortages had also compelled Japanese textiles and

apparel firms to invest their production in other Asian nations in 1970s. Following Japan, Hong Kong, South Korea and Taiwan became three of the four Asian newly industrialising countries (NICs)² with textiles and apparel as their major export industry (Au and Chan, 2003). Along with these countries comparatively less developed countries have also entered the market such as Bangladesh and Indonesia by using low cost labour as comparative advantage (Owen, 2001).

Globalisation progress of the world has accelerated trade flows including textile and apparel industry since early 1980s. Accordingly, roughly half of the total production capacity in the apparel industry has shifted from developed countries to less developed countries over the past three decades (Ramaswamy and Gereffi, 2000). Therefore, the sector has been called one of the most globalised industries in the world (Rossen, 2004).

2.5.2: Effect of Globalisation in Textile and Apparel Industry

The increasing interaction of domestic economies with the world economy is generally termed as globalisation³. Globalisation is reflected in the rising share of international trade in world output (Ramaswamy and Gereffi, 2000, p. 189; Mazlish and Iriye, 2005).

Globalisation has created a new dynamic industrial environment increasing the interaction and interdependence between different actors of the value chain. In the textile and apparel industry, globalisation of production activities has meant that a garment can be designed in New York, produced by using the fabric made in the

² Three of the leading exporters at that time were Hong Kong, India and Pakistan, which is due to fact that they had membership of the Commonwealth, and had duty-free access to the British market. Other Asian countries, notably Taiwan and South Korea, soon joined in the game, targeting the US as their main export outlet (Owen, 2001).

³ In global capitalism, economic activity is *international* in scope and *global* in organisation. Internationalization refers to the geographic spread of economic activities across national boundaries. As such, it is not a new phenomenon. It has been a prominent feature of the world economy since at least the seventeenth century when colonial powers began to carve up the world in search of raw materials and new markets. Globalisation is more recent, implying functional integration between internationally dispersed activities (Gereffi and Memedovic, 2003).

Republic of Korea, cut in Hong Kong, and assembled in China, for eventual distribution in the United Kingdom or the United States. Frontiers of nation-states no longer determine the business strategies of producer firms or the purchasing strategies of large distribution networks. The main factors which have contributed to the globalisation of world apparel industry are the labour-intensive nature of apparel production technology, the loss of comparative cost advantage of developed countries, dramatic decline in transport and communication costs, search for production sites with lower labour costs, and the shift in apparel exports from more restricted to less restricted among the developing countries due to the discriminatory nature of the restrictions imposed by Multi-Fibre Arrangement (MFA) (Ramaswamy and Gereffi, 2000, p. 188).

2.5.3: World Trade Figures of the Textile and Apparel Industry

Textile and apparel has considerable amount of world trade and output. Today, there are now more than 150 developing countries supplying textile and apparel goods to the industrialised world (WTO, 2007). The industry is labour-intensive and thus requires a large number of unskilled workers, including a high share of female workers. The industry directly contributes to the enhancement of employment in the world economy, and also performs a social role amongst the developing nations (TGSD, 2008; ITKIB, 2006).

China, South Korea, Taiwan and Turkey are the major textile exporters of the world. On the other hand, total numbers of EU countries stand as the leader of the sector (WTO, 2007). In apparel, the panorama of the industry looks rather different. China is the biggest and the largest exporter, but two other developments are also significant. One is

the decline in exports from the three Asian tigers (*Hong Kong, Taiwan and Korea*)⁴. The other is the rise of Mexico and Turkey. This reflects the growing trend towards low-cost suppliers, but for manufacturers who can respond quickly to changing consumer demands, in the same region as a process driven partly by discriminatory trade arrangements (such as the creation of the North American Free Trade Area and Customs Union between EU and Turkey) (Owen, 2001).

Retailers of apparel in the US and Western Europe are increasingly looking especially for products which have some fashion content, proximity, a four-week cycle from order to delivery rather than four months. In line with this trend, in North America, Mexico is now a more important apparel supplier to the US than Korea and Taiwan, while in Western Europe there has been rapid increase in imports not only from Turkey, but also from Eastern European countries and from North Africa (Owen, 2001).

As presented in Table 2.3, world textile and apparel trade rose by 9.7% annually to 530 billion USD (*218.6 billion for textiles and 311.4 billion USD for apparel industry*) in 2006.

Table 2.3: Leading Exporters of Apparel (2006)

Ranks	Exporters	By the Year 2006	Share in the World Export (%)
1	European Union ⁵	105.3	33.8
2	China	95.4	30.6
3	Hong Kong	28.4	9.1
4	Turkey	13.5	4.3

⁴ Companies in these three countries, faced with rising wage costs at home, have been obliged to transfer some of their apparel production to cheaper locations, principally in mainland China and other Asian countries.

⁵ The sum of the intra (83.4 billion USD) and extra (21.9 billion USD) community trade.

5	India	10.2	3.3
6	Bangladesh	7.8	2.8
7	Mexico	6.3	2.0
8	Indonesia	5.7	1.8
9	United States	4.9	1.6
10	Vietnam	4.8	1.7
11	Romania	4.4	1.4
12	Thailand	4.3	1.4
13	Pakistan	3.9	1.3
14	Morocco	3.2	1.0
15	Tunisia	3.2	1.0
	World Total	311.4	100

(Source: Adapted from WTO statistics by the year of 2007)

It can be seen in Table 2.4 below, the leading exporters of textiles are EU, China, Hong Kong, and US contributing 43.9%, 22.3%, 6.8%, and 5.8% respectively.

Table 2.4: Leading Exporters of Textiles (2006)

Ranks	Exporters	By the Year 2006	Share in the World Export (%)
1	European Union ⁶	95.81	43.9
2	China	48.68	22.3
3	Hong Kong	14.44	6.8
4	United States	12.67	5.8
5	Republic of Korea	10.11	4.6
6	Taiwan	9.76	4.5
7	India	9.33	4.3

⁶ The sum of the intra (71.21 billion USD) and extra (24.60 billion USD) community trade.

8	Turkey ⁷	7.59	3.5
9	Pakistan	7.47	3.4
10	Japan	6.93	3.2
11	Indonesia	3.61	1.6
12	Thailand	2.88	1.3
13	Canada	2.37	1.1
14	Mexico	2.19	1.0
15	United Arab Emirates	1.89	0.9
	Total World	218.6	100

Source: Adapted from WTO Statistics by the year of 2007.

2.5.4: European Union (EU) Policies for Textile and Apparel Industry

Today, the European textile and apparel industry faces challenges inevitably placing European manufacturers at a disadvantage as compared to their foreign competitors. The compliance with high EU standards, the strong Euro and rapidly increasing energy costs coupled with a slowdown in demand in major markets add new difficulties to the sector (Euratex, 2008).

A recently published research on the European apparel industry “*Business Relations in the EU Apparel Chain*” From Industry to Retail and Distribution provides a detailed study of the sector and claims that during the last five years, in the largest European markets, apparel consumption has increased at a slow pace; whereas across Europe, the apparel prices have shown a relative stability, in the face of rising overall price (European Commission, 2007, p. 6). According to this report, the recent trend in apparel prices is likely to have been affected by various factors but mostly by the overall macroeconomic context and, in particular, by the slow growth of the EU economy

⁷ Includes Secretariat estimates.

indexes. The other factors that have resulted in this slow down are shaped by the global competition and the internal dynamics of Europe which are the changing patterns of consumption motivated with the increasing concerns for price, and the increasing appreciation of the European currency, which might have negatively affected the international competitiveness of European goods. The liberalisation of the international trade of textile and apparel exposed European manufacturers to the increasing pressure of low-cost Asian imports and the consolidation of China as the world leading producer of apparel increased the weight on European imports. Within the apparel industry, these changes have been associated with broad changes in international value chains and retail formats, resulting in increasing pressure for cost-reduction on European manufacturers (European Commission, 2007).

In October 2007, following from the 2005 Memorandum of Understanding on cooperation in managing the transition to free trade in textiles, the European Commission and the Chinese Ministry of Foreign Trade have decided to set up a system of joint import surveillance that will operate for one year in 2008 following the end of the import growth caps on ten categories of textiles and apparel from China. This double checking system tracks the issuing of licences for export in China and the importation of goods into the EU, providing a clear picture of the likely development of trade patterns and ensures predictability for EU businesses. The arrangement covers the eight most sensitive of the ten product categories covered by the levels agreed in 2005 and that will expire at the end of the year. Although imports of these goods will be closely monitored, their level of import will not be restricted by this arrangement (European Commission, 2007).

The European system bases on an intense interdependency where every decision taken by the Member States and the EU authorities has a direct impact on the strategy followed by each company at European, national and/or local level. Therefore this new regulation on monitoring the Chinese exports, even though not being supported by the European Apparel and Textile Organisation (Euratex), is read as a call on Europe's textile and apparel manufacturers to resist the temptation to request new safeguard measures and to react to China's mass production competition by being smarter and more creative (Euractiv, 2007). The next section now explains in details about the Textile and Apparel Industry in Turkey.

2.6: Turkish Textile and Apparel Industry

For many developing countries, the manufacturing sector serves as the main powerhouse in fuelling growth for the economy through the generation of export earnings and employment. The same as, in the early years of liberalisation, the Turkish textile and apparel industry posted strong consistent growth in terms of exports. With the drive towards liberalisation since the early 1980's, the textile and apparel industry gradually increased and eventually became one of the dominant industry groups in Turkey. During the period between 1980 and 2000, the textile and apparel industry alone recorded an average annual output growth of 20.5 percent and eventually became the country's largest manufacturing export industry in value terms (TGSD, 2008; IGEME, 2008). However, with the inclusion of China to the global textile and apparel market, the volume of textile and apparel exports of Turkey have started to decline since 2000s (ITKIB, 2006).

Textile and apparel industries have always had a forefront position in the economy of Turkey. Such activities at the industrial level date back to the early Ottoman period.

Since those times, the highest levels of employment, production and profits in the economy of the country were obtained in textiles and related fields (Akalin, 2001; Ercan, 2002). Today, the textile and apparel sector employs 2 million people (*the 2nd largest employer after agriculture sector*), generates about 1/5th of the total export earnings and contributes 11% to the GDP thereby making it the largest industrial sector of the country (14% of total manufacturing industry production). The sector aspires to grow its revenue and export value (ITKIB, 2006).

2.6.1: A Brief History of Turkish Textile and Apparel Industry

The textile production in Turkey started from the Ottoman period in the 16th and 17th centuries and at that time the textile production was widespread and at an advance level. Ottoman Empire was heavily relied on textile industry and it was clear indication of the importance of the sector. Having rapidly developed in the 20th century, a great textile production capacity was created in Turkey between the years 1923-1962. The extensive growth of the cotton in turkey, the most important raw material of the textile industry, was further contributed to the development of the textile sector during the following years. Until 1972, the sector gained more strength due to the finalisation of first planned development period. The period between 1980 and 1989 was witness to opening to the foreign markets. The textile sector has made important contribution to the development of clothing industry as well, in the 1990's, the share of textile sector within the total Turkish exports reached to 11% by showing a high export performance. The industry, today, has become one of the most important components of the Turkish economy with its export value of 6.1 billion dollars. As a more capital intensive industry as compared to clothing industry, most of the companies in the sector are medium scale. The industry has also large scale companies having integrated production facilities. There are nearly 7,500 textile manufacturers producing for the textile export of Turkey. The production

facilities mainly concentrated in Istanbul, Izmir, Denizli, Bursa, Kahramanmaraş and Gaziantep. (Source: www.turkey-now.org). Development of the Turkish textiles and apparel industry has grown out of a tradition in Turkey. Textiles had a very important place in the Ottoman Empire period. The new Turkish Republic had 8 factories and over 10,000 looms in the textile industry remaining from Ottoman's, and the textile and apparel sector was granted the first priority for industrial investment and development in the newly independent republic's First Development Plan⁸. The development was based on cotton production, and there were small workshops processing cotton and yarn (Owen and Pamuk, 1999). Also, the new republic designated the textile and apparel sector as one of the protected sectors and invested heavily in the sector by opening new factories and forming State-Owned-Enterprises (SOEs) (Tan, 2001).

At the Izmir Economic Congress, which was organised in 1923, the crucial role of the woven textiles was pointed out, and textile was placed to be in the protected sectors of the new republic. This decision accelerated the investments in the textile capacity and the capacity increased very fast. Turkey began to emulate the relative success of the planned economies, which started a new period (1933- 1945) in Turkish economic history, called etatism, during which the government heavily intervened both in production and consumption of goods and services. This policy required the production to be based on agricultural goods. The first supported sector was textiles, which should be based on cotton. After then, Sumerbank⁹ was established in this period to support textiles sector. All the state owned textiles entities had been collected under

⁸ The period beginning from the foundation of the Republic in 1923 and ending in the early 1930s can be considered as relatively liberal in Turkish economic history.

⁹ The state established the Sumerbank in 1933 as a holding company to oversee industrial production; it took over the Ottoman textile plants and built state-owned spinning and weaving enterprises throughout the new nation. Traditional handicrafts produced in small un-mechanized workshops continued to provide up to 60% of manufacturing value added until the end of the 1930's. Private enterprises in 1939 produced 65% of cotton yarn and cloth, 40% of wool yarn and cloth, and 38% of leather goods. A small number of apparel firms came into being in response to the new Republic's "apparel revolution" which required men to wear Western suits and hats. For example, Vakko, today a leading ready-to-wear producer, was founded as a hat and scarf manufacturer in 1934 (Seidman, 2004).

Sumerbank¹⁰ which opened new factories. The first yarn and textile factories have been established in the period of First Five Year Industrial Plan in major cities of Turkey and towns, Kayseri, Nazilli, Eregli, and Malatya, between the years 1933- 1937. As a summary, the government was the major player in the sector through Sumerbank, after that the role of private sector increased. But, the private companies were small scaled. All the production was carried on small workshops in 1950s (Ozben *et al.*, 2004).

The industrialisation efforts of the 60's and 70's gave origin to the modern textile industry in Turkey, particularly the textile and apparel industry expanded rapidly in the 1980s, and has shown a fast and significant growth over the years. In the 1980s, it was the leading sector related to the global economy and the export revenues of this hard currency earning sector contributed substantially to the overall economy (Cetindamar *et al.*, 2005).

The Export-Led Growth (ELG) policies and liberalization attempts of mid-1980s^{11, 12} have been the main impetus in its development (Tan, 2001). Its growth performance outpaced the economy's average growth rate in the 1990s. Despite European quotas, low labour costs, a skilled workforce, cheap raw materials including home grown cotton, high flexibility of the mills helped the Turkish textile and apparel industry's

¹⁰ Although, Sumerbank was established as a bank, later entered into production and retailing of textile goods.

¹¹ On January 24, 1980, government announced a dramatically new economic program aimed at liberalizing trade, promoting exports, and placing a greater reliance on market forces rather than state intervention. Most textile and apparel import tariffs and surcharges were eliminated for intermediate and final goods; protection was still maintained for most categories of raw materials. A wide array of export-promotion incentives were offered to encourage domestic producers to seek export opportunities. Export-promotion policies, referred to in Turkish as *tesvikler* (supports), included extensive export tax rebates, export credits, and foreign exchange allocations. Exporters were exempt from paying production tax on final export goods and did not have to pay customs or duties on imported goods that were used as inputs for exported products (Riddle and Rehman, 2005).

¹² After January 24, 1980 economic reforms, the textiles and apparel industry has developed mainly due to the export oriented economic policies, the rational use of incentive measures for investment, and the supports introduced for the import of machinery equipment and auxiliary materials. As a result, the international competitiveness of the textiles and apparel industry has increased, and important increases have been achieved in the exports (SPO, 2004).

solid performance, and pushed it to the major exporter amongst the Europe. The country's geographical position brought further advantages in terms of freight cost and delivery times compared with its competitors. While Turkey was exporting only crude cotton, cotton yarn, or cotton woven fabric in the beginning of 70s, Turkey appeared as the primary apparel supplier of European Union. Textiles and apparel sector entered to 1990s as the most important sector of the country. As a result of these developments, Turkey become the sixth biggest exporter in the world and the second biggest supplier of Europe after Italy¹² (DEIK, 2002). Turkey's joining of the European Customs Union in 1996¹³ brought with it the implementation of EU regulations, including the decision of quotas on Turkish apparel exports to member countries. These developments were expected to result in an increase in textile exports, an enhancement of the investment climate, improvements in quality, and increases in employment. Therefore, there was a surplus investment in the sector, at a time when the European market slowed down¹⁴. In 1997, the new candidate members of the EU were granted protection from import duties and quotas. Imports into Germany from countries such as Poland, Hungary, and Czech Republic had a negative impact on the level of Turkish exports. In 1999, Turkey faced a drop in the total export value for the first time after almost thirty years. This was caused by various factors including the devastating earthquake, economic problems, problems in the world markets, and currency fluctuations (Tan, 2001).

¹³ The Customs Union agreement with the European Union that was signed in 1996 made it easy to export and import intermediary goods between the European Union and Turkey and reduced Turkey's average tariff rates to 3.6%. The Customs Union agreement is a part of the process for Turkey's membership in the European Union where Turkey is an official candidate. The EU's quantity restrictions on Turkish textile and apparel were eliminated after the Customs Union. The Customs Union Agreement also includes the Law on the Protection of Competition within the Frameworks of the Integration with the World Markets and Customs Union with the EU; The Law on the Protection of the Consumer; The Protection of Industrial Designs, The Protection of Brand Names, etc. (Tan, 2001).

¹⁴ With the Customs Union agreement with the European Union that has been in effect since 1996, the industry was filled with great enthusiasm and exaggerated expectations. In this environment, the companies reacted to these challenges by substantial investment in production capacity without considering its impact and sources of financing. During 1990- 1995, the textile industry invested around \$6 billion to purchase textile machinery. This made Turkey one of the largest customers of the textile machinery. However, this sudden increase in investments without coordination created an overcapacity in the sector.

Turkey's candidate status in the EU, provides one of the prospective motivations in the sector as there is an established expectancy that once full membership is achieved the industry faces a number of opportunities for development, spurred by easier access to the EU, its largest export market; harmonised legislation with the EU; improved opportunities for training and networking; a fixed exchange rate against the euro; reductions in the grey economy, in working practices and in corruption; better availability of short-term finance for capacity, expansion and modernisation of technology; improved attractiveness to potential investors; an increase in the number of jobs; and higher labour productivity. However, the transition into a bona fide EU member state could result in the closure of manufacturing companies which are unable to afford the investments needed to harmonise standards with the rest of the EU. If these risks are not addressed by the government and manufacturers, the development of the sector could be hampered (Textile Intelligence, 2007). Table 2.5 shows the key progress in Turkish textile and apparel industry.

Table 2.5: The Development of Turkish Textile and Apparel Industry

Years	KEY DEVELOPMENTS
1923	The new Turkish Republic had 8 factories and initiated State Owned Enterprises (SOEs)
1933	Established Sumerbank
1960	Industrialization progress of Turkish economy
1974	Established Multi-Fibre Arrangement (MFA)
1980	Initiating Export Led Growth Strategies/ Export rate started increase
1981	Textile and apparel manufacturing firms spread a number of cities
1994	Financial Crisis of Turkish Economy
1995	Privatized Sumerbank
1995	Initiating Agreement on Textiles and Clothing (ATC)
1996	Turkey's joining of the European Customs Union

1999	The Peak Number of Industry's Export Volume within Total Turkish Export Rate
2000	Financial Crisis of Turkish Economy
2007	The Peak Number of Industry's Export Volume

(Source: Textile Intelligence, 2007 and www.turkey-now.org)

2.6.2: The Importance of Textile and Apparel Industries for Turkish Economy

Textile and apparel industries have always had a forefront position in the economy of Turkey. Since the time of Ottoman, this sector has played a vital role in the industrialisation process and market orientation of the economy. The sector is regarded as a key *locomotive industry*, pulling the country's progress along since the 1980s. Therefore, the sector is currently one of the most important sectors and described as the backbone of the Turkish economy with its share in the economic indicators.

2.6.3: Exports in Turkish Textile and Apparel Industries

Turkish textile and apparel industries have grown rapidly and shifted from low value added commodities to high value added manufacturing goods. As a result of these developments, Turkey has a notable share in world textile and apparel trade. Turkish textile export performance of the sector in the world trade is 3%, and share of apparel export rate is around 5%. In other words, Turkey is the 4th biggest apparel supplier and 11th textile supplier in the world in 2005 (ITKIB, 2006). As presented in Table 2.6 export rate of Turkish textiles and apparel industry showed a steady increase from 1997 to 2007, and comprised 21.3% in total Turkish exports.

Table 2.6: Exports in Turkish Textile and Apparel Industry by Years

Years	Turkish Total Export (1.000 USD)	Textile Export (1.000 USD)	Apparel Export	Textile and Apparel Export (1.000 USD)	% in Total Turkish Exports
1997	26,261,072	2,730,421	7,088,668	9,819,089	37.4
1998	28,054,932	2,631,227	7,644,051	10,275,278	36.6
1999	26,992,209	2,565,465	7,564,173	10,129,638	37.5
2000	27,201,538	2,590,818	7,459,888	10,050,706	36.9
2001	31,063,595	2,867,083	7,335,856	10,202,939	32.8
2002	36,205,090	2,979,471	8,951,802	11,931,273	32.9
2003	47,880,277	3,661,104	11,178,370	14,839,474	30.9
2004	64,010,231	4,565,602	12,649,982	17,215,584	26.9
2005	73,444,821	4,860,887	13,411,464	18,272,351	24.8
2006	85,774,644	5,576,708	13,551,637	19,128,345	22.3
2007	105,925,486	6,551,786	16,049,056	22,600,842	21.3

(Source: Adapted from different statistical data including ITKIB, TGSD, and TÜİK)

2.6.4: Imports in Turkish Textile and Apparel Industries

Turkey also imports clothing and textiles, mainly grey cloth, cotton yarn, fabrics, synthetic fibres and yarns. Most of its imported clothing comes from Italy, Spain, China, England, Germany, France, Bulgaria, India, Greece and the Netherlands. Most of its textile imports originate from the U.S., Italy, Germany, China, India, South Korea, Pakistan, Indonesia and Greece. Turkey also imports chemical dyes. Textile imports were around \$9.8 billion in 2007, including cotton and synthetic fibres. Clothing imports increased rapidly between 1999 and 2005, with a CAGR of 25.4%, reaching \$1.689 billion in 2007. Over 80% of the total textile and apparel imports are textile

materials like cotton, fibres, yarns and fabrics, and the rest are ready-made garments and articles. (Source: <http://www.turkey-now.org>).

2.6.5: Number of Employment in the Textile and Apparel Industries in Turkey

Turkish textile and apparel industries play a crucial social function when one considers that more than two million workers, including the supportive industries, have been employed in the sector. Estimating exact numbers of people working in the sector is extremely difficult, due to the number of small firms and subcontractors active in the area and the difficulty of drawing boundaries between sectors. For instance, according to the Ministry of Labour, State Statistics Institute, and TOBB, the number of employees in the textile and apparel industry was around 800,000 in 2007. However, it is not possible to obtain exact statistics due to the fact that many small firms that employ unregistered workers to avoid taxes are not included in the studies. According to the estimates of experts' opinions which are obtained from field research for this study and TGSD, it is estimated that there are more than 2 million workers employed in the Turkish textile and apparel industry.

If it is compared to other manufacturing sectors, along with its current capacity Turkish textile and apparel industry is one of the major area which provides tremendous job opportunities for Turkish people.

2.6.6: Industrial Structure of Turkish Textile and Apparel Industries

Turkish textile and apparel industry is comprised of over 50,000 firms¹⁵, and most of these companies are family owned and managed (95%), and 25% of them are active exporters. Majority of the apparel industry is small and medium type of firms (about 85%), whereas the technology-intensive textile production has been undertaken by large-scale companies. However, 1000 out of the 50,000 companies accounted for 50-60% of the market, and dominated the whole industry. Today, around 20% of Turkey's 500 largest companies are involved in the textiles and apparel sector (TGSD, 2008).

Two types of production firms dominate Turkey's textile and apparel industry 1) the spinners and weavers that use high quality domestic raw materials to produce textiles. These firms keep market standards high with original designs, 2) apparel manufacturers, which use a combination of domestic and imported cloth to produce finished non-branded goods. These include non-branded firms who market their products through 3rd party retail chains. Non-branded products currently make up the majority of the industry's domestic and export sales. In addition, there are non-manufacturing sectors totally dependent on textile and apparel manufacturing- most notably wholesalers and retailers (SPO, 2004, p. 24).

The industry produces almost all kinds of fabrics for apparel, home textiles, upholstery and technical applications has a well-developed structure, especially in production based on cotton, wool and manmade raw materials. A large amount of fabric production is based on cotton. The industry based on cotton consists of two segments. One is composed of large scale companies which have production facilities integrated

¹⁵ Different official resources claim different data for the total number of firms operating in the Turkish textiles and apparel sector. The field study conducted for this research concluded that the total actual firm number is more than 50.000, including supplier firms and SMEs.

vertically in stages of fabric production, from fiber processing, spinning and weaving to dying, printing and finishing. Many of them also have ready made goods manufacturing facilities such as apparel or home textiles. The other area is composed mainly of non-integrated companies on a small scale. These companies cooperate with the Turkish finishing industry which is one of the vital sub-sectors of the Turkish textile industry (Sevim and Emek, 2006).

Marketing of most foreign products in Turkey is realised through foreign suppliers' agents or distributors. Most of the distributors in the country choose to establish their dealer networks depending on the location of the products' consumers/end-users; whether throughout the country or in the areas where the product is mostly used. As a global sourcing hub for both Asia and Europe, most apparel firms are located in Istanbul which attracts a number of international buying offices, trading houses and major retailers and department stores. Istanbul becomes a center for fashion and design attributing to turn into an attractive regional shopping center and most of the companies located in the center of the city, prefer to shift their production facilities to the peripheral provinces. This have resulted in a change in the perceptions for Istanbul and lead the cities like Izmir, Bursa, Ankara, Denizli, Gaziantep, Kayseri, Tekirdag and Adana to position themselves as the major production cities for textile and apparel (TGSD, 2008).

2.6.7: Turkish Textile and Apparel Industries; Strengths and Weaknesses

The main reason behind the good performance of the textile and clothing industry in Turkey is the increase in modern machinery imports and new investments in recent years. The performance of textiles and clothing industry affected positively by

domestic cotton production, proximity to the EU market, trained work force, the progress achieved in infrastructure and telecommunication systems, together with the existence of large domestic market. The major strengths of the Turkish textile and Apparel industries are (TGSD, 2008):

- Raw materials are easily available in the country- it is world seventh largest cotton producer
- The monetary policies and the banking systems are uniform throughout the country
- Work discipline, techniques, rules and regulations are also uniform in every region
- The clothing industry has achieved international integration with free market rule
- Advantage of availability of skill workers at low costs
- The establishment of quality based production centres around Istanbul
- Proximity to European markets and central Asia are the main strengths of the clothing and textile industries for fast delivery times as compare to Far East
- Turkey's manufacturers comply with internationally accepted ecological standards unlike some Far East and Asian manufacturers.

Some of the major weaknesses which hinder the progress of Turkish Textile and Apparel industries are:

- Although cheap labour compare to EU countries but Turkish wages are still four or five times more than in china, India, Thailand, Indonesia and Bangladesh which are major textile and apparel exporters
- The charge for energy and funding are more expensive compare to some European and the USA

2.6.8: Foreign Investment and Outsourcing in Textile and Apparel

Industries

Turkey provides suitable conditions for foreign investment and partnerships in the quality design and production, management, marketing and distribution of products related to textile and apparel industries. Co-production of European and Turkish firms is now widespread and nearly 294 foreign-owned firms operate in the sector. Many western manufacturers, such as L.C. Waikiki, Hugo Boss and Levi Strauss have manufacturing operations in Turkey. Foreign department stores and hypermarkets, such as Marks and Spencer, JC Penny, and Sears have purchasing offices in Turkey or have agents that make purchase orders on behalf of them. Companies such as GAP, Next, and Nike also buy direct from Turkish producers for their (world-wide networks). The existence of these companies has to some extent protected Turkey from the progressive loss of competitiveness due to the over-valued Turkish Lira.

Turkey has been producing garments and ready wear for a wide range of European and American fashion houses and clothing manufacturers and retailers from Versace to Benetton to Wal-Mart and Carrefour for the past two decades. The country's demographics; 50 percent of Turkish population are under the age of 28 and form a good skill base workers and its closeness to heavily populated markets in Eastern Europe and the Middle East, make it an excellent base for foreign investment

(Source: <http://www.turkey-now.org> & <http://www.tusiad.org.tr>).

2.7: Summary

This chapter has outlined the importance of Turkey as a country from its location and infrastructures point of view which help to create a suitable environment for prospering SMEs. Turkish geographical position makes it an excellent location for accessing the

markets of the Mediterranean, Middle East, Balkan and Caucuses. The common family, culture, education, language pattern and availability of nearly more than 50% young population also create a suitable environment for either starting or running a small and medium scale business in Turkey. Small and Medium Sized Enterprises (SMEs) play a very important role in the Turkish Economy owing to their large share in the total number of enterprises and employment. Increased exports from SMEs are also a sign of the increasing integration of the Turkish economy into the world and the European society. Turkish government and non-government organisations are trying to remove some of the obstacles such as regulations and financial problems still affecting the progress of Turkish SMEs and providing adequate training to constantly improve the Turkish SMEs and to face challenges in the changing world scenario. Turkish textile and Apparel industry is one of the largest manufacturing export industries with an average annual output growth of 20.5%. Nearly 2 million people are employed in this industry and this is the second largest employer after agriculture sector and contributing 11% to the GDP which is largest contribution from any industry in Turkey. Turkish textile and apparel SMEs are constantly improving and producing high-quality products with partnerships to become more competitive in international markets. Turkey has also gained valuable experience in fabric design and participates in prominent fashion shows. Turkish textile industrialists have their own trademark and patents and also collaborate with big clothing houses in the world and have already made a major impact in the textile and apparel industries throughout the world. This concludes the brief history of Turkey, its SMEs and the importance of textile and apparel industries. The next chapter will cover the literature reviews of the knowledge transfer in the SMEs.

Chapter 3

Knowledge Transfer in the SMEs

3.1: Introduction

This chapter reviews the literatures in the field of knowledge transfer (KT) and shows the strategic advantage of various aspects of the KT in a SME's perspective. The basic concepts about knowledge, knowledge management, knowledge creation, transfer and how networking helps to achieve knowledge transfer are reviewed in detail. Knowledge transfer is identified as an essential aspect of knowledge management routines in a global SME's environment and networking is an important tool to achieve it.

3.2: Knowledge as a Strategic Advantage

This section describes the two important views supporting knowledge as a strategic asset for SMEs.

“Ever-increasing global competition hitting both large and small companies alike are provoking creative thinking. Small and medium sized companies (SMEs) need to change behavior to meet the challenges. One of the few ways that SMEs can successfully fight the competition is by increasing inter-firm cooperation or networking.” (Seremetis, 1994: p. 375)

3.2.1: Resource-based View

According to Porter (1980) and Rumelt (1984), the competitive advantage was not considered a priority for SMEs in the early 1980's. Porter (1980) developed a competitive forces model and Shapiro (1989) a strategic conflict model for SMEs without considering competitive advantage a priority. Both of these models observed organisations within the same industry as controlling the same strategic resources and considered these resources as completely mobile. These organisations followed the strategies based on the view that competitive advantage is not sustainable (Bontis, 1999). They failed to realise that the organisation is a repositories of unique knowledge that is difficult to copy and preventing valuable resources from being disseminated to competitors (Bontis, 1999; Kogut & Zander, 1992, 1996). It was in the 1990s that a real

understanding of the power of unique knowledge to create a sustainable competitive advantage was realised (Teece, Pisano, & Sheun, 1994). Wernerfelt (1984), Barney (1986), Prahalad and Hamel (1990) and Teece *et al.* (1994) developed the idea that knowledge could create a sustainable competitive advantage. According to the resource-based view an organisation's capabilities and competencies have intangible elements. These are difficult to substitute, replicate, imitate or transfer to other organisations because it is unique sources of competitive advantage for an organisation (Barney 1986; Prahalad & Hamel, 1990; Teece *et al.*, 1994; Wernerfelt, 1984). The other views to support KT in SMEs are knowledge-based view which is explained below.

3.2.2: Knowledge-based View

It was realised that during 1990s that knowledge is the unique source in any SMEs for getting competitive advantage over others. Knowledge was identified as important resource for development and was embedded in organisational capabilities and competencies (Teece, *et al.*, 1994), organisational culture (Barney, 1986) and relationship specific investments (Dyer & Singh, 1998). Davenport & Prusak (1998); Grant (1996); von Krogh, Ichijo & Nonaka (2000) recognised organisations as knowledge stores and knowledge creation as the basis of sustainable organisational capabilities. According to the knowledge-based view, an organisation must create new knowledge or intellectual capital and at the same time utilise existing knowledge for survival (Stewart, 1997). The most commonly used terms in knowledge transfer are data, information and knowledge and understanding of these as described below are necessary.

3.3: Data, Information and Knowledge

The use of data, information, and knowledge as identical terms has resulted in confusion. Although they are related to each other but have different concepts. This section makes a brief description and comparison between the three concepts and explains the relation between them.

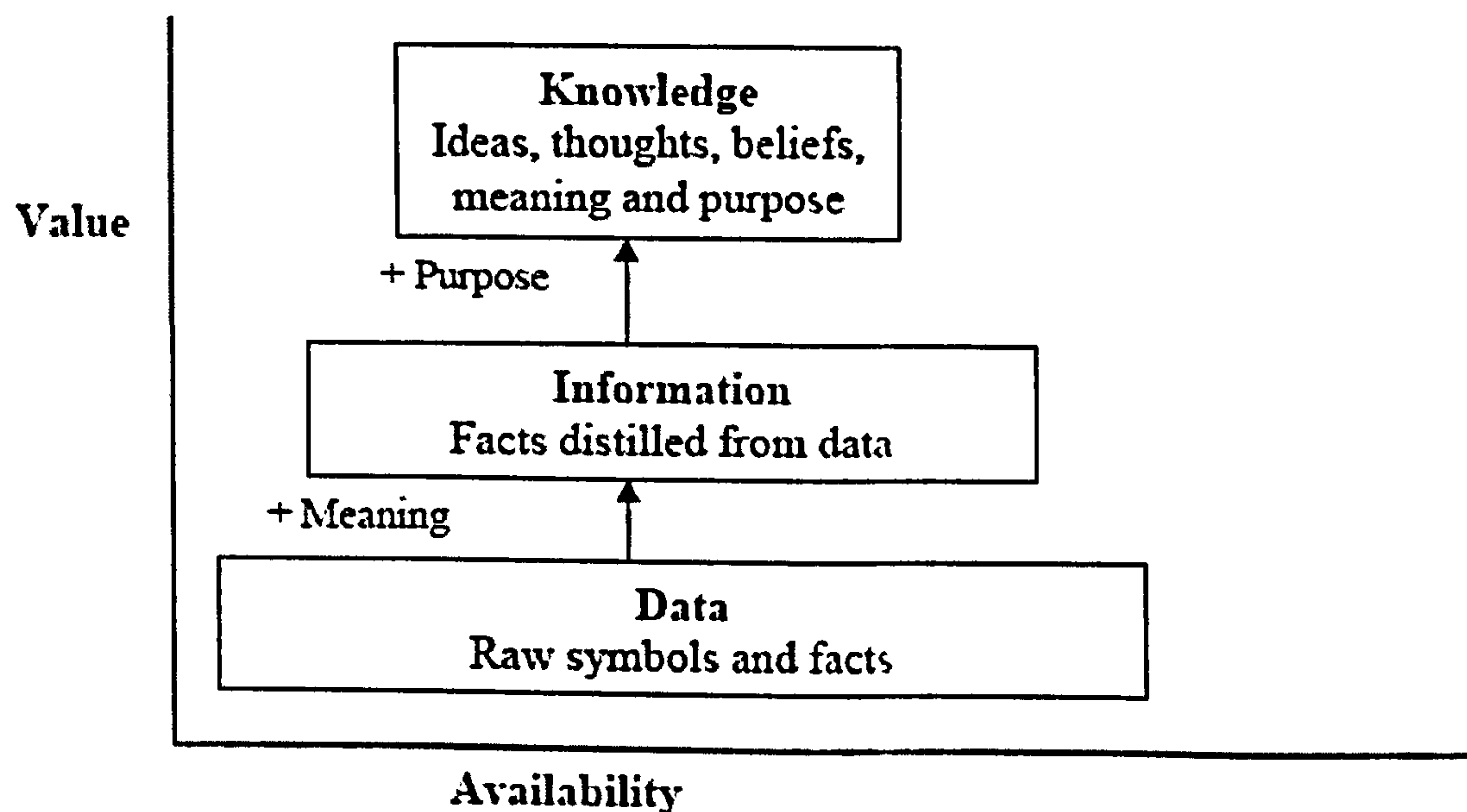
There is general consensus in the literature that data and information can be captured, stored and transmitted in digital form but knowledge is located in individuals or collectives and embedded in routines, systems and tools (Quintas *et al.*, 1997; Blumentritt & Johnston, 1999).

Knowledge can be broken down into different stages: “*Data becomes information which in turn becomes knowledge; knowledge results in informed actions, and these produce business results*” (Murray, 2002, p. 191). Another view amongst scholars is to describe “*data, information and knowledge (as) points along a continuum of increasing value and human contribution*” (Davenport & Marchand, 2000, p. 166). Although it looks simple but the transition from the one stage to the other is neither precise nor effortless.

Data is a set of discrete and objective facts about events and assembled as the structured record of transactions. It has no meaning and little relevance or purpose when viewed in isolation. Data is nevertheless important because it is “*essential raw material (required) for the creation of information*” (Davenport & Prusak, 2000, p. 3). Information is obtained from data when meaning or value is assigned to it and thus delivers certain message influencing the receiver’s judgement and behaviour. Information retrieved from data is important as it forms the foundation for decision-making in organisations.

Knowledge on the other hand is broader, deeper and richer than data or information and is obtained from individuals or groups of individuals. Rumizen (2002, p. 6, p. 8) describes knowledge as, *“information in context to produce an actionable understanding ... and this action or the ability to take action is what makes knowledge valuable”*.

Davidson and Voss (2002) differentiated data, information and knowledge by placing them in a hierarchy of value. The connections and classifications between these three terms are shown in Figure 3.1 with knowledge at the top, followed by information and with data placed at the bottom. Boisot (1998); Robert (2000) and Zack (1999) also supported this approach. They explained that data, while readily available, holds no natural meaning. Information is data holding importance and purpose, and knowledge is information holding importance and purpose to create meaning. Knowledge is the application of information by individuals based on their experiences and associated understandings (Davenport & Prusak, 1998; Nonaka & Takeuchi, 1995).



Source: Davidson & Voss (2002)

Figure 3.1: Relation between Data, Information and Knowledge

Knowledge is derived from information by humans through methods of *comparison, consequences, connections, and conversation*. According to Davenport and Prusak, (1998) knowledge is obtained by comparing some information with another situation previously encountered. According to them knowledge is an intangible concept.

“Knowledge is a fluid mix of framed experience, values, contextual information, and expert insights that provides a framework for evaluating and incorporating new experiences and information. It originates and is embedded in the minds of knowers. In organisations, it often becomes embedded not only in documents or repositories but also in organisational routines, processes, practices, and norms.”

Brooking (1999) distinguished data, information and knowledge somewhat differently: According to him data is a sequences of numbers, letters, pictures, etc. presented without a context; information is organised data, tables, sales statistics presented in context. Knowledge is organised information together with meaningful understanding. Both definitions are based on a hierarchical view of the relationship between the concepts, where some value is added to the lower level concept to get the higher level concept.

Beckham (1997) mentioned knowledge as ‘reasoning about information to actively guide task execution, problem solving and decision making’. Van der Spek and Spijkervet (1997) defined knowledge as ‘a whole set of insights, experiences and procedures which therefore, guide the thoughts, behaviours and communication of people’. Sveiby (1994; 1997) observed knowledge as the capacity to act. These definitions confirm that knowledge is dynamic, context specific and is captured in time. These definitions are valuable and a description of the nature of knowledge will be important.

A continuous movement of knowledge is evolved by enclosure of new data, information and knowledge on the existing knowledge baseline. This provides a continuous process

of growth, learning and innovation of knowledge. This dynamic nature of knowledge is a “*consequence of action and interaction of people in an organisation with information and with each other*” (O’Dell & Grayson, 1998, p. 4). It is increasingly vital that knowledge in organisations is well managed because of its purposeful application within and between the business contexts. The knowledge-creating and knowledge-conveying actions are therefore an important activity in an organisation. These actions can be assembled as person-to-person contacts or in the form of face-to-face conversations.

3.4: The Characteristics of Knowledge

This section explains the different classifications of knowledge: tacit and explicit knowledge, individual and collective knowledge. There are several ways of classifying and describing the characteristics of knowledge. One is to make a distinction between tacit and explicit knowledge and another is to separate individual knowledge from collective. There are also other classifications with some similar characteristics to that of tacit and explicit knowledge. Penrose (1959) for example, made a distinction between objective and experimental knowledge while Hayek (1945) divided knowledge into scientific and practical. This section will mainly focus on the first two classifications.

The purpose of studying different classifications of knowledge is necessary to understand the diverge characteristics of different knowledge. Throughout this research, the classification of tacit (private) and explicit (public) knowledge will be used to create an understanding of what kinds of knowledge that are transferred in the empirical study. The dispute about where knowledge resides and whether it is individual or collective, they are also important for the discussion about how knowledge is transferred in the SMEs organisations.

Polanyi (1967) proposed the simplistic definition of the characteristics of knowledge. Nonaka and Takeuchi (1995) used this approach to make distinctions between explicit and tacit knowledge. Explicit knowledge is knowledge that is easily codified and shared, as an example the specifications of product. Whereas tacit knowledge is personal, rooted in values and routines and is difficult to share such as presentation skills (Polanyi, 1967). In the knowledge management literature tacit knowledge is referred as an intangible knowledge; a knowledge that has not or cannot be accurately formalised or made explicit. According to Nonaka & Takeuchi (1995) there are two dimensions to tacit knowledge. First one is the technical dimension that encompasses skills and competencies. The second one is the cognitive dimension, consisting of things such as beliefs and values. In addition, the knowledge management literature assumed that transforming knowledge into an explicit form does not meet its objective (Nonaka & Takeuchi, 1995). According to Maula (2000) explicit knowledge can be quite irrational or ambiguous. Because one can not be sure that explicit knowledge represents reality as personal knowledge is influenced by what is seen as specific.

Lundvall (1996) defines knowledge into four effective categories as presented in Table 3.1, namely 'know how', 'know who', 'know what' and 'know why'. 'Know what' is about facts, 'know how' about skills and competencies, 'know why' about the principles and laws and 'know who' about who knows what.

Table 3.1: Lundvall's Classification (1996)

Lundvall Classification	Knowledge
Know what	About facts
Know how	About the skills and actions needed for the task
Know why	About the principles and laws
Know who	About who knows what and how

The most important point among these categories is 'know how', the knowledge of skills and performance. 'Know how' knowledge holds many tacit elements. According to Cohen & Levinthal (1990); Huber (1991); Kogut & Zander (1992) and Polanyi (1967) these elements are found in the ideas, commitment, relationships and experience behind the knowledge. Szulanski (1996) and Simonin (1999) both highlighted that the tacit content in knowledge can make it harder to understand and requires more social interaction before between the people involved. Szulanski (1996) and Simonin (1999) explained this knowledge is knowledge with impact. According to them the unique nature and strategic value of the knowledge is obtained by transfer of these tacit elements.

Gupta & Govindarajan (2000a) further defined that 'know how' knowledge is a complementary or a substitutive knowledge. They described complementary knowledge as knowledge with a smaller amount of confrontation because it complements existing knowledge. They also explained that knowledge often meets greater confrontation if it is replaced by other knowledge. This confrontation is often greater if the replaced knowledge served the task well.

The nature of knowledge and its affects on knowledge flows and creation is important to effective knowledge management. For example, according to Lam (1997); Nonaka & Takeuchi (1995) and Simonin (1999) the tacit elements in knowledge should be recognised to ensure its transfer by using sufficient social interaction. This social interaction provides the forum for the explicit and tacit element of knowledge to act together. Fahey and Prusak (1998) explained that people shape knowledge creation in a firm by allowing tacit knowledge to interact with explicit knowledge. This helps in knowledge to be captured, assimilated, created and internalised into the organisations knowledge base. This process is discussed in the following section.

3.4.1: Tacit and Explicit Knowledge

Polanyi (1962) was the first person to explain the differences between explicit and tacit knowledge. Polanyi's statement "we can know more than we can tell", implied that tacit and explicit knowledge should be seen as inseparable dimensions of knowing (Polanyi, 1967: p. 4), highlighting the intrinsic value of tacit knowledge (Koulopoulos & Frappaolo, 2000). Rumizen (2002: p. 8) stated that explicit knowledge "*encompasses the things we know that we can write down, share with others, and put into a database*". Explicit knowledge can be summarised, encoded, articulated in reports, books, words and data and widely distributed amongst people and employees in the organisation. On the other hand tacit or implicit knowledge is more complex and unarticulated and takes more time to develop and internalise and is found in individual mindsets. According to Rumizen (2002: p. 8) "*Tacit knowledge is what we do not know that we know. It includes know-how, rules of thumb, experience insight, and intuition. It is hard to express, process, capture, or transmit in any systematic or logical manner*". Tacit knowledge is the collection of mind sets of everyone within an organisation and comprises the broader level of knowledge in the organisation. This collective mind set

of values, principles and ways of doing, although implicit acts as filter to guide employee behaviour and decision-making and is ultimately entrenched in an organisation's culture (Saint- Onge, 1996, Stewart, 2001).

Table 3.2: Tacit and Explicit knowledge conversion (Nonaka and Takeuchi, 1995)

From \ To	Tacit Knowledge	Explicit Knowledge
Tacit Knowledge	1. Socialisation "Sympathized knowledge": Share experiences to create tacit knowledge. Example: on-the-job training. Example: interacting with customers.	2. Externalisation "Conceptual knowledge": Articulate tacit knowledge explicitly: metaphors, concepts, hypotheses, models, writing.
Explicit Knowledge	4. Internalisation "Operational knowledge": Learning by doing, to develop shared mental models and technical know-how.	3. Combination "Systemic knowledge": Manipulating explicit knowledge by sorting, adding, combining, etc. Example: formal education.

Table 3.2 represents some confusion within both fields on the matter of explicit and tacit knowledge and to what extent they should be differentiated. Based on the original concept from Polanyi (1967), Loebbecke & Paul(2000), Nonaka & Takeuchi (1995), Nonaka, Toyama, & Konno (2001) divided knowledge into two different types, while others (Allen, 2000, Brown & Duguid, 2001, Gertler, 2003) argued that tacit and explicit are dimensions of knowledge. Nonaka and Takeuchi (1995) concluded that explicit and tacit knowledge are not exclusive, but rather complementary. They argued that knowledge can be converted from one form to the other and it is generally seen as more geography-bound and dependent than codified knowledge (Cooke & Morgan, 1998, Florida, 1995, Gertler, 2003, Lundvall, Johnson, & Lorenz, 2000). Their interpretation of the existence of tacit and explicit knowledge is based on dimensions of the knowledge. These dimensions are mutually interdependent because the explicit

dimension is based on the previously interiorized, implicit or tacit dimension (Allen, 2000, Brown & Duguid, 2001, Gertler, 2003, Howells, 2002).

Knowledge conversion (between explicit and tacit) is a crucial part of the social job of sharing knowledge. *“The sharing of tacit knowledge requires interaction and informal learning processes such as storytelling, conversation, coaching, and apprenticeship of the kind that communities of practice provide. Communities of practice are in the best position to codify knowledge because they can combine its tacit and explicit aspects”* (Wenger *et.al.*, 2002: p. 9). The most important factor in tacit knowledge is to facilitate its effective sharing. The employees are to be actively involved in the process to learn and growth through collaboration and the effective exchange of knowledge (Saint-Onge, 1996). Nonaka and Takeuchi (1995) thus suggested four distinct patterns of knowledge creation or sharing in any organisation, based on the distinction between tacit and explicit knowledge as shown in Table 3.2. They also believed that these four patterns of knowledge creation interact dynamically as a knowledge spiral where an organisation builds on tacit knowledge to create new explicit knowledge that in turn creates new tacit knowledge at a higher level.

Nonaka (1994) modified Polanyi’s two concepts and explained that explicit or codified knowledge refers to easily transferable knowledge, which can be articulated verbally or in writing. Such knowledge is available in databases, guidelines or organisational charts (von Krogh *et al.*, 2000). The explicit dimension is more common, whereas in reality what can be expressed in words and writing is only a small part of our entire knowledge (Nonaka 1994). Whereas according to von Krogh *et al.* (2000) tacit knowledge is defined as knowledge acutely rooted in actions, commitment and involvement, which is difficult to articulate in written documents. Nonaka’s view about tacit knowledge’s

transferability is similar to Sanchez's and Heene's (1997) view and they state that transfer of tacit knowledge requires activity and participation from people. Grant (1996) simplified the distinction and identified know-how with tacit knowledge and know-that with explicit knowledge.

3.4.2: Individual (Private) and Collective (Public) Knowledge

The individual and collective knowledge in organisation are linked with the issue of organisations wanting to make employees' knowledge their assets. "*The important question is how to convert individual knowledge to organisational knowledge*" (Cohen, 1998: p. 23) because individual knowledge is difficult to manage. Similar to Polanyi (1967), Nonaka and Takeuchi (1995) observed that the origin of knowledge is individual and organisational knowledge is collective knowledge that is shared and transformed by individuals within the firm. On the other hand Nelson and Winter (1982) believed that organisations have an ability to know separately of its employees. They stated that the organisation acquires better routines by gaining new knowledge and using this knowledge in the standards and norms of the organisation.

According to Brown and Duguid (1991) a great deal of knowledge is created and held collectively in strongly joint communities in the organisation. This makes the character of organisational knowledge heavily social with shared experience and knowledge of the community. Knowledge resides in three basic elements of the organisation namely members, tools and tasks (Argote and Ingram 2000). Members are the individuals in the organisation. Tools contain information technology (IT) such as hardware and software. Tasks reflect the goals, intentions and purposes of the organisation. Knowledge creation is the combination of these three basic elements. Cohen and Prusak (2001) extended these three elements to five, adding retention bins or repositories. These elements are

individual members, roles and organisational structures, the organisation's standard operating procedures and practices, its culture, and the physical structure of the workplace.

The discussions above explain the different mechanism used in knowledge transfer and states its advantages and shortcomings which will be analysed further in this study.

The second section of this chapter provides a deeper insight into how knowledge is managed, created and transferred.

3.5: Knowledge Management

Knowledge management in many organisations begin by trying to understand *what* they know about knowledge and *where* that knowledge is. Information technology is considered important in knowledge management to codify, systemise and standardise the knowledge. Knowledge management is the product of a convergence of several streams of research addressing implications of knowledge management, management of technology, the economics of innovation and information, resource based theory and organizational learning (Spender and Grant, 1996). Several organisations thus implemented IT systems while ignoring the cultural aspects, which influence how people behave around knowledge (Davenport & Prusak, 1998). Knowledge should be managed just as other resources in the organisation regardless of how it is captured. Some organisations keep the gained knowledge as products to use in the future, while others even want to turn it into something accessible. The question however remains that whether knowledge can be managed and for what purpose. Is the purpose to increase knowledge sharing, or is it to make the knowledge sharing visible to management? According to Tuomi (1999), some argued that the concept of knowledge management is misleading because knowledge cannot be "managed". It is a debatable

topic but what is evident is that the management of knowledge is emphasised by both theorists and organisations. According to McElroy (2003) knowledge management (KM) is the science that outlines the rules for organisational learning and it is a management discipline that seeks to enhance knowledge processing. Knowledge processing consists of social processes that are responsible for the production and integration of knowledge in organisations (Firestone & McElroy, 2003).

The management of the knowledge production is the creation of new knowledge (Tuomi, 1999). Knowledge affects the present socio-economic trends and importance of knowledge depends on its capacity to affect the market and its ability to penetrate into the products. Information technology initiated many organisations to depend on knowledge than on labour. Knowledge for such organisation has become their most precious asset and their crucial competitive ability (Nonaka, 1994). Knowledge needs to be managed effectively to become valuable for a firm and it is achieved by continuously gathering correct knowledge from various sources, sharing it widely by all levels of the firm and using it efficiently. The innovative power of firms increases in parallel with the increase of satisfaction of goods and services utilising knowledge. The main factors affecting the sustainable competitive advantage of knowledge are: how to obtain knowledge constantly, quickly, correctly and with the least cost and to transfer this knowledge into importance for a firm. According to Alavi & Leidner (2001) there is distinction between KM and knowledge management systems (KMS). KMS is regarded as processes that involve various activities that include the four basic processes of knowledge creation, storing/retrieving, transfer and application. This distinction provides an improved understanding of the control, the process or technical and human part of KMS. This view is normally presented as three circles with KM located in the overlapping area as displayed in Figure 3.2 (Collison & Parcel, 2001).

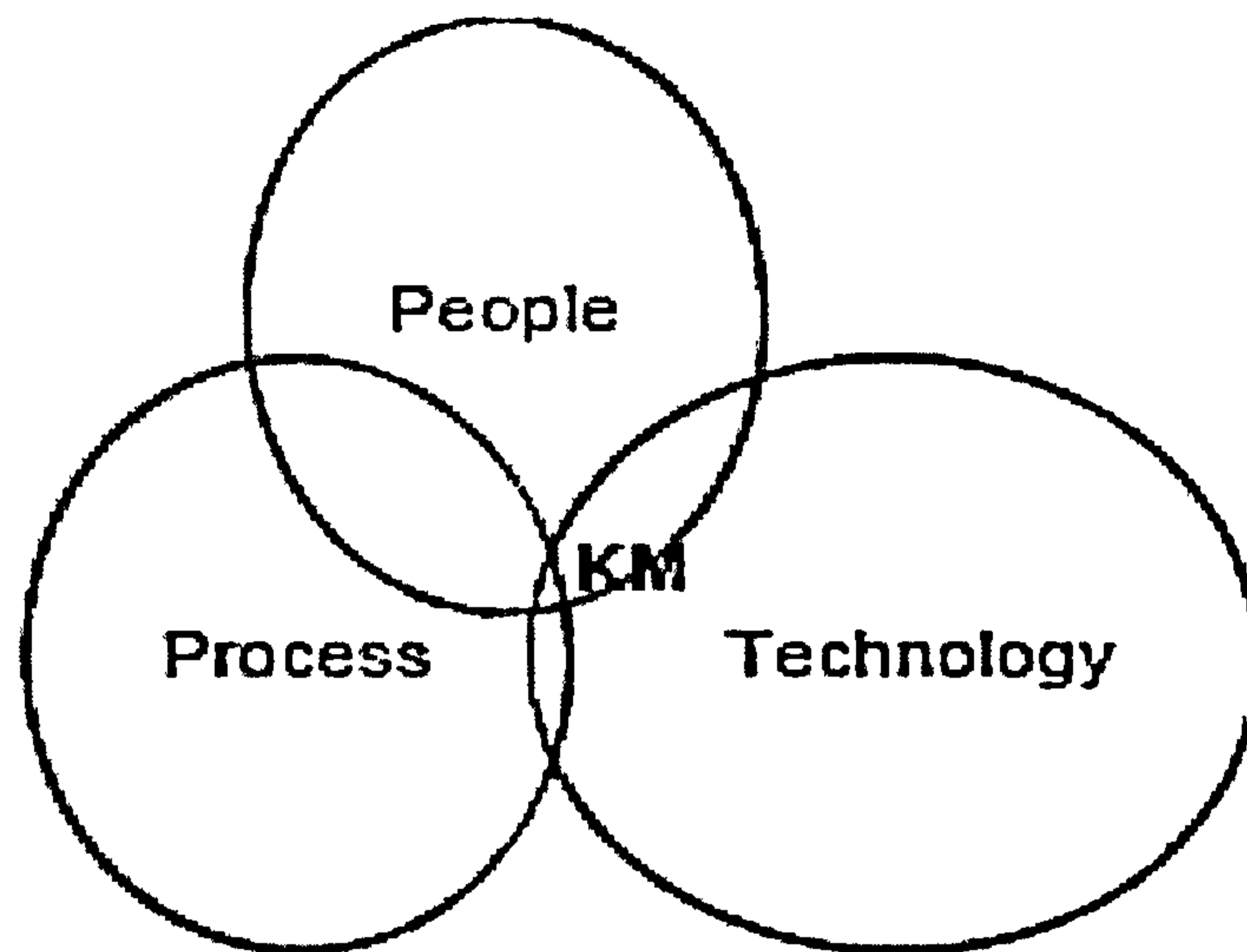


Figure 3.2: Elements of Knowledge Management Systems (KMS)

In this model each element has a specific role and function. As the bearers of knowledge people need to be linked with others in order to share knowledge, ask questions and listen. Processes must be put in place to connect people, thus simplifying sharing, validation and the distillation of knowledge. A reliable technology infrastructure is required to facilitate the sharing and storing of knowledge and information, making explicit knowledge accessible and tacit knowledge more available with the use of multimedia and video conferencing. For KM to be successful, all three of these elements need to be addressed in the organisations.

There are two schools of thought relating to KM strategy. According to first there is the social or personalisation approach where *“knowledge is closely tied to the person who develops it”* (Hansen, Nohria & Tierney, 1999: p. 107). In this approach people are connected with one another and everybody shares knowledge within an enabling environment. This approach although good does not automatically contribute towards organisational development. Second one is the mechanistic approach that centres on the computer. It is based on the principle of *“economies of reprocess”*. According to this approach the knowledge is captured in electronic format and stored in content

repositories accessible and used in many jobs and by many employees, thus saving time and effort (Hansen *et al.*, 1999: p. 110). Here knowledge is considered as an object rather than a process. The most viable approach is to consider knowledge is a process of deliberate, understanding and design of knowledge. It is viewed as an organisational asset and an organisation should have a business driven model to manage its knowledge or information. This identifies and allocates the business-specific knowledge executing its operations and the overall strategy (Van der Westhuizen, 2002).

There are various views of 'knowledge management' in the literatures. Some authors explained that KM is "*the systematic processes by which knowledge needed for an organisation to succeed is created, captured, shared, and leveraged*" (Rumizen, 2002). The KM alternatively is acknowledged as "*the key to unlocking the synergism potential in any company or organisation*" (Russell, 2001, p. 28). A more extensive view of KM is "*the acquisition and use of resources to create an environment in which information is accessible to individuals and in which individuals acquire, share and use that information to develop their own knowledge and are encouraged and enabled to apply their knowledge for the benefit of the organisation*" (Brelade & Harman, 2000, p. 27). Von Krogh, Ichijo and Nonaka (2000: p. 12) explained the goal of KM is "*to stimulate individual professionals to do an excellent job while capturing their knowledge and transforming it into something the company can use – new routines, new customer insights, new product concepts*". Koulopoulos and Frappaolo (2000: p. 38) defined KM as "*the leveraging of collective wisdom to increase responsiveness and innovation*". KM can also be seen as fulfilling a strategic function:

"When explicitly managed, organisational knowledge is used to accomplish the organisation's mission. Knowledge management is therefore a conscious strategy of getting the right knowledge to the right people at the right time and helping people

share and put information into action in ways that strive to improve organisational performance” (O’Dell & Grayson, 1998: p. 6).

Sunoo (1999, p. 30) summarised it as: *“Knowledge management in organisations refers to an enterprise that consciously and comprehensively gathers, organises, shares and analyses its knowledge to further its goals. However, the commercial value occurs only when it is put into action. Therefore, a company needs to identify the areas where sharing of knowledge and best practices can help improve its performance”.*

A few authors explored the link of KM with various areas in the organisation recognised that KM is no simple task and involves many composite organisational issues. *“Knowledge management coexists well with business strategy, with process management, staying close to your customer, organisational change management and human resource management practices” (Davenport, 2000, p. 163).* This was also justified by Collison and Parcell (2001, p. 18): *“Knowledge management is a hybrid discipline, neither art nor science; functionally it can straddle the fields of learning and organisational development, human resources and IT”.*

The purpose of KM and broad understanding of the ideas behind are described above and the KM can consequently be seen as a national and international approach aimed to acquire knowledge from knowledgeable people, sharing this with appropriate people at the right time with right technology and putting that knowledge into action to improve organisational performance. The key purpose of KM is to support continuous learning process within and between the organisations in order to improve the ability to cope with regular knowledge changes in the SMEs market. The fact is that the KM is important for knowledge in the organisation and that knowledge originates and resides in human beings for knowledge transfer. It is therefore a *“misnomer to say that we*

manage knowledge. We cannot manage what happens in people's brains, and it is presumptuous to say we can manage people's thought processes" (Koulopoulos & Frappaolo, 2000, p. 18). These assumptions represent the fundamental basis of the present study and starting-point for knowledge transfer (KT), namely the successful management of people so that their knowledge is made available to the organisation. The focus is on encouraging the extraction and sharing of knowledge and managing the use of ideas and expertise. This process should not depend on the amount of information gathered, but on the number of energetic connections created to connect information and people with knowledge transfer. The objective of both KT and KM should therefore be to inflate the level of tacit knowledge throughout the organisation by emphasising the creation of an enabling location for attractive knowledge. This is attained by managing the environment in which *"knowledge can be created, discovered, captured, shared, distilled, validated, transferred, adopted, adapted and applied"* (Collison & Parcell, 2001). Human training and education are knowledge capital of the firm's resources and have strategic significance in knowledge management and transfer (Spender and Marr, 2005). The following section explains the mechanism for knowledge management process.

3.5.1: Gartner Group

The Gartner Group categorises knowledge management into knowledge creation, knowledge sharing and knowledge use. Knowledge Sharing is further defined as Capture, Organise, Display and Access. Figure 3.3 describes these categories in the knowledge management process and the flow of knowledge according to the Gartner Group.

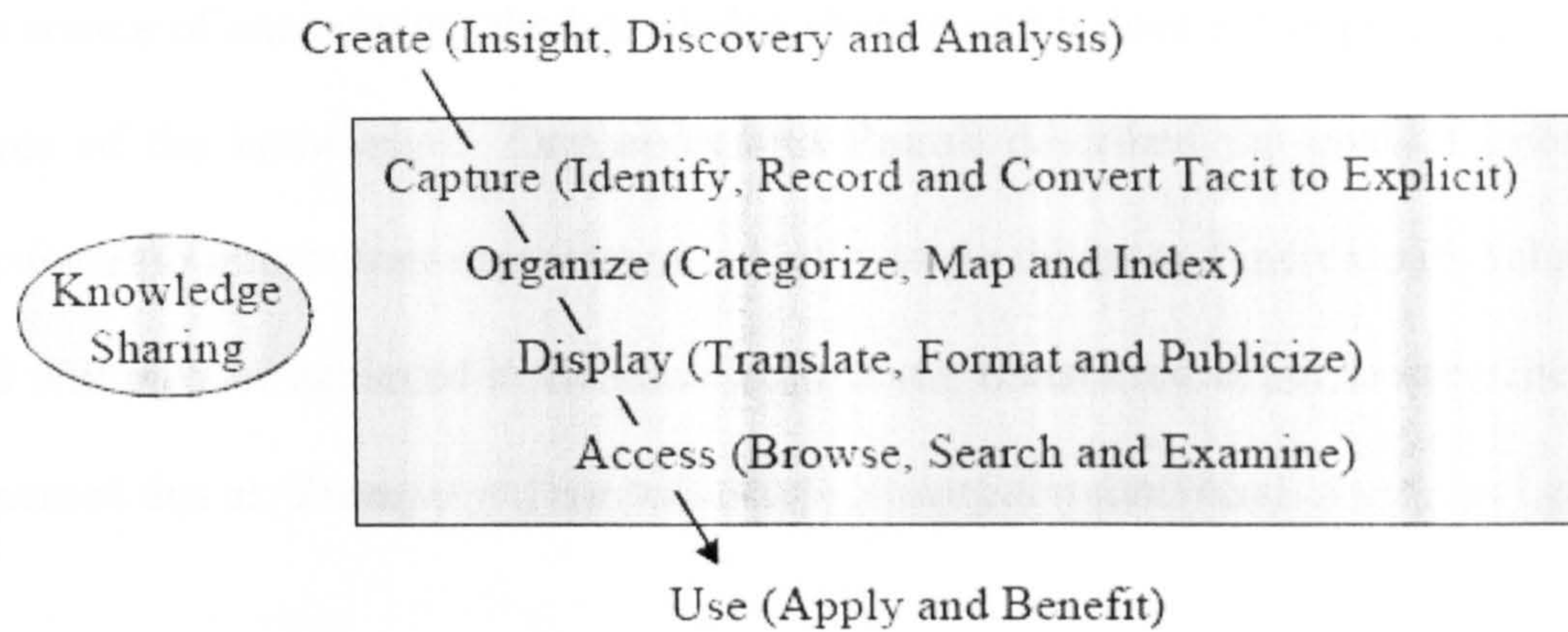


Figure 3.3 Gartner Group Knowledge Management Process Frameworks (Harris, 1998)

3.6: Knowledge Management Complications

According to Harris (1998) the knowledge management practice in general has three main activities such as: creating new knowledge, representing knowledge, and making it available to other people. The problems are how to make this knowledge management process work and getting the details of the process right. For example encouraging people to contribute in the process, providing people with time and opportunity to contribute. Davenport and Prusak (1998) reported several cultural and social obstacles in knowledge transfer:

- *Lack of trust*
- *Different cultures, vocabularies, frames of reference*
- *Lack of time and meeting places*
- *Status and rewards go to knowledge owners*
- *Lack of absorptive capacity in recipients*
- *Belief that knowledge is prerogative of particular groups, not-invented here-syndrome*
- *Intolerance for mistakes or need for help*

Knowledge management is a system where persons can contribute knowledge and can be a source of encouraging the knowledge sharing and it does not require exposing the source of the knowledge. Davenport and Prusak described the goal of knowledge transfer as to improve an organisation's ability to do things and increase its value. This goal will only be achieved if the knowledge being transferred is put to use. They have expressed this as: *Transfer = Transmission + Absorption (and Use)*

3.7: The process of Knowledge Creation and Transfer

This section describes the main theme of this thesis and the aim is to understand the creation and transfer of the knowledge. Knowledge transfer is a fundamental part of the interaction between tacit and explicit knowledge in knowledge creation. According to Nonaka and Takeuchi (1995) knowledge creation is a spiralling process starting with the individual and then moving across the organisation in a never-ending process of knowledge transfer. Davenport and Prusak (1998) argued that knowledge is only transferred when it is absorbed. The researchers view on the purpose of knowledge transfer is based on assumption that transferring knowledge is to make an exact copy of the knowledge being transferred or to make local refinements. The reason for this is that different theorists use different words, such as transfer, conversion and translation (Nonaka & Takeuchi, 1995; Kogut & Zander, 1992; Cordey-Hayes & Major, 2000). These words have different meanings and are not interchangeable. Transfer meaning moving something from one place to another and conversion and translation focus on making adoptions. The word transfer will be used throughout in this thesis to maintain consistency. According to O'Dell and Grayson (1998) making adaptations are more important than making an exact copy of the transferred knowledge. O'Dell and Grayson (1998) referred this re-use as re-creation of knowledge. They remained sceptical by pointing out that if only existing knowledge is used for reuse then no new knowledge

will be created. Reusing or creating new knowledge reflects the western view versus the Japanese view (Cohen, 1998). After having defined knowledge creation and transfer, a theoretical view will be provided in the following section.

According to Argote and Ingram (2000) knowledge transfer in organisations is the process where one unit, e.g. group, department, or division learns by the experience of another. They recognised that knowledge can be transferred in two ways, either by moving a knowledge pool, people or technology, from one unit to another, or by modifying a knowledge pool. People and technology can thus be moved between units and modification can be achieved through communication and training. Tacit knowledge can be transferred to other tasks and contexts by moving people whereas transferring knowledge by embedding it in technology are only effective if accompanied by a few individuals because the individuals have the tacit knowledge and understanding behind the technology. The models based on Nonaka and Takeuchi's (1995) conventional theory of knowledge creation and the concept of intellectual capital (Stewart, 1997) provide an insight on the role of knowledge transfer in knowledge creation and explained next.

Nonaka and Takeuchi (1995) defined four independent modes for knowledge creation: (1) *Socialisation*: from tacit knowledge to tacit knowledge; (2) *Externalisation*: from tacit knowledge to explicit knowledge; (3) *Combination*: from explicit knowledge to explicit knowledge; (4) *Internalisation*: from explicit knowledge to tacit knowledge. Most knowledge is nevertheless created with the combination of the different modes. According to Nonaka and Takeuchi (1995) organisational knowledge is formed where knowledge is initially created by the individuals in the organisation. Tacit knowledge becomes explicit and then transferred from individuals to groups and in the end to the

organisation. This creates a positive knowledge spiral (Nonaka & Takeuchi, 1995) which can start from any of the four modes but usually begins with socialisation. Polanyi's (1967) contradicted the above view because tacit knowledge cannot by definition be made explicit and knowledge transfer in a spiral mode can not be thus accomplished. Figure 3.4 shows the knowledge transfer in spiral mode as indicated by Nonaka and Takeuchi (1995). The four modes used in knowledge transfer are now explained next.

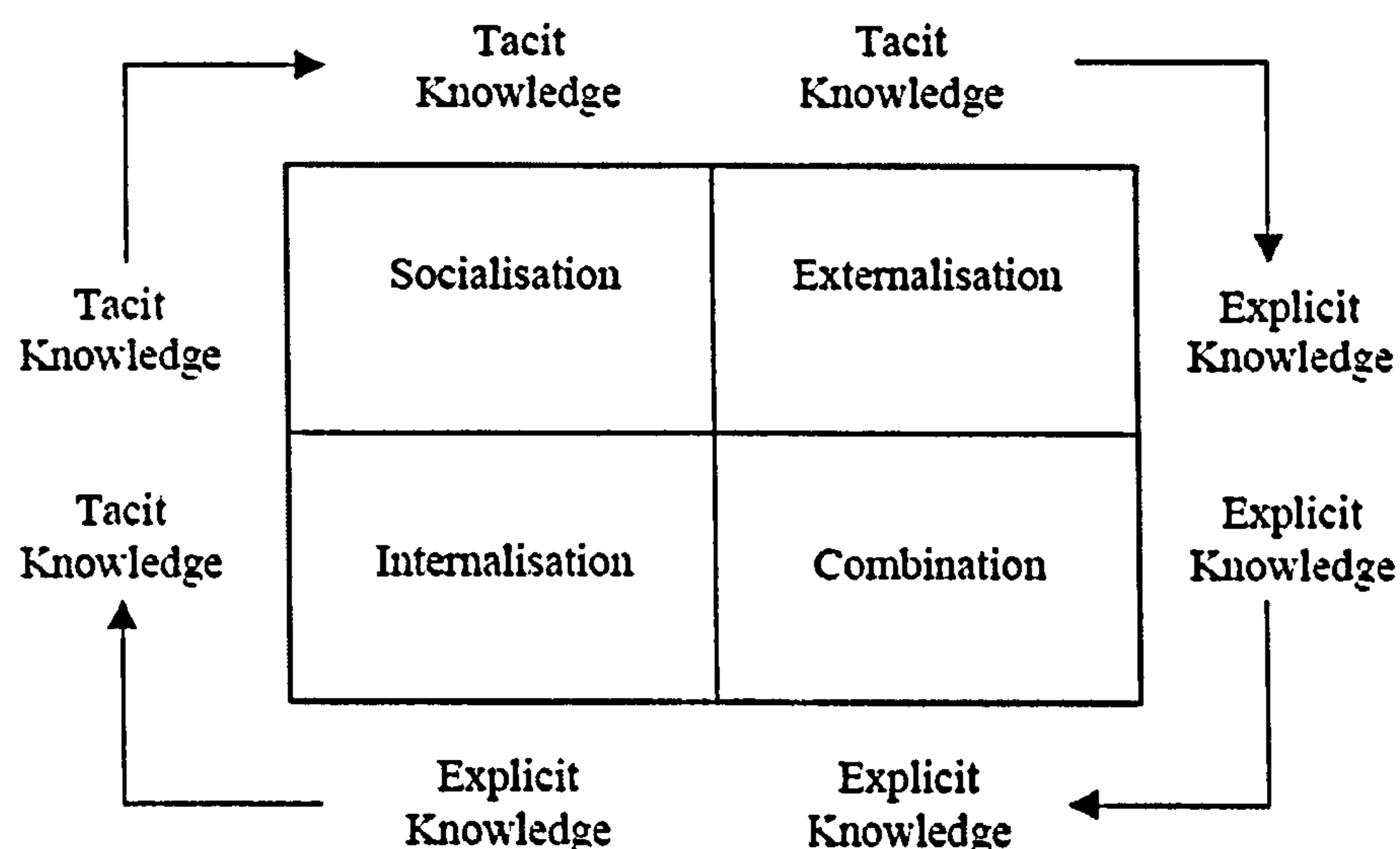


Figure 3.4 Four modes of Knowledge Creation and Transfer

(Source: Nonaka & Takeuchi, 1995)

3.7.1: Socialisation

A number of authors indicated the importance of socialisation in knowledge development (Demarest, 1997; Nonaka & Takeuchi 1995; Schein 1993). Socialisation is fundamental to tacit knowledge sharing and Argyris & Schon (1978), Schein (1993; 1996), and Senge (1990) encouraged knowledge sharing through social interaction. According to them the group will be benefited through flow of knowledge by creating a shared understanding and motivating a group to collaborate. Each individual interacts with their own ability in various formal and informal forms (Sveiby, 1994, 1997) such

as formal face-to-face meetings or telephone conferences, or informal conversation while eating together in café area.

3.7.2: Externalisation

The process of externalisation is based on dialogue and collective reflection and requires the expression of the tacit knowledge in understandable forms so that it can be integrated into the group. Dialogue or reflection is used to arrive on a joint understanding of the meaning and value (Graumann 1990; Nonaka & Takeuchi, 1995; Senge, 1990). According to Nonaka and Konno (1998) externalisation supports the knowledge in an explicit form while transmitting the tacit elements to the listener at the same time. Externalisation is mostly expressed with language through metaphors, analogies, concepts, hypotheses or models (Emig, 1983; Nonaka, *et al.*, 2000).

3.7.3: Combination

Knowledge combination is achieved by making explicit knowledge more explicit by sorting, adding and combining with other explicit knowledge (Nonaka & Takeuchi, 1995). Nonaka, *et al.* (2000) summarised the factors that constitute combination are acquisition and integration, synthesis and processing, and dissemination of documents, databases, meetings and telephone conferences. Data and information gathered and sorted together provides achievement and incorporation. Combination and processing are obtained through development of documents and databases. The distribution occurs by making this knowledge available to others.

3.7.4: Internalisation

The internalisation based on documents, documentation of explicit knowledge and oral stories is a process where explicit knowledge is converted into tacit knowledge and it is

often referred as “learning by doing”. Nonaka & Konno (1998) stated that new knowledge is internalised into an organisation’s tacit knowledge through incorporation of both tacit and explicit knowledge into organisational practices. Nonaka and Takeuchi (1995) saw this as the ‘learning by doing’ phase and show the experience behind the knowledge. Pfeffer and Sutton (1999) stressed that the knowledge is processed and integrated into the organisations existing knowledge through application and exploitation of the knowledge. The section below shows the need for knowledge transfer.

3.8: The need for Knowledge Transfer

In the literature the process of knowledge transfer is interchangeably described as knowledge transfer (Garvin, 1993; Gupta & Govindarajan, 2000a, 2000b), knowledge dissemination (Demarest, 1997; McAdams & McCreedy, 1999), knowledge flows (Gupta & Govindarajan, 2000b), and knowledge distribution (Huber, 1991). This is identified as a dynamic process between the individual or group and the organisation’s knowledge stocks. The routines, behaviours and strategic orientations of organisations are created by the simultaneous movement of knowledge in a forwards and backwards direction between individuals, groups and the organisation (Argyris & Schon, 1974; Argyris & Schon, 1978; Grant, 1996; Levitt & March 1988; March & Olsen 1975). It is also important to differentiate between knowledge transfer at individual and organisational level. The observation of knowledge transfer between individuals may not always be visible as some knowledge transfer can alter a person’s awareness but not their behaviour (Huber, 1991). Knowledge transfer makes knowledge as a part of the organisation’s process, systems and activities at organisational level. Knowledge that is part of the organisation’s structural capital is embedded into the organisation’s practice and therefore more visible than individual knowledge which remains in the heads of the

individual. Knowledge can often be codified and become embedded in a firm's practice but some knowledge cannot be truly represented outside the heads of individuals (Fahey & Prusak, 1998). A firm thus needs the skills and capabilities to obtain this knowledge and to know the potential in the knowledge and should be able to incorporate this knowledge into their organisation's structure in a easily accessible place. This combination and integration process completes the knowledge transfer and knowledge becomes part of the organisation's knowledge stocks and renews a firm's skills and capabilities (Tsai, 2001; Garvin, 1993). Knowledge transfer therefore includes the flow of knowledge between organisations and the ability to understand and to utilise this knowledge and also the reality that the evidence of knowledge transfer may not always be easily seen. The nature of the knowledge is thus the important factor in considering knowledge transfer.

Socialisation, externalisation, combination and internalisation (SECI) Process Model is the Intellectual Capital (IC) model. The knowledge creation concept in the IC model is based on organisation's intangible resources. IC makes up a significant part of an organisation's promoting value. This model is discussed below.

3.9: Intellectual Capital

Intellectual Capital (IC) model as shown in Figure 3.5 is categorised as human capital and structural capital. Human capital is a knowledge that goes home with the employee and structural capital is the knowledge resides in the systems and processes of the firm. Structural capital is further defined as customer and organisational capital. Both customer and organisational capital involve human interactions developing relationships and can be termed as social capital (Edvinsson, 1997; Stewart, 1997; Sveiby, 1997). The

IC model actively capitalised human and customer capital into structural capital (Edvinsson, 1997).

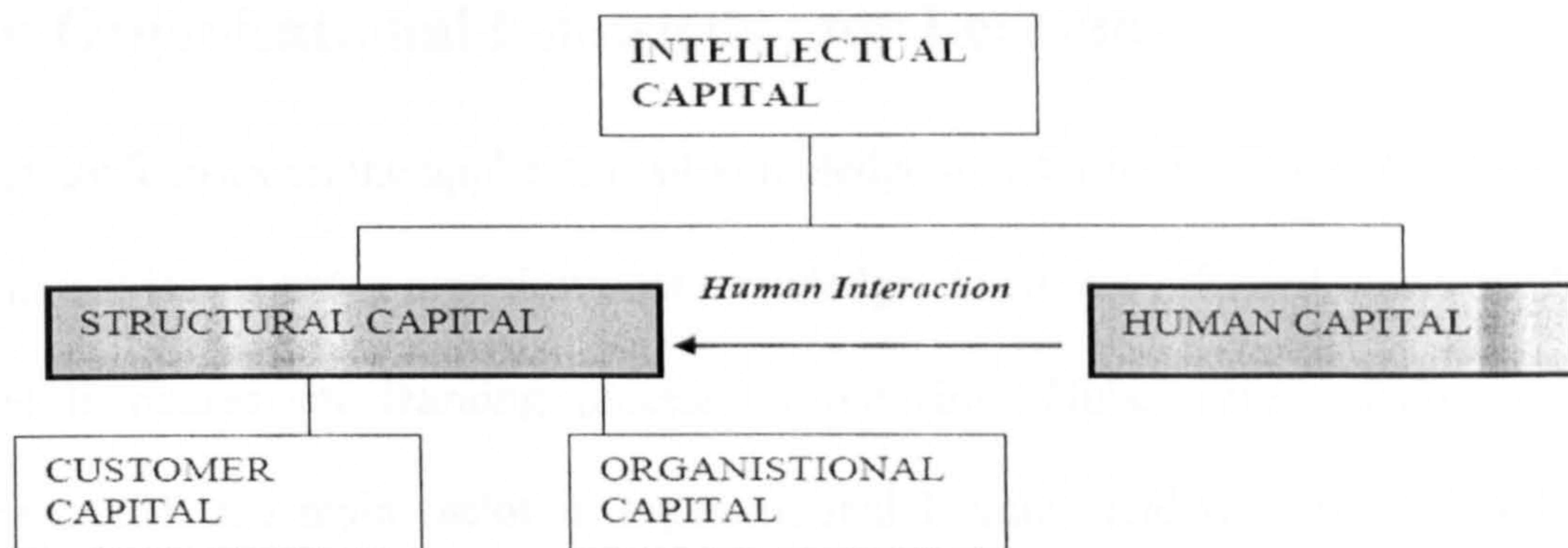


Figure 3.5 Intellectual Capitals from Human Capital to Structural Capital

(Source: Edvinsson, 1997)

IC model is criticised by McAdams and McCreedy (1999) and Bontis, *et al.* (2000) as too restrictive. According to them IC models is mechanistic in nature and fails to recognise the social context involved in learning and intellectual capital creation. However, Adler and Kwon (2000), and Coleman (1998) argued that the social context involved in social capital includes relationships supported by trust, beliefs, rules and social networks. Nahapiet and Ghoshal (1998) supported and believed that social capital facilitates the creation of IC. Structural set in knowledge involves forming the network of relationships and connection set in knowledge links the types of formed relationships. Edvinsson (1997, p. 372) also indicated that IC is *'a relationship issue not a thing, not an objective, but intangible knowledge that needs to be managed.'* Thus IC model is less problematic for the firm as it also involved socialisation similar to SECI Process Model. Both models highlighted the need to create the optimal social context for human interaction for better relationship between tacit and explicit knowledge. Knowledge creation is a dynamic process and it increases by the dynamic interaction between employees within a learning atmosphere as mentioned in both models. It is first

necessary to understand how firms learn before the literature is reviewed for knowledge conception process (Kim 1993; Nonaka & Takeuchi, 1995).

3.10: Organisational Knowledge for Learning

This study focuses on the application of knowledge transfer in the firm rather than with definitional issues about organisational knowledge. There are different views available in the literatures for learning process in the firm. Huber (1991) indicated that information is the main factor in organisational learning and it must be distributed widely to enhance the learning process. Nonaka and Takeuchi (1995) expressed that learning can be achieved in a created space. Argyris and Schon (1974) and March and Olsen (1975) studied the effect of cognitive processes on learning. Argyris and Schon (1974) considered learning as a conscious acquisition of knowledge, while March and Olsen (1975) observed learning as a response to a stimulus. Garvin (1993) believed that both cognitive and behavioural elements help in learning process.

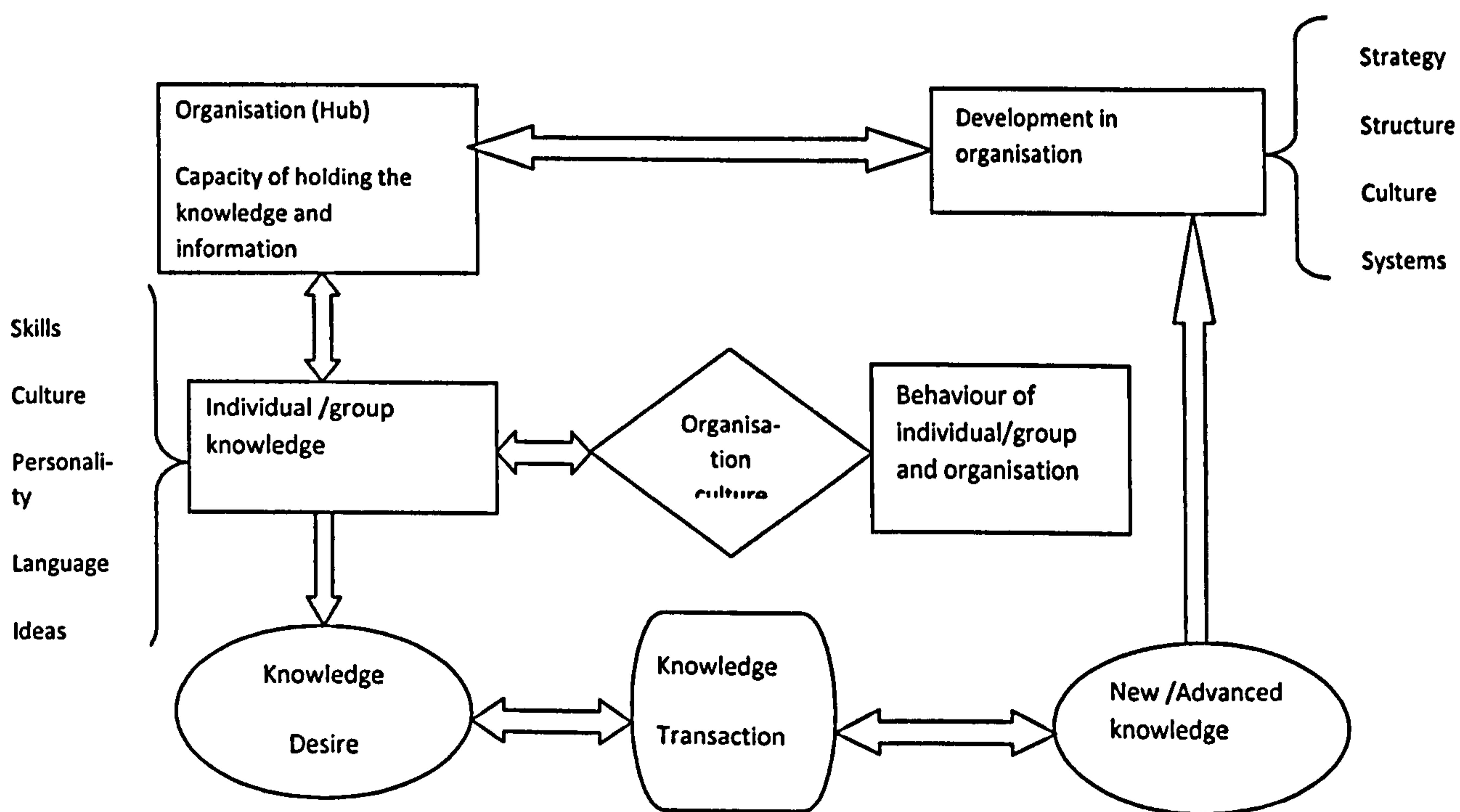


Figure 3.6 Relationships between Individual / Group Knowledge and Organisation

(Source: Author's own Interpretation)

The Figure 3.6 presents generalised organisational knowledge learning process. Organisational learning is a multilevel process and takes place at the individual, group and organisational stage (Argyris & Schon, 1974; Crossan, *et al.*, 1999; Popper & Lipshitz, 2000). Knowledge at all of these levels is held in different places and with different people. New knowledge in an organisation is produced when a new idea or plan occurs to an individual and is passed on to others and combined with the organisations knowledge (Garvin, 1993; Nonaka & Takeuchi, 1995). Social interaction in throughout the process combines various knowledge sources and allows its internalisation by the individual and the organisation (Argyris & Schon, 1974; Birkinshaw, 2001; Crossan, *et al.*, 1999; Kim, 1993; March & Olsen, 1975).

Figure 3.6 shows the knowledge transfer process between individual or group and the organisation. It identifies the process dependent on the organisations behavioural method with their traditional values, skills, culture, ideas, processes, systems and experiences. These affect the organisational learning process. An organisation's behavioural structure is made of history, culture and the business background. The new ideas are formed articulated and shared within this structure (Argyris & Schon, 1974; Crossan, *et al.*, 1999; Kim, 1993; March & Olsen, 1975). Because of difference in opinions an individual or group in the organisation develops different strategy, structure, culture and system of this behavioural method. In the initial stages of knowledge creation the individuals or group involved in the social interaction may either deny or confirm that the knowledge presented is worthy of further examination. Nonaka & Takeuchi (1995) suggested that discussion is required to seek arrangement of opinion and allow new ideas to be shared and integrated into the systems, culture, values and processes of the organisation before they are accepted. This process is affected by the contents of the knowledge, its usefulness and the participants' ability to

recognise its value (Cohen & Levinthal, 1990; Lenox & King, 2004). Nelson and Winter (1982) defined knowledge as a part of the organisation's 'routines'. It can be furnished that within an organisation there is a general understanding of knowledge learning routines. This allows individuals or groups to change their own behaviour and also the behaviour of the whole organisation. Knowledge learning is an energetic process involving stress between knowledge and management. New or advanced knowledge is created through transaction of the existing knowledge in the organisation. This shows that knowledge can be managed effectively and efficiently through reorganisation of the learning routines and the constraints on these routines put by the individual or group and the organisation. The knowledge transfer in an organisation involves various stages.

3.11: Knowledge Transfer Process

Knowledge transfer is described as a process consisting of source, channel, message, recipient, and context (Szulanski, 2000). It deals with the actual movement of knowledge from the knowledge holder to the knowledge receiver and its subsequent application and involves four interrelated sets of activities as follows:

3.11.1: Knowledge Conversion

A four-stage process for knowledge conversion cycle from one process to another is proposed by Nonaka (1994). Nonaka and Takeuchi (1995) described the conversion process as a spiral between the conversion of tacit knowledge to explicit knowledge and the subsequent re-conversion of explicit knowledge into tacit knowledge. They indicated that it is less difficult to convert technical or explicit knowledge into charts, manuals and blue prints. Tacit knowledge which resides in human mind is difficult to

articulate and can only be converted when the knowledge holder works with the knowledge receiver.

3.11.2: Knowledge Routing

Knowledge routing is the process of the actual movement of knowledge from the holder to receiver. This defines the channels used to transfer knowledge to the receivers. Inkpen (1996) identified personnel transfers, strategic linkages, joint venture-parent interaction as some of the major channels. Inter-partner relations and harmony are very important for successful knowledge transfer in any joint ventures (Demirbag and Mirza, 2000). Lane *et al.* (2001) and Narteh (2006) showed expatriates as a channel for routing knowledge from the parent companies to the alliances. Narteh (2006) suggested that local consultants would be less costly to transfer managerial knowledge to alliances. This will not only save money but the experience with the local environment will make the reconstruction of the knowledge to fit local environment less problematic.

3.11.3: Knowledge Dissemination

Knowledge dissemination is the knowledge diffusion process where knowledge passes from individual level to the group level before it finally settles within the organisational memory. The diffusion process is expected to guard against unplanned migration of the knowledge (Nareth, 2006).

3.11.4: Knowledge Application

The knowledge application is the end of knowledge transfer process and the recipient then applies the knowledge received within the alliances. March (1991) referred this process as exploitation while Marcotte and Nioffi (2000) referred this as a knowledge application. The effectiveness of the knowledge transfer is judged by its application.

Marcotte and Nioosi (2000) suggested an application framework with learning-by-doing, learning-by-adapting and learning-by-creating. The ability of the alliances to install equipments and perform basic maintenance is judged by “Learning by doing”. The ability of the alliances to adapt the knowledge to their own operations and use it to manufacture the products and services are measured by “Learning by adapting”. “Learning by creating” is the ability of the alliances to use the obtained knowledge in innovation and production of better products.

3.12: Knowledge Sharing Frameworks

Knowledge cannot be passed freely as commodity as it is tied with subjects and sharing of knowledge is a relation between at least two parties, one that possesses knowledge and the other that acquires knowledge (Hendriks, 1999). The first party should deliver the knowledge to other party who uses it as shown by Figure 3.7.

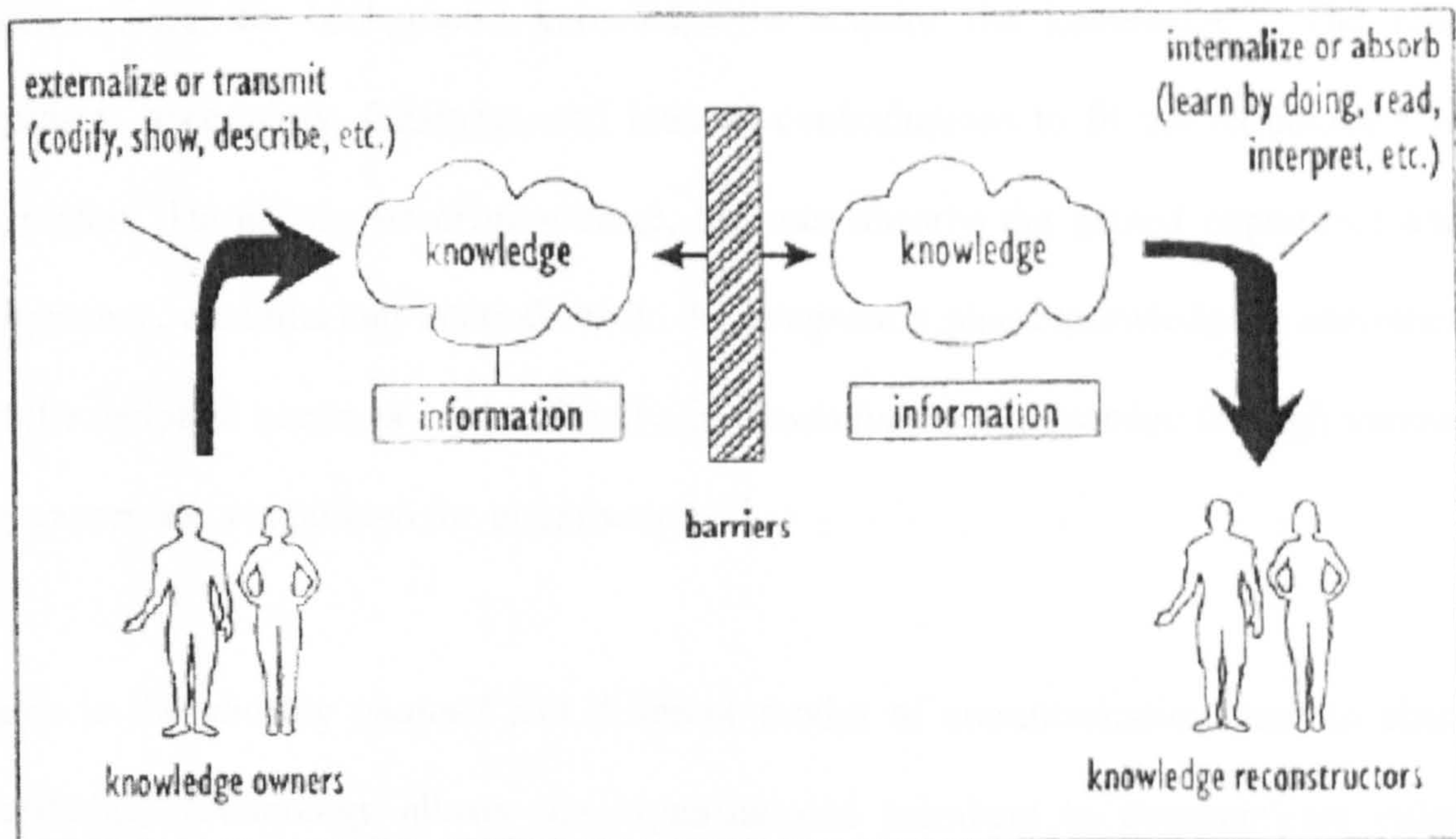


Figure 3.7: A Simplified Model of Knowledge Sharing (Hendriks, 1999)

Yeung & Holden (2000) developed a knowledge sharing model as shown in Figure 3.8 consisting of five stages of adoption, adaptation, absorption, integration, and

dissemination. These are supported by the four pillars of actor, technological enabler, sharing channel and organisational infrastructure.

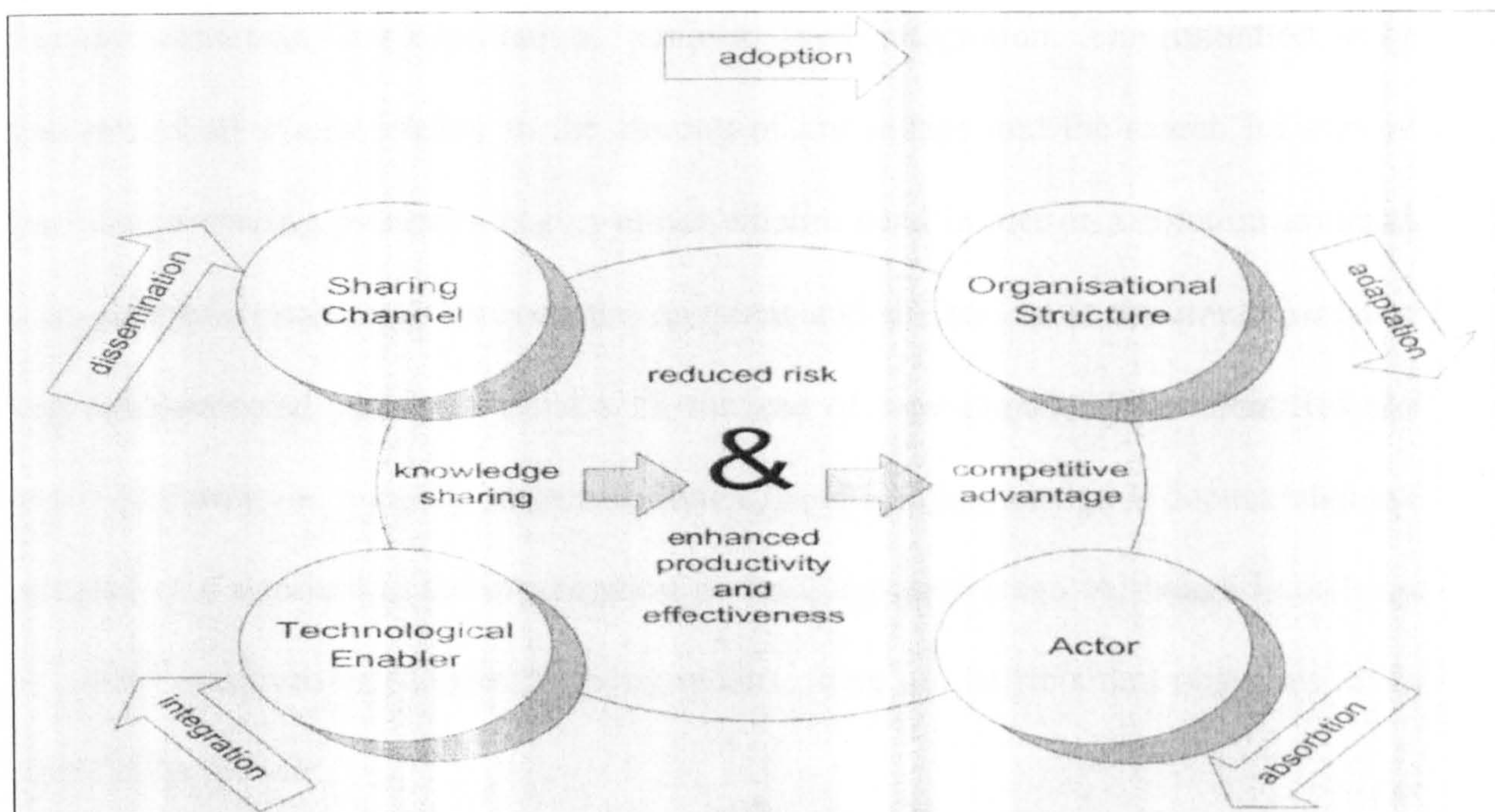


Figure 3.8 Knowledge Sharing Framework (Yeung & Holden, 2000)

The recipient obtains the relevant knowledge from the environment in *adoption*. The recipient uses the background knowledge to acquire the knowledge. The user eliminates uncertainty, fuzziness, and internal contradictions to fit the requirement in *Adaptation*. During the *absorption* stage, the user absorbs the gained experience and competence, commits and internalises it. In *Integration* phase knowledge is combined and the recipient becomes expert. Finally, in *dissemination*, knowledge through various ways are made available to the organisation.

Media is the *sharing channel* and different modes of communication used to share knowledge. *Technology* allows the organisational members to communicate either synchronously or asynchronously and acts as a critical enabler. The *organisational structure* enables the discovery, filtering and storage of knowledge and facilitates collaboration. The motivations for knowledge sharing and learning are affected by *Actors* who act as human participants.

Szulanski (1996) proposed a framework to address the difficulties in knowledge sharing in organisations. According to this framework, there are four stages to knowledge sharing: initiation, implementation, ramp-up, and integration. The initiation stage consists of all events leading to the sharing of knowledge and the search for various knowledge sharing processes begins either when a need is met or a solution is found. Knowledge is exchanged between the recipient and the source at the implementation stage. Unexpected problems faced with the use of new knowledge is identified and resolved during the ramp-up stage and finally the shared knowledge is documented and adopted as a standard in the organisation in the integration stage. Although knowledge is shared and transferred through many means, there are barriers and obstacles in the knowledge transfer.

3.13: Barriers and Obstacles in Knowledge Transfer

There are several barriers and obstacles to knowledge transfer and Lee & Al-Hawamdeh (2002) developed a model to describe these barriers into five different sources in the knowledge sharing process: the actors, the channel, the knowledge being shared, the organisation, and the environment. Knowledge transfer requires active behaviour and various barriers and obstacles in transfer of knowledge process challenge the management and competence of organisation (Dickson and De Sanctis, 2001; Brown and Duguid, 2000a).

The language ability is highly context-dependent: a person perceived as a fluent speaker in one context may be filtered out as non-fluent in another context due to his or her accent, although both the language and the speaker's skills remain the same. Collective language, therefore, may provide a common conceptual apparatus for evaluating the likely benefits.

Company function properly with a efficient manager who supervises the individual to achieve their aspirations, needs and feelings and finally benefiting the company (Heide, *et al.*, 2002).

Political factors are another barriers in the organisation and “may have a functional spirit”, which may also “block regulate”. Organisational culture acts as an important part of the organisation and thus affects the degree to successful implementation of a strategy (Heide, *et al.*, 2002, 219). Samli (1985) and Egbu (2000) barriers and obstacles models of knowledge transfer emphasises the following criteria: geography, culture, economy, business, people and government.

Knowledge is an important asset and must be transferred to where it is needed. The organisations therefore must work together to set up network links and working relationships through which knowledge can be transferred (Seufert, von Krogh & Bach 1999; Tsai 2001). Knowledge store and knowledge creation are important for any organisation and these are the result of social interaction between the members of the organisation (Dyer & Nobeoka, 2000). The networking thus plays an important role in successful knowledge transfer and knowledge management and form an important part of the organisation. The following sections describe the different form of networking and their concepts used in literature in the SMEs context.

3.14: Network Principles and Concepts

Social, professional and relationships networks for both SMEs and large firms are important and considering firm atomistic ways is becoming inappropriate (Gulati *et al.* 2000: 203). Building networks of relationships is the most crucial factor for success for any firm (Baker, 1994). Ford (1997, p. 99) defined a network “*as sets of connected*

relationships". Baker (1994) described the world as a network and companies appear as networks of relations. Networks form relationships with other organisations including suppliers, competitors or other entities. Strategic networks for firms are ties to enter into strategic alliances and long term buyer-supplier relationships and are of great significance. Firm with networks can get access to information, resources, markets and technologies as well as advantages from learning and scale economies. Networks can have disadvantages by locking firms into unfruitful relationships or preventing the development of other more productive relationships.

Network helps the firm to obtain valuable resources and capabilities to extend beyond the boundary (Gulati *et al.* 2000: p. 207). Some results suggest that firm with a greater number of network partners extracts more value from their partners and become better with experience.

Network relationship is based on transaction cost and occurs in the middle ground where transaction costs are not so high and require tight control and not so low that market-based exchange is appropriate (Gulati *et al.* 2000: p. 207). Network relationships with trust can greatly help in this situation to reduce contracting costs. Social networks and trust can also improve co-ordination between firms and help them to work together without the need for costly formal controls.

Most networks are dynamic and adapted by both external and internal influences and changes (Gulati *et al.* 2000, p. 210). These dynamics can have major consequences for a firm and restricts it to move to more advantageous alliances when circumstances demand. "Learning races" is the situation where a firm learns as much as they can from an association and then exit the alliance. These situations occurred when the private

benefits for a firm outweighs the common benefits of the alliance. Learning and the internationalisation behaviour of firms according to researchers depend on network ties (Sharma & Blomstermo, 2003). These ties provide channels for sharing knowledge and motivation. Network ties of firms are firm specific and difficult to imitate and have following consequences: (1) the information that is available to the firm, (2) its timing, and (3) referrals (Burt, 1997). Networks are a source of market information to firms it is not available to all the firms in the market. Ties influence the time of piece of information reaching to a particular firm. Referral helps to represent the firm interests at right time and right place. Firms participating in centrally oriented network receive more, better, and early knowledge compared to their competitors and internationalization process of firms is affected by these ties. The ties may be strong or weak.

3.14.1: Strong Ties

Strong ties are closed links and formed with similar attitudes, values, and concepts to access sources of information (Granovetter, 1985) and are more intimate relationships because of common backgrounds, experiences, concepts, or similar resources. Jack *et al.* (2004, p. 108) found that strong ties come from three sources: family, business contacts and suppliers, competitors and customers. The strong tie supports the importance of developing competency at the individual and organisational level (Coleman, 1988). Strong ties provide a smooth transfer for complex knowledge across departmental boundaries within the organisation (Hansen, 1999).

3.14.2: Weak Ties

Weak ties in other words involve fewer contacts and have weak bonding with individuals to access different resources. The form of weak ties provides the lesser

degree of redundancy and benefits people with more and newer information to find better jobs (Granovetter, 1973). Information sourcing and gathering are the main function of weak ties. Brass (1992, p. 306) suggested that weak ties provide channels to unrestricted and less dense network groups and it is more likely to be bridges, providing access to information and resources beyond a person's immediate social circle. Wong & Ellis (2002) illustrated that weak ties are useful to gather information for potential venture partners during the initial selection of partner. The weak tie thus is regarded as a 'bridge' in the search for a wider range of non-redundant information from other networks (Davern, 1999). There is a drawback of weak ties because of less reliability in the information shared thus increasing the redundancy of the information (Brass, 1992). Both strong and weak ties provide distinctive benefits for individuals and groups wishing to access resources and information can complement to each other.

3.15: Networks in Inter-organisation

The nature of network development in firms working as partners can be crucial to increase their efficiency and effectiveness regarding long-term profitability of objectives (Argote, 1999). Networks in organisations are mostly created by economic and social relations (Borgatti and Foster, 2003). The firm benefits by getting access to crucial resources in the market in a business network (Chetty and Blankenbury-Holm, 2000). Networks provide different benefits for economic activities in a firm such as resources acquisition and decision making (Jack, Dodd and Anderson, 2004, p. 107). The organisations absorb more knowledge, skills, and physical assets to attain their objectives and goals by an effective relationship. The networking system offers a coordinated mechanism for accessing information and creates social contacts (Casson, 1997). Good networks thus increase the performance of a firm and also influence its organisational development (Goerzen & Beamish, 2005). Some benefits obtained from

networks are the exchanging or sharing of vital information (Gulati, 1995) or learning new skills and knowledge from partners (Gulati *et al.*, 1994) and these are important for any organisations to define their strategy (Goerzen & Beamish, 2005). In order to increase competitive advantages a specific relationship is required between partners for information transfer and knowledge sharing.

Previous research revealed that networking between Turkish industrial groups and foreign collaboration, global consonance is as important as local compatibility for Turkish parent organizations (Demirbag, Mirza and Weir, 1995). The choices of networking play a significant role in the construction of the network and are critical to success and survival of a firm (Gulati, 1995). Internal and external nature of networks describes the working pattern within the inter-organisational structure (Li, 2005). There are four important functions defining internal networks and two for external networks within inter-organisational networks. The four functions for internal networks are: 1) information sharing, 2) knowledge transfer, 3) facilitating of the learning process, and 4) trust building (Uzzi, 1997; Podolny and Page, 1998; Goerzen and Beamish, 2005) and two functions for external networks are 1) transaction costs and 2) resource dependency. External networks compare to internal networks within firms, mainly focus on how cooperative firms can obtain resources (Shiva, 1997), gain competitive advantages (Lam, 1997), and build up long-term relationships with suppliers and customers (Chetty and Blankenbury-Holm, 2000). The next section defines the importance of different functions of internal and external networks.

3.15.1: Information Sharing

Information sharing is important in the organisation and internal network supports the organisation to share the information that are of better quality and less time consuming

(Alder and Kwon, 2002). This requires that organisations to have reciprocal lines of communication and the interdependent flow of resources through relationships (Powell, 1990). The firms with well connected social networks ties and effective collaboration strategies are more likely to succeed and be competitive in the market. Borgatti and Cross (2003) identified the advantages of social networks when firms are seeking information. Because it involves: obtaining knowledge from others; understanding the views of other person; and gaining timely access to the knowledge from the person. Brown and Duguid (1991) stated that the networks provide dynamic ways for firms to obtain information, solve problems, and ability to complete their tasks. Organisations mostly use informal ways to gather information (Chetty and Blankenbury-Holm, 2000). Partners thus need to formulate their networks strategy to obtain benefit from the information sharing process (Gulati, 1995). Goerzen and Beamish (2005, p. 334) referred to internal networks as serving a channel for information, learning, and knowledge and thus information sharing is important process.

Sparrowe *et al.* (2001) indicated that obtaining information positively effect the performance of an individual and group. The flexibility of social networks allows information seekers to develop close ties with their networks (Kristtiansen, 2004).

3.15.2: Knowledge Transfer

Knowledge transfer is another positive network feature to obtain valuable knowledge and skills (Podolny and Page, 1998; Reagans and McEvily, 2003). Knowledge is embedded in humans and requires interactions for transferring and thus is one of most important motives for cooperation between organisations (Burt, 2000) and achieved through high level of trust between partners. Networking helps in quick flow of the knowledge with less cost (Gulati and Gargiulo, 1999).

Knowledge is transferred through a variety of relationships and strong ties in the knowledge transfer process have a positive effect (Reagans & McEvily, 2003). Knowledge transfer is benefited with improved quality of information through networks.

3.15.3: Facilitating of the Learning Process

Internal networks have also enhanced facilitating of learning process in the organisations. Hamel (1991) emphasised that inter-organisational learning helps partners to acquire crucial skills, supplement strengths and cover weakness. Demarest (1997) suggested that quick and effective learning from others is more successful in the organisation and this avoids the potential pitfall of creating enemies or behaving opportunistically. Networks are an important mechanism to facilitate the learning process as it involves many important variables (Uzzi, 1997). Goh (2002) suggested that network relationships increase the flow of knowledge and learning between partners. Powell (1990) and Gulati *et al.* (2000) also supported this view and according to them close network relationships can facilitate the learning process between partners because it smoothens the knowledge transfer and learning process and incurs less cost (Reagans and McEvily, 2003).

Network integration plays an important role in the facilitation of the learning process. Network identifies the most compatible people based on the previous experience and facilitates the learning process by using the exiting relationship (Burt, 2000). Reagans and McEvily (2003, p. 240) believed that “*social networks affect the willingness and motivation of individuals to invest time, energy and effort in sharing knowledge with others*”. They found that the effective learning process in the organisation is determined

by the way the tacit knowledge is transferred across individual or organisational boundaries (Uzzi and Lancaster, 2003).

3.15.4: Trust Building

Trust regarded as an important element in organisational context but has balanced views in relation to knowledge transfer. For example, Webb (1996) illustrated that high levels of trust can prompt less monitoring and prohibit collective action. Whereas Argote et al. (2003) argued that trust among participants facilitates knowledge transfer and mediating role of trust is considered usefulness of knowledge (Levin and Cross, 2004). Harris *et al.* (1999) accepted that the relationships built upon trust are important for effective knowledge transfer. Trust is a vital part both at individual and social levels (Giddens, 1990) and effective knowledge transfer is possible with high level of mutual trust and trustworthiness among individuals in all processes and activities (Von Krogh *et al.*, 2000; Newell *et al.*, 2002). The trustful relationships are a key prerequisite for effective knowledge transfer within and among business units (Dirks and Ferrin, 2001; Levin and Cross, 2004).

Trust is a critical factor in the process of network building. Trust building behaviours influences the individuals or groups in a various ways. Trust related to personal attitudes has an impact on the success of inter-organisational collaboration (Pearce *et al.* 2000). Uzzi (1997) also pointed out that trust is socially embedded and helps organisations to overcome critical problems by working together as a team. Trust is based on voluntary and development of trust requires extra effort (Uzzi, 1997, p. 41). Effective networks develop high levels of trust via frequent communications in order to overcome opportunistic behaviour (Argote, 1999). Cross *et al.*, (2004) indicated ten human actions of interpersonal trust: 1) acts with discretion to get people's trust, 2) words and deeds

determine trust, 3) frequent communications and interactions to develop trust, 4) sharing vision and language for promoting trust, 5) contributing knowledge to develop trust, 6) role playing in promoting trust, 7) sharing something of value for a trustworthy relationship, 8) making decisions fairly and with transparency, 9) encouraging trustworthy behaviour and 10) frequent contact to establish strong trust. Some studies suggested that the more contact between people in network creates more trustful relationship (Gulati, 1995; Beckman *et al.*, 2004). The higher degrees of trust between organisations require less protection and less dependency on formal institutions to enforce agreements and thus more economically viable (Knack and Keefer, 1997). The below two functions are for external networks.

3.15.5: Transaction Cost

Transaction costs are influential factor between the relationships of the firms. Decision making in a firm is centred on minimising the sum of transaction costs (Das & Teng, 2000). The external networks can motivate firms to run more efficiently by minimising the sum of transaction costs (Williamson, 1975; Goh, 2002; Hennart, 1991). The uncertainty in the performance of the firm is the main source of transaction cost (Williamson, 1985). The transaction cost in inter-organisational firms is thus correlated with complementary relationships and suggests the importance of identifying compatible partners in network ties (Goerzen and Beamish, 2005). Inter-organisational partnership is a supplier or buyer relationship because it indicates the significance of transactions between firms based on the different economic circumstances (Ahuja, 2000). Borgatti and Foster (2003) asserted that networks safeguard and help in smooth transactions. Powell (1990) explained that cost reduction is a key motivation for networking and it may reduce transaction costs because of efficient and effective collaborative processes.

3.15.6: Resource Dependency

Transaction cost mainly focuses on minimising costs whereas the resource dependency explains that the core competencies of the firm can be obtained from other “valuable, rare, intangible, and non-substitutable” resources of the organisation (Barney, 1991; Srivastava, Fahey and Christensen, 2001, p. 778). Networks are thus an important factor for resource dependency because networks can exchange or pool resources from partners and thereby increasing the performance of the firm (Boyd, 1990). Studies have found that networks are used to access the resources of the partner to ensure the performance of transaction and the benefits from resources can offer competitive advantages for partners to enhance their performance (Pfeffer & Solancik, 1978). They also suggested that resource interdependence can overcome constraint in the organisation due to environmental factors. Access to resources through cooperative networks is thus essential for business existence.

On the basis of above, the networks in SME is important and dependent on ‘personal’, ‘support’ and ‘industrial’ relationship (Shaw & Conway, 2000, p. 367). Personal networks consist of an owner’s social circle of friends and acquaintances. Accountants, banks, local agencies and other providers of business assistance are part of support networks and Industrial networks are the exchange of relationships with customers and suppliers. Many SMEs existence are based on these three types of networks. Shaw and Conway refer to Aldrich’s original proposition that:

“as organisations are essentially open systems which exist in and interact with a wider social environment their behaviour is best understood by studying the network of relationships in which they are involved”.

Shaw & Conway also explained that network is an important entrepreneurial tools and help in the establishment, development and growth of small firms. It is a major

investment and large effort for entrepreneurs and small firms to maintain and develop their networks. Shaw & Conway quote Birley as follows:

“entrepreneurs have to work hard to develop relationships: they have to persuade, socialise, bargain, reciprocate with others to create a relationship and maintain it. Networks are inclined to be more useful with age as relationships develop and individuals learn how to get the best out of them”.

3.16: Summary

This chapter has described the theoretical background of various aspects of knowledge transfer in the context of SMEs which creates a background for different views, will be used subsequently in the later chapters. The importance of knowledge, its management, sharing, creation and transfer is discussed in details and indicated that knowledge is an important asset and is vital for enhancing capability and competitiveness of any firms. Networks are important tool to achieve KT and provide many benefits in organisations and reduce risks and opportunism and helps in achieving mutually beneficial goals. There should be a mechanism to deploy the knowledge and it should take care of changes and challenges in the dynamic business environment in today's world. Effective knowledge transfer and management help SMEs with free flow of information, ideas and resources to meet the increasing demand in global market. The main challenge faced by most businesses is to manage the flow of information among different entities. A clear understanding on what to be shared, when to be shared or accessed and with whom the resources has to be shared are thus needed to handle complex knowledge transfer procedures with the changes and challenges in the dynamic business environment. A good network development reduces the complexity faced in knowledge transfer and its effective management in a firm. The next chapter grasps the importance of KT in firms and proposes research hypotheses to study the behaviour of knowledge transfer and its effect on Turkish textile and apparel industries. Five different hypotheses relating to four different themes are for quantitative analysis

developed, based on the qualitative views, literature reviews and analysing the present situation in Turkey.

Chapter 4

Preliminary Testing and the Development of Research Hypotheses

4.1: Introduction

This chapter explains the strategies for knowledge transfer inside and external to Turkish Textile and Apparel SMEs. To consider the knowledge transfer in Turkish Textile and Apparel industries, firstly a face to face interview with eighteen owners or managers were conducted. These have provided initial ideas of the various variables affecting the knowledge transfer in Turkish SMEs. Feedbacks obtained from face to face interview were combined together with other factors based on scholarly views and present situation in Turkey to formulate four themes to study the overall effect of knowledge transfer in Turkish SMEs. Various factors affecting these conceptual themes are discussed and five hypotheses with 13 sub-hypotheses are developed to test the knowledge transfer mechanism in Turkish textile and apparel industry.

4.2: Development of Research Hypotheses

The SMEs in Turkey, especially the larger ones and those with specialised knowledge and technology, do have clear growth strategies and generally have no problems complying with regulations, quality systems and staff development or in sharing their views with other network members or more widely (Muftuoglu, 1994). Feedbacks obtained from face to face interviews (Appendix A) indicated that most Turkish SMEs, even those that are active in several networks, do not have the inclination, knowledge or resource to comply. Lack of knowledge management, lack of interest and support from government and non-government organisations also hampers the progress of SMEs. More or less every Turkish SMEs covered in this interview indicated the growing need of IT for knowledge transfer within and between SMEs. Most of the SMEs lack knowledge sharing and importance of the trust on which the knowledge transfer can be effectively built. They also understood the importance of various IT components and

expertise acting as a communication channel and their necessity for effective knowledge transfer.

The face to face interview was based on only some of the factors considered locally and have not considered many others important factors which are essential to get the overall idea of knowledge transfer in Turkish SMEs. The knowledge transfer in Turkish SMEs is also affected by the buyers and supplier views, policies, aims, objectives and strategies of the firms and limitation of the market. It further depends on the acquisition of knowledge and various risk and obstacles factors affecting knowledge transfer. A conceptual framework with four themes was developed to study the behaviour of these determinants to study the knowledge transfer in Turkish SMEs. Combination of all these themes contribute to overall knowledge transfer and the individual themes are dependent on many determinants and study of these factors and their effects on knowledge transfer is thus necessary. The next sections thus identify various factors under different themes on the basis of the available literature. To test the relevance of various themes for Turkish SMEs, five different hypotheses with thirteen sub-hypotheses are developed and will be further analysed in coming chapters.

4.3: Determinants Related to Knowledge Sharing for KT

According to Nonaka and Takeuchi (1995) knowledge conception is considered like a growth process started by the individual and then moves across the organisation in a never-ending process. Davenport and Prusak (2000) suggested that knowledge transfer process involves two actions: transmission of knowledge to potential recipient and absorption of the knowledge by that recipient that could eventually lead to changes in behaviour or the development of new knowledge.

The key aspects of knowledge transfer are thus transmission of some knowledge to the recipient leading to creation of new knowledge or changes in behaviour. In the economic environment, firms must have the appropriate knowledge and use it efficiently. Because of geographical size and dispersion the transfer of existing organisational knowledge to other places knowing where it is actually needed becomes difficult (Davenport and Prusak, 1998). Boisot (1995) argues that successful knowledge transfer needs a “degree of resonance” between two or more agents. Knowledge transfer thus requires both the *transfer or sending* of knowledge from the source agent and the *internalisation or learning* of that knowledge by the recipient agent. This transfer of knowledge depends on the type and complexity of the knowledge and is also affected by the attributes and behaviours of the human agents sharing that knowledge.

It is important to distinguish knowledge sharing at different levels: individual, group and organisation. Huber (1991) indicated that knowledge sharing between individuals may not always be easily seen as some knowledge transfer. It can alter a person’s awareness but not their behaviour. Some knowledge transfer can bring awareness and a change of behaviour of some individuals. When in a group knowledge transfer at the organisational level occurs when knowledge becomes part of the organisation’s development process, systems development and performance. The total resources are fixed into the organisation’s practices while individual knowledge remains in the head of the individual. Organisation knowledge is therefore more observable than individual knowledge. According to Fahey & Prusak (1998), while organisational knowledge can often be codified and become embedded in a firm’s practice, it is important to note that still some knowledge cannot be truly represented outside the heads of individuals. Consequently, while knowledge transfer between SMEs includes the flow of knowledge between organisations and the capability to understand and to develop this knowledge,

the evidence of knowledge transfer may not always be easy to observe. Knowledge sharing helps to obtain more complete knowledge and information to take better informed decisions (Gynawali, Stewart & Grant, 1997). Face to face interviews from persons at higher position in Turkish textile and apparel industries also indicated that 12 out of 18 considered the importance of sharing business ideas and information with buyers and 15 out of 18 with suppliers and that helps in knowledge transfer activities.

These determinants affecting the knowledge sharing will form the basis of hypothesis to study the impact of knowledge transfer in Turkish Textile and Apparel SMEs:

H₁: Turkish SMEs share knowledge within their network

H_{1a}: From buyer's ideas

H_{1b}: From supplier's ideas

Knowledge sharing is although beneficial for the company and one of the important tools for achieving effective knowledge transfer are affected by the various barriers and obstacles which hinder the progress of knowledge sharing. There are several barriers and obstacles to knowledge sharing and Lee & Al-Hawamdeh (2002) developed a model to describe these barriers in to five different sources in the knowledge sharing process: the actors, the channel, the knowledge being shared, the organisation, and the environment. Knowledge sharing must be implemented before it can be of specific value to a firm. Various barriers and obstacles in knowledge sharing can influence challenge to management and competence of company. Successful knowledge sharing requires active actions (Dickson and De Sanctis, 2001; Brown and Duguid, 2000a) and lack of this is the obstacle. Necessary knowledge and skills make company highly competitive and allocation of inadequate human (Schuler, 1990) and financial

(Muftuoglu, 1994; Power, 1998) resources hinders knowledge sharing. A strong connection between knowledge sharing from research centres to industries is needed for high competence of firm performance (Maznevski & Chudoba, 2000). Personal management is vital part of the process to satisfy the employee's aspirations, needs and feelings that affect the company's performance (Heide, *et al.*, 2002). There are interdependency of staffs working towards achieving a common company's needs (economic, personal and social) and relationship between them is important for effective knowledge sharing in the organisation (Becker & Huselid, 1999). Company cannot function properly without talented and energetic managers. Political factors and bureaucracy are present in each organisation and may have a functional role and can block change (Heide, *et al.*, 2002, p. 219). Barriers and obstacles models developed by Samli (1985) and Egbu (2000) for knowledge sharing emphasises the following criteria: geography, culture, economy, business, people and government. Knowledge is an important asset and must be transferred and shared to where it is needed. The organisations therefore must work together to set up network links and working relationships through which knowledge can be shared (Seufert, von Krogh & Bach 1999; Tsai 2001). The networking thus plays an important role in successful knowledge sharing and form an important part of the organisation.

There are several risk factors attached with knowledge sharing. Risks are created by the uneven flow and share of knowledge between firms. Sharing incorrect market information can lead a wrong decision and loss to firm (Dyer & Nobeoka, 2000). The import and export are affected by the confusing information about regulations and sharing of that (Commission of the European Communities, 1992). Knowledge sharing of the similar product can create unnecessary competitions in the market and may initiate unfamiliar business practices. Disproportionate knowledge sharing between

firms working in a group can cause a loss in market share for some firms and also loss of their brand integrity (Kenis & Knoke, 2002). Literature suggests that knowledge sharing must be facilitated by some defined routines and should be actively managed (Pfeffer & Sutton, 1999; Bontis, 1999; Bartlett & Ghoshal, 1991). Face to face interviews show that majority (14/18) considered lack of IT support (2), finance (8), qualified human resources (1) and government and non-government support (3) as an obstacle in knowledge transfer. 15 out of 18 also considered that incorrect market information and unfamiliar business practices are major risk factors in the knowledge transfer within or between SMEs. Thus the knowledge sharing is obstructed in various ways by the obstacles in knowledge sharing and has associated risks which form the basis of next hypothesis:

H₂: Knowledge transfer in Turkish SMEs

H_{2a}: is constraint due to barriers and obstacles

H_{2b}: is associated with risks

4.4: Determinants Related to Organisational Culture and Communication Channels for KT

4.4.1: Organisational Culture

Organisational culture is a significant contributing factor to effective knowledge transfer and sharing. One of the important factors for effective knowledge transfer is that employees must be willing to share and use both expertise and knowledge available within an organisation (Hlupic *et al.*, 2002). This determines values, philosophy, and work systems that could effect knowledge sharing and creation and good organisational culture facilitates in easy co-ordination of any projects across different parts of the

organisation (Alavi & Leidner, 2001 ; Gold, Malhotra & Segars, 2001). Research on knowledge management initiatives has shown that knowledge and culture are interlinked in any organisations (Brown & Duguid, 1991). Long & Fahey (2000) explain the influence of organisational culture on creation, sharing and use of knowledge. Weir (2008) believed that culture shapes perceptions and behaviours and this affects the business and management. Long & Fahey (2000) explained how culture dictates what knowledge belongs to the organisation and what knowledge remains with the individuals or sub-units. According to them culture creates a context for social communication that finally determines how effective an organisation can be at creating, transferring and sharing applied knowledge. They also mention how culture shapes the process by which new organisational knowledge together with its supplementary uncertainties is created, legitimated and combined. Trust and collaboration are regarded as key elements defining organisational culture.

4.4.1.1: Trust

Trust between partners is reliability in fulfilling the obligation in an exchange and based on belief and creates strong relationship (Appleyard, 1996). Trust allows both parties to assume that each will take actions that are predictable and mutually acceptable (Uzzi, 1997). Trust also affects the depth and richness of exchange relations, particularly with respect to the exchange of information (Lee and Al-Hawamdeh, 2002.) This is crucial for the provider to take initial action based on a belief that the receiver will respond in like kind at some future point (Coleman, 1988). Szulanski (1996) explains that both applied and scholarly research has made it clear that relationships are critical for knowledge creation and sharing and those ineffective relationships can block knowledge transfer (KT). This factor was considered one of the most critical for the success of the SMEs in the process of knowledge transfer. Trust is one of the most important factors in

knowledge sharing and transferring. The transfer of knowledge among different levels in an organisation, its subunits, and its employees are greatly affected by the trust that exists. Abrams *et al.* (2003) found that trust leads to valuable knowledge sharing, but distinguishes between two kinds of trust. First trust is a benevolence-based in which an individual will not knowingly harm another when given the opportunity to do so. Second is a competence-based trust where an individual trusts that another person is knowledgeable in a given subject area. According to Huener, Von Krogh & Roose (1998), the willingness to transfer and share knowledge is mostly dependent on the level of trust in the organisation. The level of trust influences the extent of knowledge disclosure, the screening and sharing between two parties (McEvily, Peronne & Zaheer, 2003). According to them trust reduces anxiety about the veracity of knowledge, thereby declining the propensity to question the accuracy of the knowledge received. Efficiency of the organisation is also increased with developing trust between worker and supervisor and help in better knowledge sharing (Weir & Hutchings, 2005).

4.4.1.2: Collaboration

Collaboration in the form of support and teamwork are strongly linked to knowledge transfer. Knowledge sharing is typically beneficial in collaboration to the recipient and the broader organisation, but this can be costly affair for the source as it takes time and effort to transfer the knowledge. This is possible with cooperative behaviour and with strong ties between partners (Granovetter, 1985). In collaboration sender and receiver shares the knowledge with each other support. Cooperation between partners increase the confidence to work for each other (Uzzi, 1997). Cooperations are important because these limit a potential side effect of successful knowledge sharing, namely, competition. Intense competition among partners and different units inside an organisation restricts the sharing of knowledge among them (Szulanski, 1996 ; Argote, 1999). Competition

can have the same effect on knowledge transfer between individuals. Successful knowledge transfer can increase the level of competition between the source and the recipient. The two individuals with shared knowledge will have more knowledge in common and therefore represent substitutable points of exchange in the organisation. Increased competition restricts the flow of knowledge sharing and cooperation can thus act to mitigate potential conflict and promote knowledge sharing (Ingram & Roberts, 2000). Based on the observation made by Haskins, Liedtka & Rosenblum (1998) for three large professional service firms showed that their success in their respective industries is due an ethic of collaboration, a common factor among them. This ethic initiates the concept of teamwork and replicates the attitudes and activities of sharing and creating knowledge evident in high performance teams on an institutional scale.

Tschannen-Moral (2001) indicated that collaboration and trust are interlinked together. A collaborative climate is the bandwidth of human infrastructure for knowledge sharing. The interactions between the employees and their bosses, employees and their work group are based on share and open communication in the organisation (Sveiby & Simons, 2002).

Socialisation is fundamental to knowledge transfer and sharing. Nonaka (1994) believed that good socialisation allow people to use their experiences and bring new and novel solution to problems providing benefit to the organisation. Argyris & Schon (1978), Schein (1993; 1996), and Senge (1990) encouraged knowledge sharing through social interaction. According to them the group will be benefited through flow of knowledge by creating a shared understanding and motivating a group to collaborate. Each individual interacts with their own ability in various formal and informal forms (Sveiby,

1994, 1997) such as formal face-to-face meetings or telephone conferences, or informal conversation while eating together in café area.

4.4.2: Communication Channels

According to Marquardt (1996) the knowledge transfer is a key process in managing commercial knowledge, in addition to achievement, creation, utilisation and storage. Complimentary knowledge flow has also been identified by Riesenberger (1998) as one of the key elements of successful knowledge management. A certain organisational design; i.e. cross-functional, flexible structures (Nevis, DiBella,& Gould,1995) open communication, forum (Argyris, 1994) and a learning culture (Slater & Narver,1995) are to be developed for supporting a complimentary flow of knowledge. The actual knowledge transfer process becomes complex and hard to capture because of inter-personal and inter-organisational dimensions.

Communication channels are regarded an important factor in knowledge transfer (Dyer & Nobeoka, 2000; Gupta & Govindarajan, 2000a; Zander & Kogut, 1995). The need of communication channels in SME is based on analysis, process, interpretation and understanding of the exchange of information. Communication channels helps to communicate the company's aims, objectives, strategies and policy within or between organisation and involve financial cost and better planning are required to achieve an effective communication channel (Lahit & Beyerlein, 2000; Nonaka & Konno 1998; Nonaka, 1994).

The first condition in selection of a communication channel for any SME is to match the nature of knowledge for transfer with the most effective communication channel for that situation (Lahit & Beyerlein, 2000; Nonaka & Konno 1998). The mode of transfer is

selected to overcome different frames of reference or clarify ambiguous issues (Daft & Lengel, 1984) for example, more openly with face-to-face communication, as people are more likely to trust when they can interpret facial expressions (Kakabadse, Kouzmin & Kakabadse, 2001). However in the case of easily codified transfer the information technology enables a variety of effective and efficient modes (Teece, 2000).

The second consideration is the availability of an effective communication channel (Dyer & Nobeoka, 2000; Gupta & Govindarajan, 2000a; Zander & Kogut, 1995). For example, according to Davenport and Prusak (1998) and von Krogh, *et al.* (2000) informal events such as private or public discussion forum encourage open dialogue and they believe that firms should establish places and events where people have the opportunity to make connections and exchange knowledge. They believe this builds trust and develops understanding and motivate people to transfer knowledge with each other. This incurs large financial expenditure and needs to be considered against the strategic objectives and the expected outcomes (Teece, 2000). Similarly, several authors mention the need to provide communication channels that allow sufficient dialogue between the parties involved (Kakabadse *et al.*, 2001; von Krogh, *et al.*, 2000; Schein, 1993). Sharing of experiences and the transfer of knowledge are important for enabling a shared understanding is achieved through dialogue. Mutual exchange of ideas and the exploration of the different points of view are also achieved through dialogue which has the capacity for rapid feedback and coordinated action (Kakabadse *et al.*, 2001). The knowledge creation process requires rituals and rules that support good dialogue and guide the knowledge creation process (Krogh, *et al.* 2000 and Schein, 1993). Knowledge transfer is considered to be an important topic for both researchers and practitioners but little work has been done to understand the factors affecting knowledge transfer within teams, an important social unit within organisations. (Joshi *et al.*, 2006).

Social capital has been considered the constituent that bonds individuals to each other (Stephenson, 1998) and to the organisation (Baker, 2001). Nahapiet and Ghoshal(1998) describe social capital as “the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by a social unit”. Communication plays a crucial role in the process of knowledge transfer because:

(i) communication leads to socialisation which nurtures social relationships important for co-operation and consensus (Gupta *et al.*, 2000); (ii) frequent communication facilitates interaction among individuals and between individuals and organisational databases which helps in the creation of a shared meaning and context crucial for effective knowledge transfer (Szulanski, 1996). Cohen and Prusak's stressed that social capital consists of the stock of active connections among people: the trust, mutual understanding, and shared values and behaviours that bind the members of human networks and communities and make cooperative action possible (Cohen & Prusak,2001). IT systems help to achieve effective communication within or between organisations. Huysman & DeWit (2002) indicated that knowledge transfer had their origin in IT. The rise of IT facilitates in the increase of knowledge transfer or sharing (Frappaolo & Capshaw, 1999). The exchange of knowledge becomes easier and the speed of knowledge transfer becomes efficient with the increasing capacity of IT (Mohrman, 2003). Telephones, mobile phones, pagers, faxes, storytelling, quality circles, mentoring and shadowing, coaching and job rotation are considered to be effective IT support systems (Egbu and Botterill, 2002). Benefits of knowledge sharing helps to overcome the limitation of market, improves the overall communication of the firms and provides a prestigious name or brand to the company (Govindarajan & Fisher, 1990; Kogut & Zander, 1992). Through an effective knowledge sharing the difficulties faced by one firm can be solved by transferring the knowledge from others and it also improves the business opportunities (Szulanski, 1996). Ford (1997) suggested that

companies which join the already established networks can get useful marketing information through knowledge sharing. Face to face interview findings also indicated by most of the owners or managers (16/18) accepted suitable organisation culture based on trust (6) and collaboration (10) and appropriate communication channels are necessary for KT.

The effect of organisational culture and communication channel on the basis of above discussed factors are studied on Turkish SMEs through the hypothesis below:

H₃: KT is facilitated in Turkish SMEs

H_{3a}: By a suitable organisational culture in the firms

H_{3b}: By appropriate communication channels in the firms

H_{3c}: By beneficial factors in the firms

4.5: Determinants related to Private (Internal) and Public (External) Knowledge Acquisition for KT

4.5.1: Knowledge Acquisition

Acquisition of new knowledge requires not only the information be available, but also the willingness of the firm to actively search and acquire the information or knowledge (Levitt and March, 1988). According to Weick (1993), an organisation requires to do three activities to acquire new knowledge: 1) The contact to and awareness of something new, 2) Interactive processes and interpretation and 3) Experimentation with new ideas (Maula, 2000). Recognition of new external information, digestion and exploitation for future application is critical to innovative capabilities of the firm. This is dependent on the accepting behaviour or the prior knowledge of the project team or firm (Cohen & Levinthal, 1990). If a project starts with a relatively broad perspective

and practice then it is easier for the team to acquire knowledge from external institutions and sources of knowledge (Cohen & Levinthal, 1990).

4.5.1.1: Public (External) Knowledge Acquisition

Knowledge acquisitions have become an increasingly important way for companies to gain access to new knowledge and capabilities. Huber (1991) refers to this type of organisational learning through acquisition as 'grafting'. Although acquisitions are on the rise, practice shows that most acquisitions fail to meet expectations. According to the Huber (1991), acquiring a firm with valuable knowledge does not assure that the knowledge will be successfully transferred to or combined with the resources of the acquirer. Lord and Ranft (2000, p. 574) suggested the definition of knowledge transfer as 'the dissemination of knowledge from one division to another division within the same firm'. Kalling (2003, p. 115) defined knowledge transfer as 'a process by which an organisation makes accessible knowledge about routines to its members'. In difference to Kalling, who is rather inaccurate about the exact nature of the process by using the phrase 'making available', Styhre (2002, p. 229) states that 'knowledge is produced as it is shared'. Knowledge thus is not consumed but shared, given away and received. Finally, knowledge transfer may be seen as knowledge sharing with the description of a public good dilemma (Cabrera *et al.*, 2001). Public knowledge was found to be the most shared knowledge within SMEs because it is easy to explain, has no shared context for comprehension, has no ownership feeling and not particularly sensitive or confidential.

The sharing of public knowledge is predicted by frequency of interaction. Granovetter (1973) found that job seekers typically discover novel public knowledge through acquaintances rather than close ties. The reason behind that is that generally people with

close knit networks know the same things and same people. This shows that broad acquaintance provides a wider circle of potential knowledge than a closer tie.

4.5.1.2: Private (Internal) Knowledge Acquisition

“Tacit knowledge is private knowledge. Everyone has knowledge that no one else does; but that doesn't, by itself, make the knowledge inarticulate. Inarticulate knowledge is typically private, of course, but the reverse is hardly necessary. Private knowledge is knowledge held solely by a person or group, i.e., by particular knower” (Polanyi, 1967).

Most researchers and practitioners believe that private knowledge is the most valuable knowledge in term of its exceptionality and value for improvement. Transfer and use of the private knowledge is mostly face to face. It thus requires trust building between employees to facilitate the exchange of this knowledge. This can be achieved by organising informal social opportunities and functions for employees. This is lacking in SMEs because of lack of co-ordination mechanisms that encourage more social informal interactions among employees from different units. For example there is no casual place in the SMEs where employees gather at particular time for social mingling and chat. The existence of fast-food shop, coffee stands, etc. can help to facilitate the exchange of this type of knowledge (Marouf, 2005). Turkish SMEs sometimes organise informal social events but it is outside the SMEs and are not always popular and many of them are restricted to employees only, without inviting their spouses or families. Most of these events are not attended by the executives or senior managers and this discourages other employees from attending and thus not helping in anyway to facilitate the exchange of knowledge.

Uzzi & Lancaster (2003) examined the sharing of two types of market knowledge: public and private. According to them public knowledge is the company information reported through standard instruments such as company reports, audited financial

statements, regulatory filings, advertised bid and ask prices, price quotes, and other forms of prepared information accessible in the public domain. In their opinion this is termed as “hard” information, available for the asking, and verifiable through third parties with set standard whereas private knowledge is the company information that is not publicly available or guaranteed by third parties. It is “soft” information that deals with nonstandard information about the firm, such as unpublished aspects of a firm’s strategy, distinctive competencies, undocumented product capabilities, inside management conflict, etc. Face to face interview also indicated the importance of knowledge acquisition in knowledge transfer by majority (14/18).

Based on these public and private knowledge acquisition and their importance in knowledge transfer the below hypothesis is studied in the context of Turkish SMEs.

H₄: Knowledge acquisition is essential for development of personal and organisational skills in Turkish SMEs

4.6: Determinants related to Information Technology

Application and its Implementation for KT

4.6.1: Application of IT Technology

Many organisations now a day are becoming more intent on knowledge than on labour because of advancement and development of information technology. These organisations consider knowledge their most precious asset and tool for their crucial competitive ability (Nonaka, 1991).

A learning organisation is an organisation skilled at creating, acquiring, and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights.’ (Garvin, 1993)

Transferring knowledge via face-to-face interaction, mentoring, job rotation have become less effective in the business world today and are being supplemented by more efficient electronic methods (Alavi and Leidner, cited in Barnes, 2002). Communication plays a major role in knowledge transfer and any new communication based on IT will facilitate transfer (Earl, 1997; Quintas, Lefrere and Jones, 1997). However, explanations of the actual transfer process are rarely documented and often left to the intuition of the reader and can be difficult to track down and can slow the transfer process (Hoerem, von Krogh and Roos, 1998; Ocker, Fjermstad, Hiltz and Johnson, 1998). IT plays an importance role in promoting the interaction between individuals within an organisation. The critical role of IT in knowledge transfer is its ability to support communication, collaboration and the search for knowledge, and to enable collaborative learning. Information technology is classified into two types: communication technologies and decision-aiding technologies (Song *et al.*, 2001). Firstly, communication technologies are in the forms of online chat, e-mail, discussion databases and audio or video conferencing systems, intranet and internet. This helps to overcome space and time constraints in communication, increase range and depth of information access enabling knowledge to be shared more rapidly and more conveniently (Marwick, 2001). This facilitates communication between people regardless of physical distance and hierarchical boundaries (Robert, 2000). This can promote relational communication and coordination between people and easing the relationship that may prevent effective knowledge transfer (Alavi & Leidner, 2001). Secondly, decision-aid technologies help individuals create models and develop alternatives and solutions for their works. This is achieved through storing and retrieving large amounts of information rapidly, more accurately combining and reconfiguring information (Song *et al.*, 2001).

The availability of electronic knowledge does not automatically improve in sharing knowledge and building a new intellectual capital. There is no significant relationship between information technology and effective knowledge sharing although most of the firms invest big amount of money in IT and databases for knowledge transfer (Karlsen and Gottschalk, 2004). Robert (2000) also gave an evidence to demonstrate the importance of socialisation and face-to-face contact in the process of knowledge transfer and the failure of information technologies to provide a perfect substitute for this interaction. The implications of IT to the market and organisations development are a common topic in the literature. Stinchcombe (1965) proposed that new technologies enable new organisational forms. Nelson (1995) asserted that new organisation forms and technology co-evolve. IT knowledge is thus the enabling resource for the emerging market and a critical success factor for new organisations. Old style firms must change to adapt the emerging IT technologies to survive and function in a society (Nonaka and Takeuchi, 1995; Venzine, von Krogh and Roos, 1998). Fiol and Lyles (1985; March, 1991) suggested that management should moderate the centralised mechanistic style in favour of informal modes of cooperation. Same suggestions were indicated in the literatures by Huber (1990) and Nonaka and Takeuchi (1995). Okamura, Fujimoto, Orlikowski, and Yates (1995) proposed to take the more pragmatic view and suggested that field studies are needed to understand the working of IT technology. These arguments still put a question on the role of IT in knowledge transfer.

4.6.2: Implementation of IT Technology

Huysman & DeWit (2002) have noted that many knowledge management projects had their origin in the information technology (IT) world. Organisations believe that with the rise of advanced technology, opportunities to facilitate knowledge transfer and sharing with organisations are on the increase. Frappaolo & Capshaw (1999) noted that

the key applications of KM projects are effectively connecting knowledge throughout the organisation among different entities. The focus is on ensuring that each individual or group understands the knowledge available with sufficient depth as to be applied effectively in decision-making and improvement. The four functions performed by KM systems are:

1. **Intermediation:** This indicates connection of people to people, information processing and technology e.g. videoconferencing, company's website, E-library and Electronic Bulletin Board.
2. **Externalisation:** This is a connection of one information source to another information source, focusing on explicit knowledge, providing a means to capture this knowledge in a knowledge repository and to organise the knowledge according to some classification (Nonaka & Takeuchi, 1995).
3. **Internalisation:** This details explicit knowledge to people or knowledge seekers, involving extraction of knowledge from external repositories and subsequent filtering. An example of that is the deductive databases that help users find acceptable solutions to the problems (Nonaka & Takeuchi, 1995; Basu, 1998).
4. **Cognition:** It connects knowledge to process, a function of systems to make decisions based on available knowledge. For example, expert systems help users in deducing solutions (Nonaka & Takeuchi, 1995; Basu, 1998).

IT had played a vital role in providing the infrastructure needed to support knowledge transfer and sharing within and between organisations. The media and channels of communication are one of the sources for the creation, storage and transfer of knowledge. Swan *et al.* (1999) conducted a study comparing two cases. One of them focused almost entirely on using IT (intranet) for knowledge transfer without considering any social factors. In the other, IT was used to provide a network to

encourage sharing together with the recognition of the importance of face-to-face interaction for sharing knowledge. The emphasis was on encouraging active network among dispersed communities. According to this study it was observed that knowledge cannot be simply processed and it must be continuously re-created through dynamic, interactive social networking activity. Nonaka & Takeuchi (1995) also believed that IT enables data processing on a large scale, crossing the boundaries of time and space but should have social factor. Any technology-driven intervention aimed at supporting knowledge sharing therefore needs to be aligned with the social and organisational mechanisms of knowledge transfer.

Internet and E-mail system is a convenient tool to broadcast top management's messages to whole organisation. Top management of an organisation can send all at once a message in the text or video formats to every member of the organisation using internet based broadcasting system (Egbu and Botterill, 2002). Yang (2003) also supported that these will help in reducing geographical barriers. Communication media such as E-mail, a Video Conferencing system, Internal Electronics Bulletin Board can thus be used for the quick transfer of new knowledge. The Internet, the World Wide Web, and other ongoing advancements in information technology (IT) are supporting the efforts to create, integrate, and transfer information and knowledge among SMEs networks (Stover ,2004). Face to face interview conducted also supported the use of IT resources and mostly indicated the application of Email (15/18), Internet (17/18), Company website (10/18), E-library (9/18), Internet electronic bulletin board (10/18) and Video conferencing (8/18) are useful for KT.

The below hypothesis in the context of Turkish SMEs study the effect of implementation of IT through many channels on knowledge transfer:

H₅: Adoption and utilisation of the IT applications in the Turkish SMEs is essential for their success:

H_{5a}: by Company's website

H_{5b}: by E-mail

H_{5c}: by Video Conferencing

H_{5d}: by E-library

H_{5e}: by Internet

H_{5f}: by Internal Electronics Bulletin Board

4.7: Summary

This chapter has explained the initial concepts through face to face interviews required to formulate the important conceptual themes in details to study the successful knowledge transfer in Turkish SMEs. The initial ideas were obtained from conducting eighteen face to face interviews of owners or managers of Turkish textile and apparel industries and were based on the limited number of factors. The ideas generated from this and by taking account of other scholarly views and the present situation in Turkey, four themes were formulated. To analyse the various related determinants in different themes, five hypotheses with thirteen sub-hypotheses were developed which will be used in coming chapters to analyse the overall scenario of knowledge transfer in Turkish SMEs. The critical assessments of these sub-hypotheses are important for judging the efficiency of the knowledge transfer in Turkish SMEs. The focus of these sub-hypotheses are to study the pattern of knowledge transfer or information sharing, the organisational culture and communication channels, the private and public knowledge acquisition and the information technology application and its implementation in SMEs. The figure below indicates the flow of knowledge transfer among different themes and table shows the proposed sub-hypotheses under related

conceptual themes for better understanding. The next chapter presents the research methodologies adopted for this study.

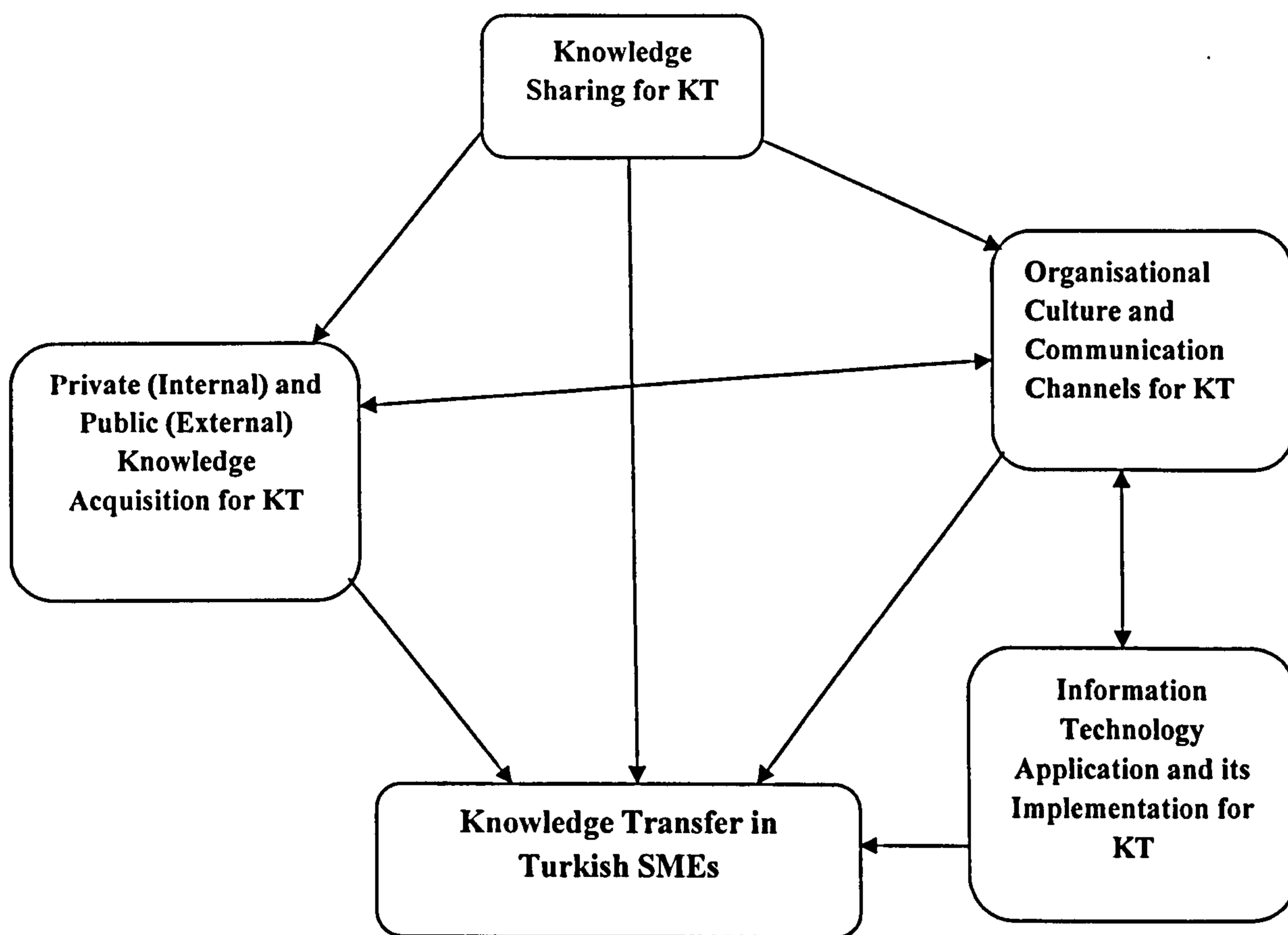


Figure 4.1: Conceptual Themes Flow Diagram for KT

Table 4.1: Conceptual Themes and Hypotheses

Main Themes	Hypothesis
<p>Knowledge Sharing for KT</p>	<p>H₁: Turkish SMEs share knowledge within their network</p> <p>H_{1a}: From buyer's ideas</p> <p>H_{1b}: From supplier's ideas</p> <p>H₂: Knowledge transfer in Turkish SMEs</p> <p>H_{2a}: is constraint due to barriers and obstacles</p> <p>H_{2b}: is associated with risks</p>

<p>Organisational Culture and Communication Channels for KT</p>	<p>H₃: KT is facilitated in Turkish SMEs</p> <p>H_{3a}: By a suitable organisational culture in the firms</p> <p>H_{3b}: By appropriate communication channels in the firms</p> <p>H_{3c}: By beneficial factors in the firms</p>
<p>Private (Internal) and Public (External) Knowledge Acquisition for KT</p>	<p>H₄ : Knowledge acquisition is essential for development of personal and organisational skills in Turkish SMEs</p>
<p>Information Technology Application and its Implementation for KT</p>	<p>H₅: Adoption and utilisation of the IT applications in the Turkish SMEs is essential for their success:</p> <p>H_{5a}: by Company's website</p> <p>H_{5b}: by E-mail</p> <p>H_{5c}: by Video Conferencing</p> <p>H_{5d}: by E-library</p> <p>H_{5e}: by Internet</p> <p>H_{5f}: by Internal Electronics Bulletin Board</p>

Chapter 5

Research Methodology

5.1: Introduction

The contents of this section include discussion on methodological issues, the research approach, data collection and the quality of the research. The object of this chapter is to explain and discuss the methodology to propose the suitable types that match this study best. This chapter includes a brief overview of primary and secondary data for qualitative and quantitative research and explains the process that led to the selection of the research design used in this study. The research detailed in this chapter is conducted within the positivist concept, employing a questionnaire and the selection of participants for data collection and quantitative analysis. Then, the next section focuses on preparation of data for analysis, which involves the data conversion, the development of measures, and the testing for reliability and validity of these measures. The chapter outlines the research framework used for the qualitative and quantitative research, the ethical issues and the management of the research limitations. Finally, the chapter presents the quality of research and the bridge between the theoretical framework and empirical study in the research.

5.2: Purpose of the Research

A number of study activities assist to categorise the types of research (Zikmund, 2000). According to Yin (1994) the principle of research study can be notable in three categories: exploratory, descriptive or explanatory.

Exploratory research can be conducted during the initial stage of research, it helps the researcher to clarify and understand the problem (Zikmund, 2000). The purpose is to gather as much information as possible regarding a precise problem. Exploratory research is regularly used when a problem is not known or the available information is incomplete. The process that is suitable for information gathering when implementing

an exploratory research is interviews (Yin 1994). Eighteen interviews were conducted for this research (see Appendix A)

According to Zikmund (2000), good researchers attempt for descriptive accuracy. Descriptive research help to find out the answer of who, what, when, where and how and also to determine the differences in need, different features of subgroups and different characteristics (Zikmund, 2000). It is vital to have a clear picture of the situation in which you may gather information prior to the collection of data (Saunders *et al.*, 2000). Details of the nature of the focus surveyed, including locations, cities and respondents are provided in **chapter 2**.

Explanatory research is conducted to recognize causal relationships, between variables. According to Yin (1994) an explanatory research approach could also be used when the study aims to explain certain processes from unusual perspectives or in unusual situations. The research purpose and research questions posed here relate specifically to the situation in the Turkish textile and apparel industry.

5.3: Research Strategy

According to Yin (1994), research strategy should be chosen as a function of the research situation. Each research strategy has its own specific approach to collect and analyse empirical data, and therefore each strategy has its own advantages and disadvantages. He also added that there are five research strategies to be exploited; survey, experiment, archival analysis, history, and case study. The choice of research strategy depends on three circumstances for researcher. The first phase to consider is what type of research question is posed. The choice of research strategy is also dependent on the researchers access to the appropriate company managers or owners

and the approach adopted both by the respondents and researchers to get the best from the interview. Another aspect that should be taken into consideration is if the focus of the study is on existing or chronological events. McGrath (1991) explain that the research choices make clear that there are no ideal solutions, only a series of compromises. Patton (2002) expresses the same view: “research, like diplomacy, is the art of the possible”. This quote by Patton is perhaps a very appropriate guide to any researcher contemplating the most appropriate avenue of successfully completing a piece of research study (Cited in Amaratunga *et al*, 2002).

5.4: The Role of the Researcher

There are several aspects that concern the role of the researcher. The researcher’s role follows the idea of interactive research (Gummesson 2001). A participant and action research perspective (Alasuutari 1995; Gummesson 2001) is applied as the researcher has been actively involved during the research period in Turkey (field work) and UK . It also includes information on the firm that is almost equivalent to an insider’s view. This approach may obtain a rich and high level of information, but as an outsider, the researcher has a more objective position. In that sense an ability to understand and interpret the research objective is improved by the researcher having considerable knowledge about Turkey, of the Turkish textile and apparel industry, being able to speak Turkish and having lived in Turkey more than five years. Experience and pre-knowledge may enhance the reliability and quality of the research and assist particularly in assessing managerial implications (Gummesson 2001).

Van Maanen (1988) differentiated between the roles of participant researcher according to the active or passive nature of the participation and the engagement and distance. They specified the differences between full participants, the researcher participant and

the full researcher. Though action research (Gummesson 2001; Cook 2001) could be useful as such, the purpose of the study is not to make any change in the research purpose.

5.5: Research Approach

A choice of research approaches can be used to study a problem. The selection of an approach depends on the degree of accuracy with which the original research question can be formulated and how much knowledge and information already exists in the area of research. Research approach can be of exploratory, descriptive or hypothesis testing characteristics. Merriam (1998) argues that the *qualitative* research is based on the beliefs that the reality is constructed from observations and understandings obtained in the field. The qualitative method is used when a researcher encounters issues, which cannot be categorised in numbers. Therefore, qualitative research is appropriate for explorative research. It is a way of interpretation, which is used to get a deeper understanding for how a specific group of people think, feels, resonates and reacts. Characteristics for a qualitative research are its flexibility and developing nature, i.e., the ability to respond to changing conditions during the study. Qualitative research is a field of inquiry that crosscuts disciplines and subject matters (Norman & Yvonna, 2005). Qualitative research is to observe, understand and consider the phenomena by means of an inside perception. According to Amaratunga *et al.*, (2002) it is difficult to understand the accountable dialogue on qualitative research in business. Qualitative research carries out through strong and or prolonged contact with a situation. According to Hill & Wright (2000) the existing approaches to conduct research in SMEs are rooted in the big firm mindset and tending to focus mainly on survey methods. Silverman (2001) gives importance to thinking through the research problem before committing to a choice of method. The purpose of this study is to investigate and describe the

strategies that SMEs adopt for knowledge transfer. Also the role of the networks in specific strategies and to understand how the knowledge transfer networks process could be organised by the Turkish SMEs. Therefore, both *qualitative and quantitative* research will be conducted for this study.

5.6: Research Framework

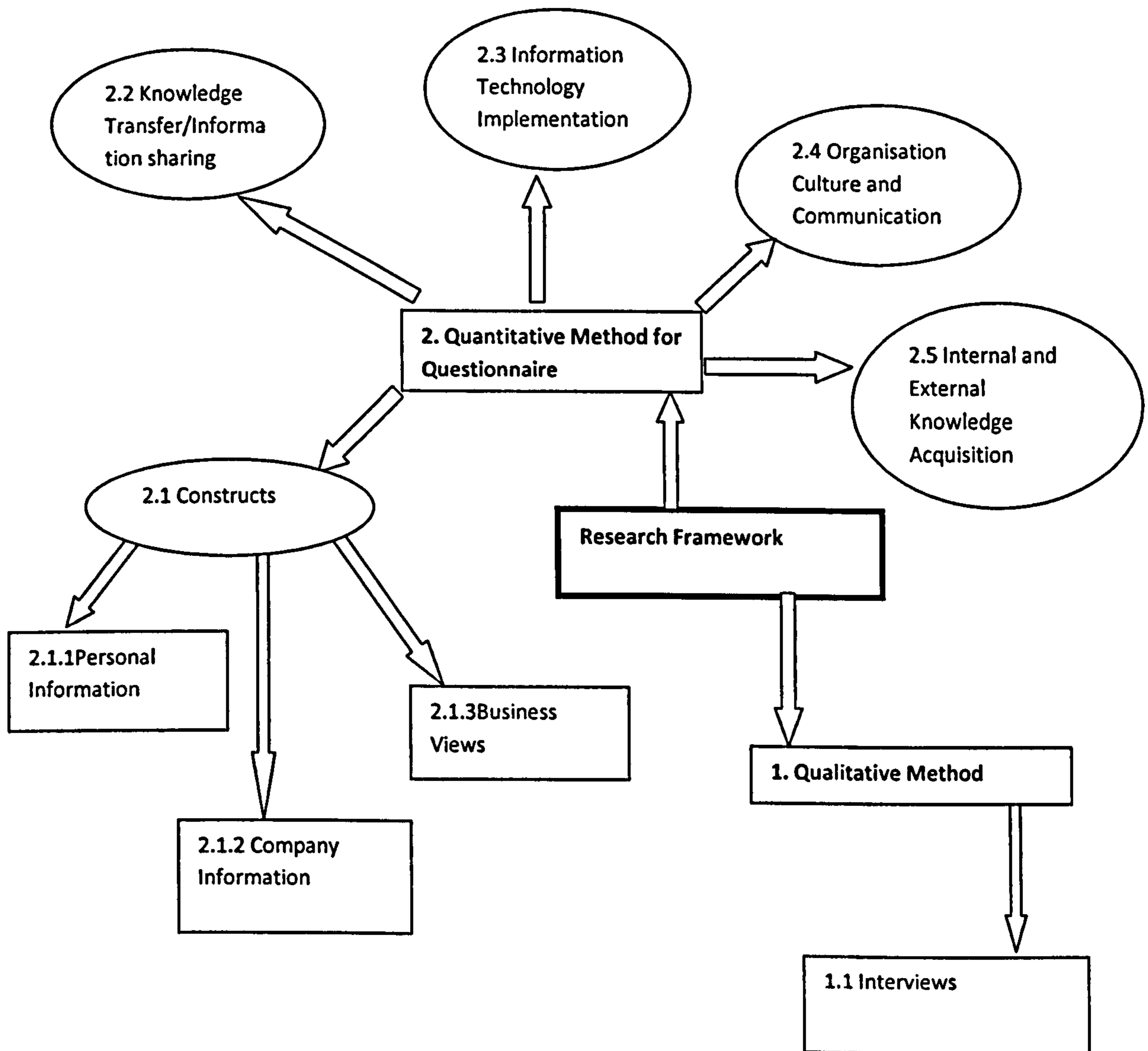


Figure 5.1: Research Framework Quantitative and Qualitative Methods

The Figure 5.1 presents the research framework. The research uses the main constructs, knowledge transfer or information sharing, Information Technology implementation, organisation culture and communication and internal and external knowledge

acquisition against the changeable knowledge transfer in the form of 'know-how' knowledge. This figure also shows that the research has a multi-method approach. Firstly, semi-structured interviews were used to collect data for qualitative analysis. Secondly, a questionnaire was used to collect data for quantitative analysis. Both data was collected from Turkish textile and apparel industries at two different times to increase the reliability of the findings. This multi-method approach provided both a broader and complementary approach. The research intended to develop an understanding of knowledge transfer in a small number of SMEs and then to explore this understanding in a large number of SMEs for quantitative analysis. The interview was first designed to gather qualitative information and then the questionnaire was used to collect data for quantitative analysis that built on the results from the analysis of the qualitative finding. The research then required further explanation of existing information moving into a positivistic paradigm. First, it was required to confirm the qualitative findings and increase the reliability of the results then investigate quantitative findings to improve the validity of the analysis and investigate knowledge transfer in better strength.

5.7: Research Philosophy

The aim of this section is to differentiate research method approaches in order to reflect a specific research strategy. Two essential terms as explained below are mostly use to define the research strategy which connects data and social theory (May, 2001).

5.7.1: Phenomenological

The phenomenological paradigm stresses qualitative research methods. This is based on the essence of lived experiences (Creswell, 1997) relating human experience with their consciousness (Fouche, 1993). Patton (2002) indicated that "phenomenology analysis seeks to grasp and elucidate the meaning, structure, and essence of the lived experience

of a phenomenon for a person or group of people”. Hughes and Sharrock (1997, p. 98)

agreed with above and stated that:

“Society, a product of the human mind, was subjective, emotive as well as intellectual. What we would refer to as causal, mechanic and measurement-oriented models of explanation were inappropriate, since human consciousness was not determined by natural force”

Bentz and Shapiro (1998, p. 96) also suggested that, *“the intention of phenomenological study is to provide a description of human experience as it is experienced by the person”*. Bruyn (1966, p. 90) stated that *“phenomenology serves as the rationale behind efforts to understand individuals by entering into their field of perception in order to see life as these individuals see it”*. Wengraf (2001, p. 140) stated that phenomenological study has made contributions to discover this vital value: *“... which will manage to make inquiries not only into the certainly basic areas of social-psychological concerns but also into those of the broader, socially crucial aspects of modern society in perpetual change, upheaval, and crisis”*.

5.7.2: Positivist

The positivist approach is opposite to phenomenological paradigm and involves rigorous observations leading to statistical analysis (Saunders *et al.*, 2000). Tashakkori and Teddlie (1998) indicated that the positivistic paradigm relate to quantitative methods whereas the phenomenological paradigm connects with qualitative methods. According to Hughes and Sharrock (1997) social research’s most used research instruments, such as the survey, the questionnaire, statistical model; the idea of research as hypothesis testing and theory corroboration, all embody the formative influence of positivism. The facts or causes of social phenomenon are qualitative indicators and not much related to the subjective state of individuals (Hussey & Hussey, 1997). Joshua (1998) also agreed with this vision and explained that

“Positivists try to separate facts from values and thereby create misrecognition of such social interests which determine what counts as legitimate knowledge, whereby subjective value is turned into objective facts”.

Hughes and Sharrock (1997) made similar comments

“Positivism recognised only two bona fide forms of knowledge, the empirical and the logical: the former represented by natural science and the latter by logic itself and also by mathematics”.

Positivism thus based on quantitative analysis and requires scientific method and statistical tools (Saunders *et al.*, 2000). Bryman (2001) indicated several important features of the quantitative research approach; for example, the concepts of mechanism for measurement, causal relationships, generalisation, replication, and individualism are all from the objective point of view. A care is thus required to get balance between scientific or statistical observations and the changing pattern of the subjects. Positivists thus neglect other forms of logic and believe only facts based with scientific explanations. Hughes & Sharrock (1997, p. 27) supported this and explained that

“Human social life was simply the result of a coalescence of forces interacting so as to produce a particular sequence of behaviour”.

In terms of the reality that social phenomena affect human behaviour in complex ways, Saunders *et al.* (2000) argued that, unlike the positivist approach, phenomenologist pay more attention to discovering “the reality working behind the reality”, since reality is influenced by human values and behaviour. Both methods have strengths and weaknesses. Generally, research methods can be categorised as either qualitative or quantitative based on their purposes, methods, and assumptions. To recognize the quality of research results, it is necessary to define the research methodology based on the scientific principles before carrying out any research techniques (Eldabi *et al.* 2002). Each paradigm provides different ways with different views or attitudes to find ways to understand the same subjects. Positivistic views are based on quantitative data and uses large samples for statistical analysis. To get the proper analysis a highly specific and

reliable data is required and represents the mean behaviour of the data. Whereas phenomenological paradigm is based on qualitative data and thus uses less samples. This needs rich and subjective data with high validity based on experiences (Hussey & Hussey, 1997).

5.8: Ethical Issues

In the research methodology mainly when primary data is collected, there is a need to consider ethical issues. In any type of research situation, there is always some bias that results in some ethical problems. The respect for people is a cornerstone in all types of societal research. This means that people cannot be made into means to obtain certain ends or goals. It also means protecting the integrity, mentally and physically, of the people who contribute with information and it is of great importance to take into account all relevant information and not filter out information that is differing to the findings the researcher has done (Merriam,1998). In qualitative research, ethical dilemmas are likely to come forward with the collection of data and the broadcasting of findings. The researcher has a responsibility to ensure that the participant is well informed, has the right to privacy and understands the purpose of the research (Zikmund, 1994). Ethical considerations approved that before opening the questionnaire or being interviewed the participant was presented with details about the purpose of the research, how their confidentially would be kept, contact details so they could seek clarification on any issues relating to the research, their right to remove information before information was written into the research, and a statement that their identity would remain unsigned. The information given to participants can be found in **Appendix D and Appendix E**. In this research, the researcher credibility was established by making both the subject organisations and the participant aware that the research was being carried out within university guidelines and with supervision. All

Turkish SMEs indicated that they required some control over what could be asked to ensure that the interview was focused on business management benefits via knowledge transfer. This research required a jointly acceptable structure, the researcher and the university focused on the research objective and the subject organisations expected to identify business benefits from the research. This was done without compromising the researcher's academic aim of adding to the existing knowledge. A common understanding was reached through regular involvement and communication about what was required and what could be expected between the two parties. All SMEs involved in providing information in this study wished to remain unidentified. The results of the research will be presented in report format to each of the participant's organisations on completion of the research if they want to know about the results. The purpose of the research for academic reasons was highlighted. It was aimed that the research to be objective and the researcher to remain independent at all times to reduce any bias. The fact that useful information found could help senior executives or managers to identify areas for improvement was seen as a benefit that would appear through the exploratory nature of the research. This thesis tries to hold on to the complete highest ethical values, specifically when it comes to reliability, but also when drawing conclusions, and when finding, selecting and referencing literature.

5.9: Critiques of Literature and Respondents

The search for literatures and other relevant material is complicated by the difficulty of determining the subject areas that are most relevant to the study. For that reason, the search for literature and other relevant material has been conducted in many subject areas. Since there are many existing theories about the knowledge transfer process, it was necessary to identify key areas, i.e., key features, which directly had an impact on it. The importance was to select the most relevant literature and journals for the topic.

The emphasis was always to find key authors researching knowledge transfer in SMEs. Topics concerning knowledge transfer and the networking process were a crucial focus when selecting relevant journals and literature. It was always the intention to make sure that the theory chosen was considered up to date and broadly acknowledged.

5.10: Management of Limitations

The limitations of this research are mainly due to a framework that was formed to bring a difficult topic down into a manageable structure and to accomplish the research objectives within the time and with the resources available. Nevertheless, this limitation is strengthened by the multi-technique research approach. The research does not cover the issues based around the organisational and network structure. While the research is designed to identify the firms in the SMEs that dominate others and find out where relationships have been developed, the difficulty of the issues relating to the structure within these firms and the SMEs network, clear of the scope of the research. However, where information is presented that relates to a firm or the SME's network structure and its impact on knowledge transfer, this information is included in the analysis.

In addition, in this research the term knowledge transfer is used to indicate both the sending and receiving of knowledge. The difference between these two processes is recognised by Gupta and Govindarajan (2000a). Also Szulanski (1996) considered motivation of the sender and the receiver as often different. This research recognises that by not researching sending and receiving knowledge separately, some information may be lost between the transfer periods. However, this research takes the view that knowledge transfer is about the communal dynamic of knowledge flowing both internal and external and about the organisational routines that support both the sending and receiving of knowledge in the SMEs Network.

The participants were a purpose-selected group, specifically all the individuals in the organisation involved in firm knowledge transfer. This technique was the most appropriate for the present research, but it is noted that it may limit the scope of this research. The purpose-selected technique used follows a strategic logic rather than a statistical logic, based on selecting people relevant to the research questions (Silverman, 2001). Primarily knowledge transfer occurred only at senior and middle management level and within a selected group was made by asking a contact person in each firm to identify who was involved in firm knowledge transfer.

The selection process for participants may have put those selected under some stress to participate. However, the participants knew their identity would remain unsigned. Senior managers made the selection of people for both the interview and questionnaire in the respective SMEs. On the other hand, this selection process specifies the research importance.

The research design considers the context in which the knowledge transfer takes place but recognises that any generalisation to other SMEs needs to be approached with concern. Knowledge transfer is a dynamic process affected by many things not addressed by this research, such as, the time lapse since the firm has been part of the SMEs or the economic situation at the time (Tsai, 2001).

The final limitation concerns the potential bias created by the researcher due to not working in the textile and apparel industry in Turkey. Susman and Evered (1978) comment that when researching practical management issues the research cannot be value free and a phenomenon such as knowledge transfer must be considered as related to the actual issues that the members of an organisation face. However, the researcher is

placed in a good position to understand the participants' frame of reference because they often know the reality (Jean Lee, 1992). The researcher was very aware of the need to remain as much objective as possible.

5.11: Importance of Research Design

Research design is concerned with turning research questions into projects (Robson 1993). It was important to develop well-structured research processes and methods, because this can help the research inquiry and validate statements of the relationships between concepts during the research process (Strauss & Corbin 1998). In designing a viable research process, researchers should recognise their own abilities and problems, based on any special knowledge which allows them to gather important data related to their research interests. The term research method refers to the type of research techniques researchers deem most suitable for a particular study. Antonius (2003), for example, preferred to adopt pure empirical studies, since numerical data could help them to address their research questions and meet their objectives (Saunders *et al.* 2000), while Patton (2002) believed that qualitative research provided the most appropriate technique to address "*person's lives, lived experiences, behaviours, emotions and feelings as well as organisational functioning, social movements, cultural phenomena, and interactions between nations*" (Strauss & Corbin 1998, p. 11). Though there is no rule to indicate which research techniques are better than others, the choice of the most appropriate research methods and methodologies to fit the topic becomes a priority in any research project. The choice of research approaches therefore depends upon consideration of the nature of the study involved. Since the purpose of this study is to identify the extant of knowledge transfer in Turkish SMEs, to achieve this objective it seems most practical for the researcher to utilise techniques from both the qualitative and quantitative approaches in order to provide in-depth and consistent analysis.

5.11.1: Data Collection Techniques

Any research gathering data includes two types of techniques, primary and secondary data. In this research described below followed by a discussion of primary and secondary data and how the data collection will be used. In addition, the value of these data gathering techniques depends on if the investigation follows three philosophies; to use more than one source, to build a research record catalogue and to sustain the sequence of evidence (Yin, 1994).

5.11.1.1: Primary

The primary data constitutes of data collected for the exact research. The data can be collected in different ways. Different forms of interviews are a common method when collecting data. For the qualitative research method, focus groups and in-depth interviews are principal (Merriam, 1998). When collecting information for the research, a field study was conducted. Several in-depth interviews were performed, which were taped. The purpose of taping the interviews was to be more involved in the discussion. Another purpose was that when compiling the information, it was possible to replay the tapes in order to interpret the language and information more effectively. Additionally, a telephone interview and email questionnaires were sent out.

5.11.1.2: Secondary

Secondary data is data that already exists and is collected for another purpose than this specific research, but is applicable and good sources for the research project. Secondary data is mainly of published form, for example articles, literature and reports. Furthermore, an active and continuous process of collecting data during the research process is important. A wide extent of knowledge transfer and Turkish SMEs literature was used, mainly for creating the theoretical framework. In addition, journals and the

internet were widely used in order to be acquainted with the current debate about the topic, which usually supplies the most recent results. Reports, templates and other company material were used as a fundamental base when creating the structure of the thesis, as well as the empirical findings.

5.11.2: Triangulation Research Approach

The option between selection of qualitative and quantitative methods depends on the trade-offs between width and depth of producing sufficient data to support the study (Patton, 2002). Liebscher (1998) emphasised that the two typical research approaches should support each other. A quantitative research method is appropriate where samples to populations can be used to draw inferences, formulate hypotheses and test with available methods. Phenomena which are difficult to understand and quantification that is not possible can be solved using qualitative methods.

The basic standard of multiple, mixed, or triangulation methods is to combine the different elements of qualitative and quantitative methods due to their complementary relationship in providing exclusive explanations (Hussey & Hussey 1997; Tashakkori & Teddlie 1998). A number of social science researchers have utilised mixed research methods. Denzin's (1978) defined the triangulation research technique (Jick 1979; Connidis 1983; Hussey & Hussey 1997; Hammond 2005), as "triangulation research methods are the combination of methodologies in the study of the same phenomenon". This improves the validity of research because of comparable study (Jick 1979).

The triangulation approach particularly suits compound research projects where data is collected from different sources using variety of methods. This research uses Creswell's (2003) principles of triangulation which is based on the three main methodological

approaches: quantitative, qualitative, and mixed-method (triangulation). According to Creswell's (2003), the qualitative approach is interactive and humanistic and thus enables researchers to provide clear and accurate pictures and to sketch solid conclusions. The quantitative approach whereas enables researchers to test the influence of measurable empirical factors on the outcomes of studies. Finally, the mixed-method approach triangulates quantitative and qualitative data to reduce inappropriate certainties (Robson 1993).

The first step of the research study based on triangulation began by conducting eighteen interviews of participants from Turkish SMEs to gain in-depth knowledge and a close-up view of their networks within their complex environment. Patton (2002) also supported that the first step of research should be to get a clear picture of its purpose prior to making any decision about further methods. In addition the physical presence of researchers is an important step for finding out the answers to questions about the how and why of the theme. The researcher built up a trustworthy reputation and credibility through the eighteen interviews and decided to proceed to the next stage.

On the basis of above information, the researcher launched a survey to investigate the overall scenario of working pattern of the knowledge transfer in Turkish SMEs. The researcher formulated the pattern of questionnaires and handed it to different SMEs and also conducted on-line surveys. Researcher physically collected data from SMEs that were used to conduct the empirical analysis about knowledge transfer within or between Turkish SMEs.

5.11.3: Qualitative Vs Quantitative Research

Sekaran (2003) presents different techniques on how to collect data. The chosen alternative depends on which method best answers the question of the investigation. Das (2003) states that:

“qualitative and quantitative methodologies are not antithetic or divergent; rather they focus on the different dimensions of the same phenomenon. Sometimes, these dimensions may appear to be confluent: but even in these instances, where they apparently diverge, the underlying unity may become visible on deeper penetration ... The situational contingencies and objectives of the researcher would seem to play a decisive role in the design and execution of the study”

The important aspect in measuring a mixed methodology research design in knowledge transfer in SMEs is that both single methodology approaches have strengths and weaknesses. The combination of methodologies, on the other hand, can focus on their relevant strengths. The researcher should aim to achieve a position where *“blending qualitative and quantitative methods of research can produce a final goal which can highlight the significant contributions of both”* (Nau, 1995), where *“qualitative data can support explicitly the meaning of quantitative research”* (Jayaratne & Wolken, 1999). By understanding the following assumptions, the researcher should ensure that the final goal maximises the strengths of a mixed method approach (Jones, 1997):

- The qualitative methods, especially observation, or unstructured interviews, allow the researcher to develop an overall ‘picture’ of the investigation of the research.
- The qualitative analysis may be more suitable to assess the behaviour of managers or owners of knowledge transfer in SMEs.
- Knowledge transfer research involves affective characteristics, as well as overall behavioural aspects. Thus a qualitative ‘Main Idea’ is appropriate to investigate such aspects by examining the information’s point of view.

- Quantitative analysis may complement the findings of qualitative methods by indicating their extent within aspects of the knowledge transfer.
- The Quantitative analysis may determine or reject any apparently significant data and the relationships that may emerge from research.
- Quantitative methods can be used to enable statistical testing of the strengths of research relationships.

There is a strong debate in the field of knowledge transfer about what research approach to use for data collection method. There are commonly two types of scientific approaches to data collection: the quantitative and qualitative method. The difference between these two methods lies in the area of applicability. Qualitative methods are often used when it is not consequential to communicate the collected data in numbers. A quantitative method, on the other hand, would involve the collected data being expressed in numbers and analysed with statistic tools (Bryman, 2001). Quantitative data analysis covers a wide range of issues in this particular study and provides useful ways of exploring relationships among the data applicable to each variable (Robinson 1993). The quantitative data results allow us to evaluate the significance value of knowledge transfer in SMEs. In order to understand the development and performance, characteristics, it is important to select appropriate data analysis techniques to explain, firstly, possible factors influencing a SMEs successes or failure from different points of view and secondly, the correlation relationship between those factors that would express real SMEs motives. The variable relating to Turkish textile and apparel industries for knowledge transfer will be analysed through two analytical techniques. First the frequency analysis which presents Turkish SMEs (textile and apparel) characteristics and general performance in relation to knowledge transfer. Second the statistical analysis (ANOVA, Chi-square and Crosstabulation) show the correlation relationship

between variables to highlight significant points of knowledge transfer in SMEs to support the positive hypotheses. The correlations table explains the relationship between knowledge transfer for SMEs variables and those relevant SMEs determinants. In other words, statistical analysis allows us to understand the influence of knowledge transfer on SMEs performance.

5.11.3.1: Mail Survey

A mail survey is viewed as superior to other methodologies for several reasons. First a mail survey offers a relatively low cost for data collection from a large group of respondents (Davis, 2000). Secondly, a respondent can complete a mail survey questionnaire at his or her convenience and thirdly it offers an opportunity for respondent's anonymity. Finally a mail survey is viewed as an acceptable methodology because the relevant selection factors are established either through literature reviews or interviews with a group of customers (Oppenheim, 1992). However, as with other data collection methods a mail survey has distinct limitations including potential for non-response bias. The questionnaire has to be sufficiently simple and straightforward for the respondents, and this method is inappropriate where a spontaneous response is desirable (Moser and Kalton,1971). Moreover there is the uncertainty of the firms not receiving the questionnaire because of poor postal services (for example the author's many letters might not reach some recipients in Turkey). To reduce the low response rate problem from mail surveys the researcher adopted a online survey with a telephone follow up.

5.11.3.2: Online Survey or Electronic Questionnaire

The availability, use and level of computer technology vary widely from country to country and even from culture to culture (McCracken, 1988). Therefore these affect the

use of computerised interviews and thus, computer-assisted interviews should be thoroughly explored before choosing this method (Davis, 1985) with the development in information technology the computerised survey is being used more and more. Compared with face-to-face interview and a telephone interview, a computerised survey has advantages as the respondent can complete and return the questionnaire at a suitable time. As with the mail survey it offers an opportunity for respondent's anonymity (Maxwell, 1992). Moreover compared to a postal survey this tool has a delivery advantage if the email address is correct and active. However, seeing the subject and an unknown sender many respondents may delete the email-questionnaire without opening it and some experts thus suggested careful use of this tool (Davis, 1985). In this research the questionnaire was set up as a website feedback form and sent to possible participants in an e-mail containing the link to the website (see **Appendix C for English and Appendix D for Turkish**). In the SMEs selected, all of the possible participants had access to a computer with e-mail and internet facilities and the required level of computer literacy to complete the questionnaire. Respondents were assured of their confidentiality and that their responses would go directly into an electronic database in the University of Plymouth that had no record of where the response came from. This means that this data did not need to be checked for transcription errors (Fowler, 1991). Participants were required to answer all the questions before they were able to submit their questionnaire and it let the participant know which questions had not been answered to reduce errors caused by missed questions. These responses were protected by a user name and password. Any hardcopies received were entered into the electronic database and checked for accuracy.

5.11.3.3: Combined Survey Methods

Many researchers combine more than one data collection method to remove the limitations of using only one through the strength of another method. The main focus of a researcher has to be whether the chosen method would provide adequate information to satisfy the research objectives, be cost effective and be feasible in terms of time of the setting and resources available for the study (Marshall and Rossman, 1989).

5.11.3.4: Interviews versus Surveys

Generally, an interview complements a survey method. Most surveys tend to contain structured questions and fixed-response answers rather than open-ended queries. For example, in a mail survey normally no interaction occurs between the questioner and the respondent other than what is written on the questionnaire. Even in a telephone survey, surveyors try to minimise conversation other than the exact wording on the questionnaire. This is done to ensure standardisation so there is no different interpretation among the respondents. On the other hand much of the understanding emerges from face-to-face meeting and dialogue which is also done by a telephone interview (Hester, 1996). The next chapter will discuss and analyse data results in order to describe the current situation of SMEs in Turkey. The results of personal interviews provided an insight into many important issues related to Turkish SMEs. After quantitative analysis, the data results have indicated possible factors that influence the decisions to task for knowledge transfer SMEs in Turkey. This evidence supports the findings from qualitative research with difference research analysis approaches. The entire process of collecting and processing the data is schematically represented as shown in Figure 5.2.

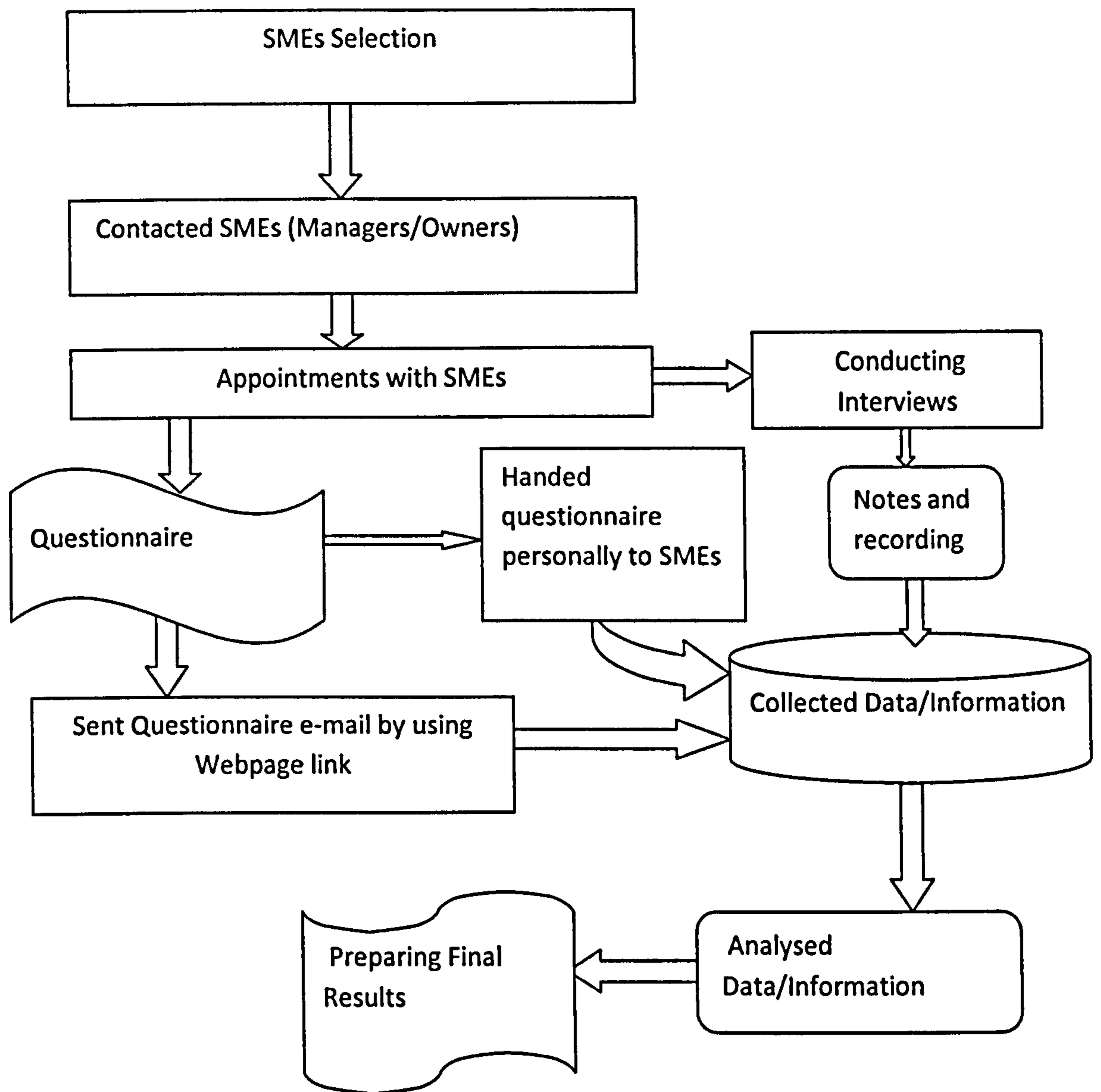


Figure 5.2: Interview Process

Primary data is believed to be used to explore a specific research objective, which will be gathered using interview techniques. According to the nature of the topic, it was decided to use semi-structured interviews which facilitated a better understanding of the relationship between variables in an exploratory and explanatory study and allowed to discover interesting and unanticipated phenomena related to the research topic (Saunders *et al.*, 2000). Interviews have been used to gather data on knowledge transfer practices within the Turkish Textile SMEs under research. An interview is a survey method designed to collect extensive information from each respondent. It is an

ordinary conversation, with one individual at a time that has been extended and formalised in order to collect data. Keeping in mind the purpose, the research method was to interview the managers or owners and CEO in order to gather as much information as possible. Moreover, the interviews are expected to provide information that reflects the opinion of both their customers and employees in SMEs. The process of interviewing implies not only asking questions but also a systematic recording and documenting of responses. All the interview questions were originally written in English and then translated into Turkish. An appropriately designed semi-structured questionnaire was more likely to encourage the interviewees to express their points of view accurately. After finishing each interview, the taped interviews were uploaded in the computer and also stored on CDs for the safety of the collected data. Eighteen interviewees had a copy of the recorded interview to clarify any confusion by referring to the record whenever needed. The entire interviews of respondents were noted down. The draft of each interview was made in order to select the information that of interest for this study. Finally, the corrected version of primary data of each interview was processed and framed. The interviews were conducted in Company's offices and most interviews lasted between 30 to 60 minutes.

5.11.3.5: Selection Process

Participants were selected on the basis of being known to be involved Chamber of Commerce, KOSGEB (Small and Medium Industry Development Organisation), ITKIB (Turkish Textile and Apparel Exporters' Association) and also some old friends that know about knowledge transfer across the SMEs. These people were targeted because they were identified as the people in the SMEs with the knowledge to give accurate and reliable answers based on experience (Zikmund, 1994). This selection approach is considered a census that the firm is involved in knowledge transfer was asked to

participate. This census targeted eighteen people and could be considered small. However, the size is considered adequate for qualitative purpose (Hair *et al.*, 1998) and therefore it serves the purpose of initial exploration of knowledge transfer activity within a SMEs questionnaire (see Appendix A). The questions were designed to answer the research objectives. The second stage of this research, the quantitative phase, will seek confirmation and further explore these answers. The questionnaire was distributed electronically and by hand to company's officers, directly to the people involved in knowledge transfer initiatives in the SMEs with a short message for the Chief Executive Officer (CEO), Manager or Owner to inform them that the research could be of benefit to the firm.

5.11.3.6: Companies Selection

The companies selected for this study had to satisfy certain definite criteria. The companies chosen for this research had to operate in the Textile industry in Istanbul, Ankara, Izmir, and Bursa and belong to the Chamber of Commerce and ITKIB (Turkish Textile Association). Further more, these companies had to belong to small and medium sized enterprises (SMEs) and this has been achieved by measuring how these companies fit into the description of a SME. And lastly, the availability of information and the possibility to easily reach the company like the transportation has played an important role in the selection of companies.

5.11.3.7: Selection of Interviewees

The study interviewed the managers and owners to provide information necessary to refine the hypotheses. Moreover, the interviewed managers were expected to provide information that reflects the opinion of both their customers, employees and other SMEs. People in higher positions in the companies were selected as a reason of their

importance and long experience in the companies. Interviewees were the most informed people about the processes within studied companies. More particularly, the objective of the interviews to gain a better understanding of why certain factors were perceived as being of critical importance of knowledge transfer of individual SMEs, why individual owner or manager held certain views about the adequacy of the support they have received and how these views in turn related to the need of their particular business networks. A further aim was to find out how SMEs felt that support could be improved to better assist their knowledge transfer exchange and why they believed such change would be effective. The final reason for examining chosen samples of the firm in depth was to enable the progress of an accurate description of what a knowledge transfer, is the context of this study. During the data collection, interviews were also carried out with the provider of network support, it was felt that in doing this further triangulation benefits would be gleaned through gaining the perspective of a different sample population on broadly the same issues of concern and how support might be improved it could then be compared and differences and similarities can be highlighted. As Miles and Huberman (1994) emphasise, a key feature of qualitative sampling is that it is 'purposive' rather than random. The central concern of this research is to examine how support for small firms might be improved to encourage more successful knowledge transfer among their business networks. Those firms of particular interest to study are those that have exactly demonstrated some success in achieving knowledge transfer. These are firms that have gone through the process of growing and experience the associated problems first hand therefore the insight that they have to offer with regard to possible support network improvement are likely to be extremely valuable. In choosing firms for interview, a criterion sampling approach, (Patton, 2002) was adopted, selecting only firms that had experience in knowledge transfer networks in SMEs. At the same time, care was also taken to ensure that, as far as possible, SMEs were drawn

from a variety of geographical locations, industrial sectors and age groups, the advantage of applying variation sampling in this way is that any common thing that exists among the heterogeneous SMEs that meet that ‘knowledge transfer’ can be identified. As Patton (2002) states “*any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared aspects or impacts of a program*”.

5.11.3.7.1: Interview Design and Techniques

Robson (1993) describes three approaches to conducting research interviews based upon differing degree of formality and structure. At one extreme is the ‘fully structured interview’, featuring standardised questions and response options. Such an approach, frequently used in market research, shares many of the qualities of quantitative postal and email surveys and so leaves little room for the qualitative insight. At the other extreme is the ‘unstructured (completely informal) interview’. Easterby *et al.* (1991) warn that such a ‘non-directive’ approach can lead to poor and subsequently difficult to interpret data since a clear vision of what questions respondents are answering can be easily lost. Equally, respondents themselves are prone to being left with no clear idea of what issues they should be addressing in their answers. Because of the weaknesses inherent in both the structured and unstructured approaches, a number of authors favour what Robson (1993) calls the ‘semi structured interview’. Here, an interview question guide is used to ensure that the subject areas of importance are covered in each interview carried out. McCracken (1988) identifies three further functions of this type of approach. First, it enables prompts to be carefully crafted and precisely situated in the interview. Secondly, it established channels for the direction and scope of discourse. Finally the plan allows the questioner to give all of his or her attention to the informant’s responses. In sum, the semi-structured approach “*keeps the interaction*

focused, but it allows individual prospective and experiences to emerge” (Patton, 2002).

Thus qualitative insight is gained within a framework which ensures that these insights are meaningful and relevant to the issues under analysis. In conducting the interview with owners or managers, care was taken to follow the recommendations regarding style and techniques put forward in the literature. Many of these recommendations relate to the wording and phrasing of questions. Patton (2002) emphasises the importance of using a form of questioning which facilitated open responses, rather than driving a respondent towards one of a closed set of possible replies. For example, by asking how significant something is, the respondent is effectively being forced to select one of a finite number of replies ranging from ‘very significant’ to ‘very insignificant’. Other guidelines laid down in the literature include the avoidance of jargon as well as of questions which are loaded, leading double-barrelled or double-negative (Silverman, 1993; Patton, 2002; Robson, 1993; Oppenheim, 1992; Marshall and Rossman, 1989).

A second general area where interviewing skills need to be developed relates to the process of personal interaction between interviewer and interviewee. One important issue is the use of probes to sharpen upon and expand a particular response. Easterby *et al.* (1991) identify a number of types of probes each of which utilises different techniques to achieve a specific purpose. In particular relevance to this research is the use of exploratory probes. Using what, why and how questions the reason for particular viewpoints held by interviewees can be uncovered.

Other important interpersonal skills cited as being necessary in conducting effective depth interviews includes learning to give the respondents interest in their replies, developing a relationship with the interviewee whilst at the same time maintaining neutrality and being considerate to the respondents feelings, particularly where sensitive

issues (for example relating to a firm's financial position or their internal any issue) are being addressed. Oppenheim (1992) argues that such skills are essential if the person being interviewed is to continue to feel happy about co-operating to their fullest ability throughout the course of the interview.

5.11.3.7.2: Questionnaire Contents

To understanding of style and content of the covering letters (See Appendix D). In addition to addressing why and by whom the survey is being carried out and how the addressee was chosen, Moser and Kalton (1971) suggest that the main purpose of a letter's content should be to state why it is important for the person to reply. Given the objectives of the research, the possible input of the research towards designing future support for small firms was therefore emphasised. This served the additional purpose of highlighting the general subject matter of the questionnaire which, given its relevance to the chosen sample population, might be expected to create a high level of interest and thus a larger response rate (Adam and Schvaneveldt, 1991). With regard to the style of covering letters, much disagreement appears to exist amongst writers as to the significance of any benefits attached by some to particular approaches. Other guidelines which were followed include the use of free return envelopes, an order of questions which avoided raising potentially off-putting questions too early into the questionnaire (Wengraf, 2001; Fowler 1991) and the use of brief explanatory sentences before certain questions or groups of questions (Oppenheim, 1992). Moser and Kalton (1971) argue that such questions, as well as providing useful qualitative insights, provide an incentive to complete questionnaire forms since the respondent can be guaranteed of an opportunity to 'speak their mind' in addition to simply answering the questions that the researcher wants them to answer. As the field work was conducted in Turkey, the

researcher received the completed questionnaire by hand, therefore the responses was 60% which is very good for this research.

The broad aim of the questionnaire, a copy of which can be found in **Appendix B and Appendix C** was to establish which factors are of greatest importance in influencing the knowledge transfer of the responding small firms. The questions asked were broken in to five distinct sections.

The first section (Questions 1 to 8) was concerned with establishing the personal information of each respondent .The based on fact and uncontentious subject matter involved made for a suitable set of questions with which to begin the questionnaire. The main purpose of the section was to enable subsequent analysis and to examine how the importance of particular factors influencing company knowledge transfer according to personal information. The personal information recorded related to the respondent's gender, age, level of education, nationality, working position in the company, work experience, understanding of language capability and racial or ethnic.

The second section (questions 1 to 10) focuses on the company information. The main purpose of this section was to understand and analyse the company ownership and how the structure influences knowledge transfer. Questions related to company information, related to companies operation, number of people, company's ownership, company website, company's branches and company's location. As with questions from other sections, an additional 'Other' category was introduced to questions where it was not possible to list every possible response.

In section 3 the categories used were chosen in order to reflect the particular business views influencing company's knowledge transfer, secondly the main focus of

advantages and disadvantages of SMEs business in Turkey and to continue their potential export and import capabilities of development which are categorised advantages of doing business in Turkey, recent experience of doing business in Turkey and future business plan.

The fourth and most important section of the questionnaire asked the respondent about the factors influencing the knowledge transfer or information sharing of their firms. Altogether 12 questions were asked to the respondent. Those questions were drawn from an extensive source of existing literature in the area. In order to assist in the analysis of the results and also to improve the design of the questionnaire from the user prospective a five-point Likert Scale was used. For each factor the respondent was asked to tick one box on a one to five scale, one being strongly disagree and 5 being strongly agree some disadvantages do exist in relation to the use of Likert Scale, for instance different individuals interpretations of what constitutes 'somewhat agree' as opposed to 'Agree' might vary. This could be also a problem when comparing perceptions of two different phenomena measured using Likert Scales. It is possible that respondents might rate 'Agree' in a different way to 'adequacy'. However, in the absence of more appropriate means of assessing perceptions on a large scale and in a way that can be quantified, the Likert Scale is perhaps the best measurement tool available.

Section 5 of the questionnaire deals with the key issue of information technology implementation. This relates to the user assessment of the level of support for knowledge transfer particular factors influencing small firm networks. The level of satisfaction with support in addressing each factor was again identified using a Likert Scale. The factor chosen represented an area of IT support or knowledge transfer which

could be provided and were derived from those factors listed in questions 3, 4 and 8 of the questionnaire in this section.

Section 6 (Question 1 and 2) related to the firm's culture and communication. The overall aim of this section is to examine culture and communication between employee and firm and a measure of how important culture and communication factors were in influencing the knowledge transfer in the firm. Likert Scale was used in both questions. For each factor the respondent was asked to tick one box on a 1 to 5 scale. 1 being not important and 5 being extremely important in the first question, in the second question 1 being strongly disagree and 5 being strongly agreed.

Section 7 is a final section of the questionnaire deals with the objective of the private and public knowledge acquisition of this survey for the SMEs knowledge transfer. Once again the aim was to establish whether private and public knowledge were associated with the perception of knowledge transfer and how important different factors were in affecting SMEs knowledge transfer. Furthermore given the aim of the research it was felt to be importance to find out the extent of knowledge sharing, the risks of knowledge transfer, and finally the level of knowledge acquisition and private and public knowledge for developing the products. In this section out of 4 questions three questions used the Likert Scale. question 2 is a level of knowledge acquisition where 1 is strongly disagree and 5 is strongly agree, question 3 is the benefit from knowledge sharing where 1 is strongly disagree and 5 is strongly agree, finally question 4 was asked to find out the risks of knowledge transfer in SMEs where again 1 is strongly disagree and 5 is strongly agree for analysing data. And with the questionnaire the researcher provided a comments and feedback section to the respondent for their valuable comments towards this research and also to give the option for their name and address if they want to be provided with the results of this research.

5.11.3.8: Data Conversion and Pre-testing

The two open-ended questions that related to the organisational context were designed to be answered with free text. The questionnaire was pre-tested during the question development and before an electronic version was sent out. Pre-testing involved the testing of the questionnaire on a small sample to identify and eliminate potential problems (Zikmund, 1994). After carefully checking of the questionnaire by the researcher's supervisor, a selection of two employees from the University of Plymouth software help desk answered the questionnaire. They were asked to comment on the content and the time it took to answer all the questions. Also they considered whether they found the Likert Scale provided enough scale and if the choices were divided enough to avoid uncertainty. The feedback led to small modifications aimed at increasing the questionnaires validity and clarity. In addition, two people from researcher's office answered the electronic version to check that the set up was working and the directions were clear.

The data collected by the questionnaire was mainly non-numerical. Some of the data was unconditional and could not be converted into numerical form. For example, respondents were asked to select the recent year's business experience in Turkey. Each choice was given a numerical value based on an ordinal scale from 1 to 5 and from a negative to positive response. The scale was as follows: strongly disagree = 1; somewhat disagree = 2; neutral= 3; somewhat agree = 4; strongly agree = 5. The ordinal data collected was scored and categorised against the objective it was designed to section address by the questionnaire. In this study the questionnaire asked for two types of responses namely, multiple choice and open- ended free text. The response selection in the multiple choices was provided by using a five-point Likert Scale with two degrees of positive answers and two degrees of negative answers. This type of scale forces a

positive or negative answer eliminating any tendency to take a neutral stance (Zikmund, 1994). A five -point scale was used to allow for sufficient range of responses to provide the richness of the data. The five-point scale allowed for weak and strong opinions to be expressed. An assumption was made about the homogeneity of the responses (Zikmund, 1994). Open-ended questions were used to allow for accurate information about the participants position in their firm and their organisations context. The use of free text provided a way to collect an unstructured response in a non-threatening way (Hussey & Hussey, 1997). All of this data was then analysed using frequency tables in SPSS Student Version 15.00 and 16.00 for Windows (SPSS). The frequency table gave a percentage value to the frequency of the answers, which gave an indication of the power of the answer.

5.11.3.9: References Selection

Two very important criteria have been used for the selection of references – the importance of the authors, and the relevance to the subject for knowledge transfer. Thus, only the leading authors writing on knowledge transfer, knowledge management and Turkish SMEs have been used, their works being acknowledged as having a major impact on these subjects. Almost all authors used for the literature on knowledge management and knowledge transfer are among the “Top 50 most influencers of knowledge management” (Knowledge Board –<http://www.knowledgeboard.com>) such as Nonaka (the guru of knowledge management), Szulanski, Nahapiet & Ghoshal, , Malhotra, Davenport and Prussak, Sveiby, Tsai, Wigg, Argote & Zander, and many others. The same principle was used for methodology (Yin, Bryman, Saunders *et al.*, Hughes & Sharrock, Patton and Tashakkori & Teddlie) and others. For the identification of importance of the scholars, besides previous knowledge of the authors writing this research, various classifications have been used, as well as consultations with the

researcher's Director of Studies. The titles and subjects were selected for this study depended on their relevance to the researched problem. Thus, the authors have consulted the literature on knowledge transfer and SMEs (Textile industry) in general, as well as the literature that refers to various aspects of these concepts. The use of various concepts related to the basic concepts can be noticed especially in the regard of knowledge transfer. For instance, the authors of this research have referred to the literature on organisational knowledge and improvement. The reason for this is the direct relationship between these concepts and knowledge transfer, such as knowledge transfer being at the foundation of organisational learning and the driving force of improvement. Thus, organisational learning is an area of knowledge transfer within organisational theory that studies models and theories about the way an organisation learns and adapts (Prusak, 1997). Improvement is a process through which economic or social value is extracted from knowledge through the generation, development and implementation of ideas to produce new or significantly improved processes.

5.12: Reliability and Validity

The consideration was given to the interview questions validity and reliability or how well and how consistently the questions measure the objectives. Marshall & Roseman (1989) and Maxwell (1992) provide five essential steps as the requirements to ensure the assurance of quality research and the achievement of reliability and validity:

- (1) Knowledge stems from observations which take place through a definable searching process.
- (2) The research problem is defined, which means answering the questions why the research is being done and what it is supposed to achieve.

(3) A research plan must be formulated. The purpose of the plan should be directed towards the testing of a hypothesis (deduction) or the evaluation of evidence in terms of constructing a hypothesis (induction).

(4) The outcome of the enquiry is stated in explicit terms, which may result in the support or refutation of an existing hypothesis (deduction) or a proposed one (induction).

(5) The conclusions are documented with sufficient support and clarity to establish what was done, what was found, and what significance the findings may have. The researcher is also careful to separate their work from that of others, and to show how their methodology or findings mesh with other efforts within the same field of inquiry.

5.12.1: Reliability

Rummel (2002) explained that “*reliability refers to the degree of consistency with which different researchers come to the same answer or with which one researcher came to the same answer on different occasions*”. From the position of Rummel as assured above, a research work is measured reliable when the work can be simulated or conducted at different times by the same researcher or at the same time by different researchers. In other words, reliability is the degree to which a test gives the same result when the test is frequent several times. Independent researchers must be able to get consistent results given the same study procedure (Yin, 1994). Merriam (1998) refers to reliability as the area to which research findings can be simulated. A common problem is that quantitative study often has an altering character; the fact that it is measured is not stationary. As a result, repeated studies in the part will often have changing results or quality. A quantitative research is often based on assumptions that there is a sole reality and studying it constantly will therefore probably produce the same results.

Furthermore, the interpretations of study are often based on how others SMEs understand it. Therefore the researcher carefully needs to estimate the information even though quite a few people have experienced the same event. It does not make the interpretation more reliable. To increase the reliability a few factors were considered. Before every interview it was always explained who the researcher was and a short introduction of what the study was all about was provided. Questionnaires were always sent out in advance if possible. It was supposed that if the respondent had the chance to prepare for the interview, more consistent answers could be obtained. To strengthen the reliability of the data the questions were presented at each interview in exactly the same manner (Silverman 1993). Also, three practice interviews were carried out to check that the questions were clear and the answers consistent or focused on the issues they targeted. In addition, all of the interviews were completed within ten working days to eliminate the possibility that something could happen in the firm to modify the situation suitably enough to reduce the reliability of the answers. Getting the transcript typed by one person and checked for accuracy by another person strengthen data analysis reliability. Also, the data coding was checked and recoded where necessary. Therefore, multiple sources were used to a wide scope; it is therefore believed that the study is of high reliability.

5.12.2: Validity

Yin (1994) proposes several methods to increase the validity. To increase the internal validity in this study, i.e., the degree to which findings correctly map the phenomenon in question, multiple sources of evidence and interviews were used as recommended by Miles and Huberman (1994) in Yin to comply with the so called triangulation. Quality of thesis was further increased by using established literature for defining and conceptualizing the concepts used and for construction of a frame of reference for

research questions which provided a base for developing the interview guide for data collection. The validity is about measuring what is intended. Each question was focused on collecting data to address the objectives. To improve the power of the validity of the research questions, each question was discussed with the Managing Director and one other senior manager to establish as closely as possible the information that could be collected. Questions were adjusted if it was felt they could mislead the participant. In addition it was agreed that if the participant appeared to be way off track the researcher would clarify the question or prompt for additional information. Also the interview questions were pre-tested with two interviews carried out to assess the strength of the questions to produce valid answers. Further, work in progress was evaluated several times by the supervisor.

5.13: Summary

A questionnaire was developed to measure the objectives and it was distributed both manually and electronically. The participants were selected to target all the people in the SMEs with known involvement in knowledge transfer between and in the firms. There were eighteen interviewees, which were considered adequate face to face to study the nature of this research. The process used for analysis of the data included the determination of data frequencies and qualitative analysis of the free text. The questions were developed based on the main research objectives with the addition of the issues that emerged from the research. Thus, the data was collected from two stages from both interview and questionnaires. First, the researcher began with interview strategy to explore possible KT variables and then questionnaires were prepared for quantitative analysis to study the overall scenario of knowledge transfer in Turkish textile and apparel industries. The researcher also established networks with people who have knowledge or information about knowledge transfer processes in Turkish Textile

Industry. Second, after identifying the possible variables, the researcher distributed 850 questionnaires including 250 papers based plus 600 on-line to textile and apparel SMEs firms based in Istanbul, Ankara, Izmir and Bursa in Turkey. The next chapter describes the analysis techniques employed to explore the data gathered together over the course of the study and examine in depth the results that emerged.

Chapter 6

Qualitative and Quantitative Data Analysis

6.1: Introduction

This chapter highlights the need of SMEs to share knowledge transfer activities within or between the textile apparel industries in Turkey. As it is acknowledged that knowledge transfer is a process for sharing each others activities but is facilitated by information technology (IT) which may enable the knowledge transfer process. The degree of success of knowledge transfer is dependent both on the choices made by individual managers and the facilitating situation, it must be implemented with proper consideration of the business situation. The main findings detailed in this chapter are the result of conducting a survey for data collection both for qualitative and quantitative analysis. First eighteen face to face interviews were conducted with the managers or owners of the Turkish textile and apparel industries for qualitative research and then for quantitative analysis, two hundred and fifty questionnaires were distributed to the Turkish textile apparel industries and six hundred email based questionnaires were also sent to them, the response from the paper based survey was 165/250 and internet based was 100/600, altogether 265 questionnaires were quantitatively analysed in this study. The next section explains the face to face interview questionnaires statistics collected for qualitative analysis.

6.2: Qualitative Data Analysis

The study interviewed the managers and owners to provide information necessary to refine the hypotheses as mentioned in chapter 4. Moreover, the interviewed managers are expected to provide information that reflects the opinion of both their customers, employees and other SMEs. People in higher positions in the companies were selected as a reason of their importance and long experience in companies. Interviewees were the most informed people about the processes within studied companies. The view of the others was as well considered during the research. The ideas obtained from this

questionnaires formed the basis of quantitative analysis and included under various themes for supporting determinants in chapter 4. The factors considered here are important contributors in different hypotheses developed in chapter 4 and summarised below for better understanding.

Table 6.1: Summary of the Qualitative Responses

Question asked	Number of respondents
Do you share information?	Buyers – 12 Suppliers - 15
Do you use IT for your business?	Email – 15 Website – 10 Video conferencing – 8 E-library – 9 Internet – 17 Internet electronic bulletin board – 10
What are the most important obstacles in Knowledge Transfer (Idea Sharing) to SMEs in Turkey?	lack of IT support (2), finance (8), qualified human resources (1) and government and non-government support (3)
Why do you think knowledge sharing is risky for your business?	incorrect market information (5) and unfamiliar business practices (10)
Do you believe trust and collaboration are necessary in the business?	Trust (6) and collaboration (10)
Do you think communication is necessary for sharing ideas?	Yes – 16
Do you consider that acquisition of knowledge is beneficial for the business?	Yes -14

Qualitative data collected from the textile industry in Turkish SMEs was capable to explain the theoretically driven assumption and to show the relation between the concepts of knowledge transfer and SMEs network. 18 SMEs responded to this survey and majority of the responders are in the higher position in the company and aged between 24 and 48. They have good business ideas but not many were familiar with

modern technology. However, they were happy to implement and hire expertise when they are in need. Some of them were not happy with business because they are still using old technology which makes it difficult to cope up with the market demands. The following section focuses on the descriptive statistics of the data collected for quantitative analysis purpose.

6.3: Descriptive Statistics of Quantitative Data

The following sections describe the Turkish SMEs in the textile industries, two hundred and fifty paper based questionnaires and six hundred online based questionnaires were sent to the different textile companies, respectively. The survey was undertaken with the help of various organisations such as Turkish Chambers of Commerce, Turkish Textile apparel Industries and Turkish Small and Medium Sized Enterprise Associations. The response rate for paper based and internet based questionnaires was approximately 60% and 17%, respectively. The paper based research was conducted by handing the questionnaire personally to the respondents by the researcher. This method provides the opportunity to explain the purpose of research and its outcomes to the respondents. Whereas, the online based questionnaire does not provide this opportunity. This was the main reason for the higher response rate for paper based compared with the online based questionnaire. This finding shows that the Turkish textile apparel industries are not very familiar to online surveys. This situation could have been caused due to two reasons; one is that the SMEs in Turkey are not fully aware of IT and its uses and secondly they lack knowledge about the benefits of this nature of survey. Some of the frequency tables and graphs are contained in **Appendix E** and **Appendix F** respectively. The detailed survey results obtained from this work is presented in the following sections.

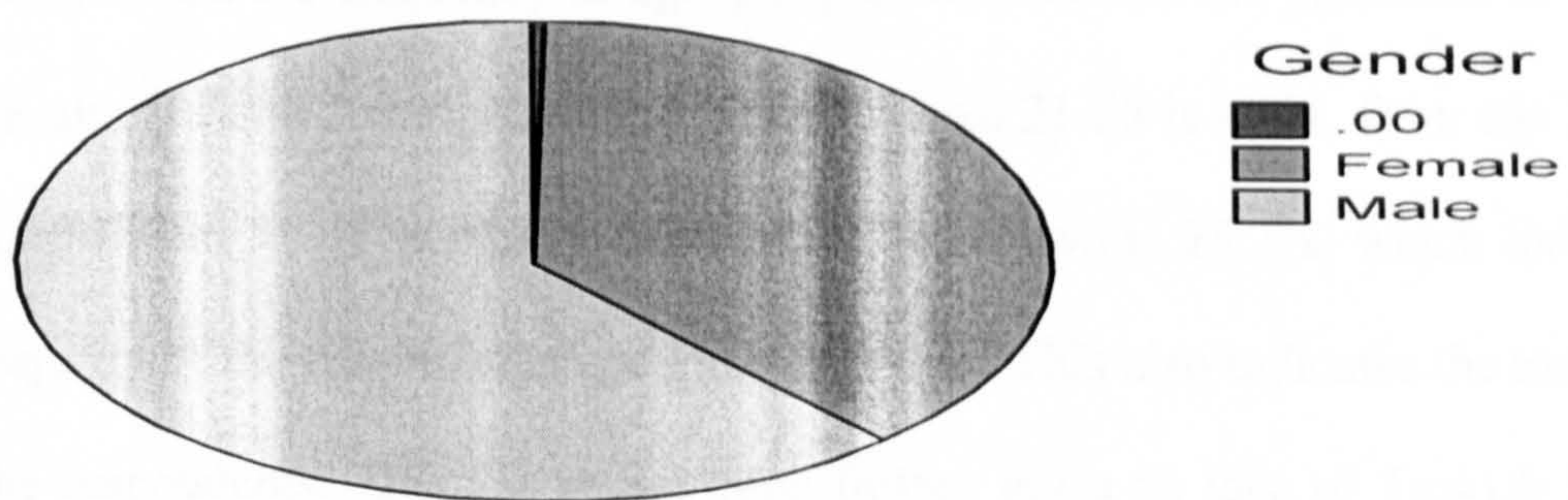
6.4: Personal Information (Section 1 from Questionnaire)

The data from the SPSS frequency that measures gender is presented in Table 6.2.

6.4.1: Gender Distribution

Table 6.2: Gender Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	100	37.7	37.9	37.9
	Male	164	61.9	62.1	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
Total		265	100.0		



Graph 6.1: Gender Distribution

In the survey, section 1 asked for personal information about the respondent, it can be seen from the frequencies presented in the table and Figure 6.1 about various gender related information. The result shows that only one respondent missed their gender out

of 265 respondents. The results also indicate that the majority of survey respondents are male which cover 61.9% and the rest of the 37.7% are female. It also explains to us that the majority of respondents employed by the SMEs are male.

6.4.2: Age Distribution

Table 6.3: Age Distribution of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	from 21 to 25	12	4.5	4.6	4.6
	from 26 to 30	69	26.0	26.2	30.8
	from 31 to 35	114	43.0	43.3	74.1
	36 year or more	68	25.7	25.9	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
Total		265	100.0		

Age distribution and the frequency of age group of respondents are presented in Table 6.3. The results presented show that the age group from 21-25 is 4.5%, from age 26-30 is 26.0%, age from 31-35 is 43.0%, and age 36 and above is 25.7%, which indicates that the majority of the respondents age group is 31-35. This also indicates the maturity level of the respondents. This age group trend further gives an idea of Turkish SMEs which clearly shows that the position of the responsibility lies in the age group 31-35 which is 43%.

6.4.3: Education

Table 6.4: Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	3	1.1	1.1	1.1
	high school	25	9.4	9.5	10.6
	college education	87	32.8	33.1	43.7
	further education	95	35.8	36.1	79.8
	higher or university education	43	16.2	16.3	96.2
	postgraduate	10	3.8	3.8	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
Total		265	100.0		

The level of education of the respondents is presented in Table 6.4, which shows that there is no indication of school level education among the respondents. However, the high school level of education is 9.4%, college level education is 32.8%, further education (vocational) level is 35.7%, higher or university level education is 16.2%, the post graduate level is 3.8%. This data reflects that the majority of the respondents are generally educated with some skills and knowledge in technical education.

6.4.4: Nationality

Table 6.5: Nationality Distribution of the Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Arabic	1	.4	.4	.4
	French	1	.4	.4	.8
	German	17	6.4	6.4	7.2
	Portuguese	1	.4	.4	7.5
	Spain	1	.4	.4	7.9
	TC	242	91.3	91.3	99.2
	UK	2	.8	.8	100.0
	Total	265	100.0	100.0	

The nationalities of the different respondents who are currently working in Turkey are presented in Table 6.5. The table shows a small number of non-Turkish nationalities, working and living in Turkey as well as doing business between Turkey and Europe. Among the shown nationalities, the majority of them (91.3%) are Turkish, followed by 6.4% Germans, 0.8% British, the rest of them are French, Portuguese, Spanish and from Arabic speaking countries. The information on nationalities shows that the Turkish textile apparel market is mixed with different nationalities which can be a positive factor for knowledge transfer activities.

6.4.5: Working Position

Table 6.6: Working Position in the Company

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Admin Staff	10	3.8	3.8	3.8
Technical staff	18	6.8	6.8	10.6
line Manager	49	18.5	18.5	29.1
junior manager	101	38.1	38.1	67.2
senior manager	40	15.1	15.1	82.3
owner	47	17.7	17.7	100.0
Total	265	100.0	100.0	

From the above table, it can be seen that the respondent of the SMEs showing 3.8% administrative staff, 6.8% technical staff, 18.5% line managers, 38.1% junior managers, 15.1% senior managers, and 17.7% the owners. This data further shows that the majority of the respondents are junior managers with a further 33% being senior managers or owners. 70.9% were respondents likely to be involved in the company's knowledge transfer activities.

6.4.6: Information of Spoken and Understanding of Languages

Information on spoken and understanding capabilities of various languages of respondents is presented in **Table E.1 at Appendix E and Graph F.4 in Appendix F.** As it can be seen from the table that in addition to Turkish, 56.2% of respondents can speak and understand English, 13.6% Kurdish, 8.3% French, 12.1% Arabic, 23.4% Spanish, and 19.2% German. Which means most of the respondents can speak more

than one language. There is evidence therefore that there is knowledge of different languages that can support the SMEs in their KT networking.

6.5: Information on Company (Section 2 from Questionnaire)

The questionnaire presented in this section was intended to get information such as operation, type of ownership and branches located locally and abroad etc.

6.5.1: Company Operation

Table 6.7: Company Operation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0 to 3 years	29	10.9	10.9	10.9
4 to 6 years	136	51.3	51.3	62.3
7 to 10 years	76	28.7	28.7	90.9
more than 10 years	24	9.1	9.1	100.0
Total	265	100.0	100.0	

Table 6.7 shows companies running for up to 3 years fall on 10.9%. However, the highest number of respondents running the companies lies on 51.3% operated for 4-6 years. The second majority of the companies falls 28.7% which are running for 7-10 years. The data also reveals that the companies running for more than 10 years are very few which cover only 9.1%. This data indicates that the majority of SMEs who are running their business only for 1-10 years are covered 90.9%.

6.5.2: Number of Employees

Table 6.8: Number of Workers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-50 persons	42	15.8	16.1	16.1
	50 to 100 persons	171	64.5	65.5	81.6
	100 to 200 persons	48	18.1	18.4	100.0
	Total	261	98.5	100.0	
Missing	System	4	1.5		
Total		265	100.0		

Using the Turkish definition of SME (see chapter 2), 64.5% of the companies employed 50-100 persons, 18.1% employed 100-200 persons and 15.8% employed fewer than 50 persons. It shows that most of the Turkish textile and apparel SMEs in the survey fall between the 50-100 person categories. It also identifies that the majority of the workers employed by SMEs in Turkish textile industry is up to 200.

6.5.3: Types of Company Ownership

Table 6.9: Company Ownership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	liability ltd	105	39.6	39.6	39.6
	joint venture	14	5.3	5.3	44.9
	private company	124	46.8	46.8	91.7
	joint stock company	22	8.3	8.3	100.0
	Total	265	100.0	100.0	

The information on company ownership of various respondents is presented in Table 6.9. The data presented in the table show that most of the Turkish SMEs are the private companies which cover 46.8%, whereas the liability Ltd companies are about 39.6% and rest of them are joint ventures and joint stock companies. There are no state owned enterprises in this sector. **This data correlates with the national statistics which is described in chapter 2.**

6.5.4: Information of Company's Webpage

Table 6.10: Company `s Webpage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	134	50.6	51.5	51.5
	yes	126	47.5	48.5	100.0
	Total	260	98.1	100.0	
Missing	System	5	1.9		
Total		265	100.0		

Information technology is vital for companies to introduce their products and information. This can be true for Turkish SMEs as well. Therefore, the questionnaire presented in this particular topic (webpage) aims to find out how much the SMEs are using this webpage technology as their communication tool and channels to introduce their product and services. The Table 6.10 shows that 47.5% of SMEs are using the webpage as their communication channels. However, 50.6% of SMEs still do not use this technology as their communication tool. Out of 47.5% who are currently using the webpage were asked the areas of their use. The data shows that from **Table E.2 in Appendix E**, the main areas of use of the webpage were marketing 100%, selling and buying of goods 100% and quick communication 100%. Furthermore, it was also found

that 19.6% of SMEs were using the webpage for sharing ideas with other companies. Therefore, it is clear that the webpage is an important tool for SMEs which can be developed and used more in order to promote their business and to communicate to each other so that they can take full advantage of this modern technology adventure.

6.5.5: Promotional Tools Used

The promotional tools used by various SMEs to introduce their companies into Asia and European markets are presented in **Table E.3 at Appendix E**. The data presented indicate that 99.2% respondents make their company known via trade fairs and trade organisations, 83.4% respondents via website marketing. Furthermore, 2.3% via seminars, 8.7% via media advertisement and 1.1% respondents via above all methods. This trend clearly shows that trade fairs and trade organisations are vital means to promote their companies. It is also clear that website marketing also has been greatly used by the SMEs to make them known to Asia and Europe.

6.5.6: Company's Location and Branches

The location of company and their branches is presented in **Table E.4 at Appendix E**. The data shows that the majority of SMEs haven't got any branches. The result shows that only 35.8% of them have branches. This is evidence that they have only one unit of business to run. Out of this 35.8% who have branches, 5.3% of SMEs have less than two branches, 29.8% have between 3-5 branches and 2.3% have 6-10 branches. With regard to branches within Turkey and abroad, 3.0% SMEs indicated that they have fewer than 2 branches, 32.5% have 3-5 branches and 1.5% have only 6-10 branches. As far as their headquarters is concerned, the table shows that 33.6% have their headquarters in Turkey and 2.6% have their headquarters in Asia and 2.3% have their

headquarters in Europe. It is clear from the information presented in the table that majority of SMEs have 3-5 branches in both the cases.

6.6: Business Views (Section 3 from Questionnaire)

In this section, the researcher intends to investigate the overall business views of Turkish Textile SMEs such as advantages of doing business in Turkey, business experiences, internal and external market share and finally future plans for business development.

6.6.1: Advantages of doing Business in Turkey

Advantages of doing business in Turkey are listed in **Table E.5 at Appendix E**. The data from the table shows that most of the Turkish SMEs agreed that the main advantages of doing business in Turkey are inexpensive labour showing 95.5%. The table also explains that the 27.5% of the SMEs indicated the advantages of doing business in Turkey compared to other European countries are lower tax. 12.1% of SMEs believe that government support is an important criterion for doing business in Turkey. On the other hand, 12.5% of SMEs believed that the common language also plays a major role while deciding to start a business in Turkey. However, 87.5% of SMEs strongly supported that geographical location is a major factor while deciding to do a business in Turkey. It is worth noting that Turkey is geographically located in both Asia and Europe which is discussed in greater depth in **Chapter 2**. Furthermore, 8.5% of SMEs expressed that easy communication is another important factor while doing business in Turkey. Therefore it is clear from the above discussion that the main factors doing business Turkey are economical labour and geographical location.

6.6.2: Business Experience in Turkey

Table 6.11: Business Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid unsatisfactory	99	37.4	37.4	37.4
fair	110	41.5	41.5	78.9
good	45	17.0	17.0	95.8
excellent	11	4.2	4.2	100.0
Total	265	100.0	100.0	

Responses from SMEs on business experiences in Turkey are presented in Table 6.11 from the total responded SMEs, 41.5% expressed that there is fair business practices, 37.4% SMEs revealed that they were unsatisfied. However, 17.0% of SMEs said that there is good business in recent years and 4.2% of SMEs said that there is an excellent business environment in Turkey. Although 37.4% of SMEs expressed their dissatisfaction but the overall responses show that the business environment is favourable in Turkey.

6.6.3: Future Plan for Development

SMEs future plan for development is presented in Table E.6 at Appendix E. From the table it can be seen that almost all respondents (99.6%) believed that their future plan will be improving their information technology which is a very vital factor for their business growth. Furthermore, 60.8% SMEs agreed that improving their quality control system is another important area. In addition, the table also shows that 81.1% of SMEs said that improving their marketing strategy is equally important and 66.0% of SMEs

agreed that human resource development is an important step for their future plan for development of their business strategy.

6.7: Knowledge Transfer or Informational Sharing Networks

(Section 4 from Questionnaire)

In this section, the researcher intends to identify knowledge transfer or information sharing in Turkish textile and apparel SMEs which is a central theme of this research study. Therefore, this is a vital section which explains important aspects of knowledge transfer such as sharing knowledge with organisation and competitors, types of knowledge resources, deployment of secure methods for knowledge transfer and important obstacles towards the implementation of knowledge transfer activities. The links of knowledge transfer between a manufacturer and its agent that are based on in-depth teamwork, are called partnership networks. It entails communication, cooperation, trust and commitment between suppliers, buyers and manufacturers. These kind of relationships take place in a broad range of social, economic, service and technical relationships that have been developed over time.

6.7.1 Sharing Ideas with Buyers and Sellers

Table 6.12: Information on Buyers and Sellers

Share ideas with buyers		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	4	1.5	1.5	1.5
	yes	260	98.1	98.5	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
Total		265	100.0		

Share ideas with Suppliers		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	3	1.1	1.1	1.1
	yes	262	98.9	98.9	100.0
	Total	265	100.0	100.0	

The knowledge transfer and information sharing data presented in Table 6.12, which explains that most of the SMEs actually share their business ideas with buyers and suppliers. It is also clear from the table that 98.1% of respondents share their existing knowledge with buyers; however a very low percentage (1.5%) of SMEs do not share their knowledge with any buyers. The data presented also shows that 98.9% of SMEs share their knowledge with the suppliers, however 1.1% of respondents do not share their ideas with the suppliers. It is clear from the data that the suppliers and the buyers are closely related. Generally speaking, this study shows that most of the Turkish SMEs realise it is important to share their knowledge with buyers and the suppliers. This

process of sharing information between supplier and buyers can be recognised as a part of KT networking. From the collected data, it shows the importance of sharing knowledge between the suppliers and the buyers through the SMEs. In this information sharing process, SMEs play a crucial role. Without the involvement of the SMEs, this knowledge transferring process cannot be successful as there would be no direct relationship between the suppliers and the buyers. Furthermore, an in-depth analysis explains to whom the SMEs share their knowledge based on buyer's viewpoint. Most of the respondents agreed with buyer's continuous engagement throughout the product development by 86.8% and it also indicates the buyers who are important according to their knowledge which is 84.9%. Moreover, the table also shows the information on buyer's involvement during the early stage of product development but without their involvement at all during the product development process itself.

Similarly, the data also explains to whom the SMEs share their knowledge based on supplier perspective. Most of the respondents agreed with supplier's engagement in the ongoing product development process which is 87.9% and suppliers who are important according to their knowledge which is 83.4%, but the table also shows that some other information about respondents during the early stage of product development is without their involvement during the product development process itself. (For details see **Appendix E, Table no E.7**)

6.7.2: Sharing Business Ideas with other Organisations, Countries and Competitors

This section deals with the ideas shared by the SMEs with various other organisations. Sharing of business ideas between SMEs and with other organisations is very essential because this process brings new ideas and development issues into light. Sharing ideas

depends on a mutual understanding and trust of each other. Based on this belief, the researcher aims to find out how Turkish SMEs share their business ideas with other organisations this is explained further. Table E.8 (Appendix E) presents data on sharing business ideas with various organisations by the Turkish SMEs. Respondents have expressed that they share information by 87.9% with private research organisations, 83% with trade associations and 18.5% share their knowledge with government or public research organisations. However, 3.8% of SMEs still believe it is not so important to share their business ideas with other organisations. This could be due to the lack of trust and understanding as well as a lack of communication with other organisations. Nevertheless, the study supports that the majority of the SMEs in Turkey share ideas with each other. This further proves that knowledge has been transferred or shared between SMEs and various organisations via business Networks.

6.7.2.1: Business Share with European and Asian Countries

Table 6.13: Sharing Business Ideas with Countries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	53	20.0	20.0	20.0
	ticked	212	80.0	80.0	100.0
	Total	265	100.0	100.0	

The result further clarifies that Turkish SMEs do not share their business ideas within Turkey alone, but they also share these ideas with other parts of the world namely Asia and Europe. From the above data it can be seen that 80.0% of SMEs share their knowledge with Europe and Asian countries. In addition, 10.9% of SMEs share their knowledge with other parts of the World. As the majority of the SMEs agreed that they share their business ideas with Europe and Asia, it also indicates that Turkey's

geographical location and culture may play an important part in idea sharing in the business.

6.7.2.2: Share Ideas with based on Competitors

Table 6.14: Sharing Business Ideas with the Competitors

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Europe	42	15.8	15.8	15.8
Turkey	173	65.3	65.3	81.1
Asia	24	9.1	9.1	90.2
Rest of the world	2	.8	.8	90.9
not at all	24	9.1	9.1	100.0
Total	265	100.0	100.0	

Based on competitive relationship among SMEs in Turkey, Table 6.14 shows that the majority of SMEs respondents are willing to share their business ideas with Turkish competitors which is 65.3% followed by European competitors 15.8% and 9.1% Asian; however 9.1% still don't agree with sharing their knowledge with business competitors.

The majority of the SMEs still believe that sharing ideas with their competitors brings more new knowledge to their business. However, as presented in table, a small percentage of SMEs (9.1%) do not like to share their knowledge or business ideas to others because of fear of losing their market segment, lack of trust and understanding to their competitors.

6.7.3: Point of Contact of Information or Advice

This section explains the point of contact by SMEs when they need any advice or information beyond their capacity. The researcher has identified that the main source or

first point of contact depends on the SMEs need and access to the knowledge providing institutions such as universities, chambers of commerce, trade associations and government or public research organisations (Table E.9 from Appendix E).

From a respondent point of view a majority of SMEs, 86.4% are getting information or advice from private research organisations followed by 83.8% of trade associations. Furthermore, 49.4% of SMEs expressed that they receive advice and required information from the Chamber of Commerce, 13.6% of them receive advice and information from financial institutions. Similarly, 7.2% of SMEs agreed that they receive some information or advice from government or public research organisations and 7.9% of them receive advice from educational institutions such as universities and higher educational bodies. However, 9.1% of them declared that they did not take any advice or resources from any of the above mentioned organisations or institutions. Therefore it is clear that most of the SMEs surveyed get help from individual or organisations.

6.7.4: Types of Information or Resource Shared with Europe and Asian Countries

In this section, the researcher intends to obtain types of information or nature of resource that SMEs share in Europe and Asia. The researcher focuses specifically on finance, management, IT, and human resources.

Table E.10 (Appendix E) presents types of information shared by the SMEs in Europe and Asia. The survey found that 81.9% of SMEs strongly agreed that they need management information (strategy, management style, leadership, union, etc) from Europe and Asia, 77.4% of SMEs believe that they need IT information (modern

technology, computer networks. Databases, the internet etc), 10.6% of them expressed that they need HR (recruitment/elimination process, salary, promotions/demotions etc) related information. However 9.8% of SMEs responded that they don't share any information and resources from Europe and Asia. From this finding, it clearly shows that Turkish SMEs use different types of information and resources from Europe and Asia especially in the area of management and information technology. It further indicates that Turkish SMEs are willing to get that information from both continents.

6.7.5: Deployment of Secured Method for Knowledge Transfer

Most of the knowledge transfer process occurs without knowing the resource or people use the knowledge without obtaining proper permission from the main source. Therefore, the researcher intends to investigate how SMEs in Turkey control their knowledge source from others. It is also very important to protect the source of knowledge so that the real source can be always acknowledged by the end user.

Data in control method for knowledge transfer in Turkish SMEs is presented in Table E.11. (Appendix E) The results show that the majority of the respondents were aware of the various methods. Firstly, 80.8% of SMEs used the copyrights method, 78.9% of SMEs used patents method, whereas 58.9% of them used barcode technology and 35.5% of SMEs used computer cryptography. This clearly indicates that SMEs in Turkey are familiar with the product secured method from others. Only 1.9% of respondent's show that they were not familiar or did not use any secured method for keeping information or transfer of knowledge.

6.7.6: Major Obstacles in Knowledge Transfer

It is important to analyse the major obstacles that SMEs face while implementing knowledge transfer activities. This study has revealed that knowledge transfer has obstacles that affect the idea sharing in SMEs. To investigate this phenomenon, the researcher used a Five-point Likert Scale which measures between 1-5 scales. According to the scale, the researcher has used 1 for strongly disagree and 5 for strongly agreed.

From the above survey frequency Table E.12 (**Appendix E**) it is evident that limited access to finance, lack of IT infrastructure, poor private and public relationship, lack of qualified human resource, bureaucracy, lack of information or networking and lack of strong links between research and industry are the major obstacles to knowledge transfer. The above data obtained from Likert Scales indicates that 49.8% of SMEs somehow agree to limited finance as an obstacle followed by 17.4% strongly agrees which means 67.2% have agreed with limited finance as an obstacle. Similarly, 63.4% of them somehow agree with lack of IT infrastructure which is followed by 4.5% of them strongly agreed, therefore both of these figures (67.9%) show that lack of IT infrastructure is an important obstacle for knowledge transfer. The result also reveals that there are other obstacles which affect their knowledge transfer process. They are namely poor private public relationships which are strongly (70.8%) agreed, influence of bureaucracy which are also strongly (67.9%) agreed by the SMEs. Furthermore, 62.6% of SMEs strongly believe that lack of information or networking is another obstacle. However, 37.3% of SMEs still disagree that lack of information or networking is an obstacle.

6.8: Information Technology Implementation (Section 5 from Questionnaire)

In this section, various information technology implementation methods such as the company's website, e-mail, video conferencing, e-library, internet and internal electronic bulletin board is taken into account.

6.8.1: Method of Information Storage

The researcher intends to find out how the Turkish SMEs store and manage their existing knowledge for their current and future uses. The data presented in Table E.13 (Appendix E) show how the Turkish SMEs store their knowledge and information using various methods. Normally, in modern days either computer based systems or paper based systems are used to store information. The results from this study show that SMEs currently store their information via computer or paper based methods. The majority, 56.6% of SMEs have agreed with a mix of IT and paper based methods being used for storing their information. The rest of the respondents either agree with paper based or computer based methods for storing their information. However, 43.4% of SMEs still do not store any information for their future use. It shows that 43.4% of knowledge is a large amount which is being wasted due to the lack of awareness of method of storage system. It further shows that SMEs are not taking full advantage of existing knowledge storage methods. From above findings, it can be assumed that if anything goes wrong in the system, it would be hard to recover them because of lack of full utilisation of their storage methods.

6.8.2: Application of IT in Knowledge Transfer

In this section, the researcher intends to identify the most important IT applications which are most useful communication tools for knowledge transfer. The researcher again used Five-point Likert Scales 1-5 to measure the importance of those tools. To identify the degree of their importance, researcher used 1 to indicate useless and 5 very useful. In general modern technology recognises that websites, e-mail, video conferencing, e-library, internet and internal electronics bulletin board are means to implement IT applications.

From Table E.14 (Appendix E) it can be seen that the most important applications are company website, email, video conferencing and internet. The data shows that 82.6% of SMEs agreed that video conferencing is a useful tool for idea sharing, 78.0% of them strongly agreed that the internet is another useful tool for their idea sharing. Furthermore, 66.8% of SMEs believed that e-mail communication is another important tool for idea sharing IT applications. Similarly, 61.2% of SMEs agreed that the company's website is another essential element of IT application. Furthermore, 52.4% of them have agreed that internal electronic bulletin board and 16.6% of them have agreed with E-library application being a useful tool for idea sharing. However, the survey shows that 77.4% of SMEs strongly disagreed that e-library is the most ineffective IT application for idea sharing. Finally, the researcher found that video conferencing and internet are the most effective methods of idea sharing amongst the Turkish SMEs.

6.8.3: IT Applications among the Employees for Knowledge Transfer in the Organisation

It is important that employees in any organisation implementing various IT applications understand and appreciate the extent of benefits that IT can bring into their organisation. According to Five-point Likert Scales the Table E.15 (Appendix E) shows that the company website (66.8%) is good to communicate between employees and owners inside the organisation. The data presented in the table further shows that email system (56.2%) is considered a good way to communicate with employees within the organisation. This finding indicates that the employees in the organisation are capable of using e-mail to correspond with each other. However, the table further reveals that 92.3% of SMEs strongly disagreed that video conferencing is good enough to communicate with employees within the organisation. Therefore, it shows that most of the SMEs employees do not communicate much with each other via video conferencing. In addition, the data also shows that 92.3% of SMEs strongly disagree that E-library is useful to communicate with employees within the organisation. Therefore it shows that most of the SMEs employees do not share their information with each other via E-library and video conferencing. In this survey, 62.6% of them disagree that internet is an effective tool for knowledge transfer between the employees in the organisation. It is also clear that they are not familiar with this tool or they do not feel secured to share their ideas between each other by this method. Moreover, the data in the table shows that the majority of the SMEs (52.8%) strongly believe that internal electronic board is not a good communication channels to share information between each other in the organisation. It shows that almost half of the employees are not familiar with an internal electronic bulletin board to communicate with each other. Finally, this finding shows that most of the employees are familiar with using website and e-mail as the most effective means of communicating their ideas to each others in

the organisation. 54.0% of respondents found the internet application is the major knowledge transfer communication tool. However the tables show that 37.7% believed that the company's website and 31.0% of the company's email system application were useful for knowledge transfer within the organisation, 63.8% don't agree with video conference and 58.5% E-library was considered useless for knowledge sharing within the organisation.

6.8.4: Effectiveness of E-mail System

In current business environment, as far as communication tools are concerned, e-mail has been found to be one of the most effective means of communication for knowledge transfer Networks. Generally, employees in any organisations find e-mail easy to use as a communication tool. It is also vital for SMEs to use a cost effective tool such as e-mail for sharing purposes. The researcher in this part aims to investigate how effective the e-mail system is for communication and how frequently they are using e-mail in the knowledge transfer.

Table 6.15: Effectiveness of E-mail for Communication

Email system is effective for communication		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	56	21.1	21.4	21.4
	yes	206	77.7	78.6	100.0
	Total	262	98.9	100.0	
Missing	System	3	1.1		
Total		265	100.0		

And use of e-mail system		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 5	11	4.2	4.2	4.2
	5 to 10	17	6.4	6.5	10.6
	10 to 20	107	40.4	40.7	51.3
	more than 20	128	48.3	48.7	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
Total		265	100.0		

Table 6.15 shows the use of email as a communication tool and frequency of use. According to the data presented, 77.7% of SMEs strongly supported that email as an effective form of communication for the organisation. However, 21.1% of them are still find it difficult to use or are not so familiar with this tool. As far as frequency of e-mail use is concerned, the data in the Table 6.15 shows that 48.3% respondents use their email system more than 20 times per day followed by 40.4% use 10 to 20 times and 10.6% use email less than 10 times per day. It is clear from the result that SMEs in Turkey are very much familiar and find e-mail an effective tool for knowledge transfer.

6.8.5: IT support for Knowledge Transfer in the Organisation

It is important to know how much the IT system is supporting the knowledge transfer activities in an organisation. The effectiveness of IT systems depends on how fast it provides the needed information, how easily it can be used and how much or what is the capacity of the system.

Table E.16 (Appendix E) describes the process of knowledge transfer in the organisation with the use of IT support. As per Five-Point Likert Scales, amongst the

surveyed SMEs, 46.4% found that the process of exchanging knowledge is easy. 45.3% of respondents strongly agree that the space and time constraints in the communication have decreased because of effective IT support. Similarly, 39.7% of them found that the knowledge storage capacity is increased. Moreover, 57.7% of them strongly believed that speed of transferring and acquiring information is significantly increased through the knowledge transfer process in the organisation through the IT support. The results explain that the exchange and storage of knowledge, time and speed of getting them to use are supported by IT which are very important factors for knowledge transfer from one organisation to others.

6.9: Organisational Culture and Communication (Section 6 from Questionnaire)

Organisational culture and communication play a very important role in knowledge transfer. When the relationships are well developed, both communication and information exchange it is necessary to be open and truthful during all the levels of the companies as well as across the whole management area. To fully understand the knowledge transfer, it is important to understand the organisational culture, as well as needing to understand how the communication process takes place between the SMEs. Communication can at the same time play an important role in socializing individuals or groups which eventually leads in the formation of a cohesive group. This will in the end help to encourage individuals or groups to share their knowledge openly. This also helps individuals or groups to change their behaviour, shapes their values and attitudes. This further promotes the trust and closeness between each other, and socially accepted behavior which will help to share their knowledge willingly in greater depth. In this section, the researcher intends to investigate how organisational culture and communication affects the knowledge transfer in SMEs. To measure the responses of

SMEs, Five-Point Likert Scales have been used. The main indicators used are: for the first question (related to individual or group), extremely false for 1 and extremely true for 5. However, for the second question (related to organisation), strongly disagree for 1 and strongly agree for 5.

6.9.1: The Relationship between Individual and Group

Table E.17 (Appendix E) presents information on obtaining information about various aspects of organisational culture and communication such as team work, relationships, the influence of cooperation and organisational goals. It further explains on SMEs common information, socialisation, sharing common objectives and working environment. The data in Table E.17 shows that 62.7% of SMEs do not agree that people work as a part of team aimed at a particular task, 78.5% of SMEs do not agree that people in the organisation help each other and try to keep their relationship strong, 47.2% of them do not believe that cooperation among employees across different departments of the company is actively encouraged, 40.4% of SMEs do not agree that work is organised so that each person can see the relationship between his or her job and the goals of the company. However, 52.4% of them agree that the information is widely shared so that everyone can get the same information, 39.6% SMEs agreed that people in the group often socialize out side the normal office hours, 53.6% them do not agree to coordinate projects across different parts of the company. On the other hand, 42.3% of them have not supported that people understand and share the same business objective in the organisation. Finally, 48.7% of SMEs strongly believe that the overall working atmosphere of the organisation is open and friendly.

6.9.2: The Relationship between Individual, Group and Organisation

Table E.18 (Appendix E) explains the knowledge transfer process while considering the relationship between individual, group and organisation. The data in the table shows that 56% of SMEs agree that the aim, objectives and strategies of the companies are clearly written and communicated with all employees, but 54% of them disagree with this particular issue. Furthermore, 37.8% of them disagree that the companies policies are clearly communicated with all employees, However 32.8% of SMEs agreed, but at the same time, 29.4% of SMEs neither agree nor disagree with this issue. With regard to the good work practice guidelines, 43.4% of SMEs do not agree that these issues are regularly updated in the company; therefore, 34.3% of them neither agree or disagree with this statement while 22.3 of them agreed to this point. Moreover, under normal circumstances, 40.7% of SMEs disagree that the knowledge on new concepts in the company are well created and periodically circulated. But at the same time, 31.4% of SMEs are strongly in favour of above point and 27.9% of them are neutral. With regard to data and information circulation on regular basis, 48.7% of SMEs agreed that it is circulated through both electrically and traditional information channels. But 27.5% of them were neutral in this issue while 23.8% of them totally disagree with this view. In any company, private and public discussion forums are very important for knowledge sharing at different levels. Therefore, the table finally shows that 41.9% of SMEs strongly agreed private or public discussion forum is organised in the company on a regular time basis in order to encourage knowledge sharing. On the one hand, 36.6% of SMEs were neither aware nor unaware about the importance of this issue. But on the other hand, 21.5% of them still disagree about this statement. From the above discussion it is reasonable to say that the views expressed by the SMEs are mixed towards the effect of organisational culture and communication although this is a central element of knowledge transfers.

6.10: Level of Private (Internal) and Public (External)

Knowledge Acquisition (Section 7 from Questionnaire)

SMEs in general possess two types of knowledge which can be identified as private (internal) and public (external) knowledge. In order to get full competitive advantage SMEs need to understand whether such knowledge is generated within the organisation or it has been imported from outside the organisation. Some SMEs are capable of generating sufficient knowledge inside their own organisation which can be categorised as private knowledge, may not be shared with other organisations and difficult to understand by other people or organisations. On the other hand, some SMEs are not capable of producing or generating required knowledge by themselves. In this circumstance they need to hire outside knowledge to full fill their requirements which is identified as public (external) knowledge which is easy to access. In this section, the researcher aims to find out the level of knowledge obtained by the SMEs in textile industries in Turkey for knowledge transfer process.

6.10.1: Acquisition of Private and Public Knowledge

Information on acquiring private and public knowledge for the product development by Turkish textile SMEs are presented in Table E.19 (Appendix E) The data shows that the majority (77.7%) of SMEs acquire private and public knowledge to develop their product. However, interestingly 34.7% of SMEs claim that they are not using private or public knowledge. This trend shows that the majority of the Turkish SMEs are aware of knowledge acquisition, further clarified that 65.3% of them use private knowledge and 67.9% of SMEs are using public knowledge. Therefore, it is clear that acquiring private and public knowledge is important for knowledge transfer in SMEs.

6.10.2: Level of Knowledge Acquisition

In order to find out the level of knowledge used by the employees, the researcher again used Five-point Likert Scales to measure their response. From Likert Scales, the researcher has categorised 1 is strongly disagree and 5 is strongly agreed. The data presented in Table E.20 (Appendix E) shows that 40.4% of SMEs agree that they have gained an adequate level of professional experience from public or other companies. Amongst them, 39.3% do not agree that they have learnt many new skills or methodology for the enhancement of performance for their company, 41.2% agreed that they have gained a lot of ideas and thoroughly understood the operation process inside the company. Furthermore, 33.2% of them agree that they have learnt enough knowledge from their company database, however, 43.4% of SMEs are neutral which indicates that they are not aware of the advantage of the company data base. Similarly, 43.4% of SMEs respondents agreed that they have learnt an adequate level of information technology (IT) concepts by attending regular training programs. However, 36% of the respondents were neutral, which shows that they were again not fully aware of the benefits of information technology. Finally, the data in the table explains that 44.5% of respondents do not agree that they usually interact with each other in order to exchange knowledge. In this case, 30.9% of respondents are not fully aware with the importance of interacting with each other about the knowledge sharing.

6.10.3: Benefits from Knowledge Sharing

Individual contacts are the direct links for communication with various parts of the SMEs and the benefits of managing information relationship involves some responsibilities. In this section, it is aimed to get information from the respondents on how they benefit by sharing external and internal knowledge between each other within or outside the organisation. Knowledge sharing is very important because it gives many

useful advantages to the SMEs such as to overcome limited market size, firm's overall communication with others. In addition, it also helps to improve new market opportunity as well as widening the marketing of their products. The Table E.21 (Appendix E) shows that 45.7% of SMEs respondents do not agree that the benefit from the knowledge sharing overcomes the limitations of market size. However, 31.7% of SMEs agree that the limitation of market size can be overcome by the benefits of knowledge sharing. The results show that 52% of SMEs agree that the benefit from knowledge sharing always enhances the overall communication of the organisation. Similarly, 33.2% of respondents agreed that as a result of knowledge sharing, they found it easy to get help from each other. However, 38.5% of respondents were found to be neutral on the above statement. The results further show that 40.8% of SMEs also agree that the benefit of knowledge sharing gives the firm a prestigious image or brand name for their products. Furthermore, about the marketing information share in the Europe and Asia as a benefit of knowledge sharing, 37.4% of them fully agree. In addition, 53.6% of them also strongly agreed that knowledge sharing provides useful marketing information. Finally, the data shows that 47.9% of SMEs are fully aware of the improvement of business opportunity via knowledge sharing. However, 23.8% of SMEs do not agree that knowledge sharing brings the benefits to the company. From above discussion, it is clear that the majority of the SMEs believe that knowledge sharing is a good practice which brings many benefits to the SMEs.

6.10.4: Risk Factors in Knowledge Transfer Activities

It is evident from the above discussions that Knowledge Transfer activities are very important for Turkish SMEs. However, there are some risks involved in the application of information technology in knowledge transfer, if it is not fully understood or not applied systematically. In addition, while applying the knowledge transfer, it needs to

take an account of various factors which influences the outcome of knowledge transfer. Therefore, instead of providing competitive advantage, it may cause unforeseen damage to the organisation. In this section, the researcher particularly intends to give examples to the SMEs of the types of risks involved in knowledge transfer processes such as incorrect information, business competition, unfamiliar business practices, brand integrity and market share. To find out the effect of these risk factors, the researcher again used Likert scales. From Five–point Likert Scales, the researcher has categorised 1 is strongly disagree and 5 is strongly agreed. The various risk factors involved in knowledge transfer activities is presented in Table E.22 (Appendix E) The data shows that 47.2% of SMEs that responded agree that knowledge transfer is risky due to incorrect market information, however 27.5% of them disagree that incorrect market information is a risk factor, 61.1% of SMEs agree that knowledge transfer is risky due to confusing foreign import or export regulations. With respect to national business competition, 53.9% of SMEs agreed the cause of risk in knowledge transfer. Similarly, 58.5% of SMEs supported that unfamiliar foreign business practices is a risk for knowledge transfer. Brand integrity is very important for SMEs for their products. In this regard, 58.1% of them were aware of the risk involved from their brand integrity. Finally, the survey shows that 54.7% of SMEs agree that the possible loss of business market share is due to knowledge transfer as it sometimes provides secret business information to their competitors through knowledge transfer.

6.11: Summary

A questionnaire was developed to measure objectives and first face to face interview was conducted to get the qualitative idea of the research and then questionnaire was prepared for quantitative analysis. For qualitative purpose, 18 managers or owners were interviewed aged between 24 and 48. Face to face interviews indicated that 12 out of 18

considered the importance of sharing business ideas and information with buyers and 15 out of 18 with suppliers. Majority of them considered lack of IT support, trust, finance, qualified human resources and government and non-government support as an obstacle in knowledge transfer. They also considered that incorrect market information and unfamiliar business practices are major risk factors in the knowledge transfer within or between SMEs. Most of the owners or managers accepting benefits of knowledge transfer in Turkish SMEs and help to build trust and collaboration. Face to face interview also indicated the importance of public and private knowledge acquisition in knowledge transfer by majority. They supported the use of Email (15/18), Internet (17/18), Company website (10/18), E-library (9/18), Internet electronic bulletin board (10/18) and Video conferencing (8/18).

For quantitative analysis, the questionnaire was distributed to the SMEs respondents both personally and electronically. The participants were selected representing all the management responsibilities in the textile and apparel industries that were in a position to influence knowledge transfer within and between the firms. There were 265 participants, who were considered an adequate sample size for this study. The main findings detailed in this chapter are used for quantitative analysis.

The questionnaire developed was designed to get information on the important aspects of knowledge transfer network from Turkish SMEs such as knowledge transfer or information sharing, information technology implementation, organisation culture and communication and finally the level of private and public knowledge acquisition. The main findings which are related to knowledge transfer network are as follows:

- Majority of the Turkish SMEs were found that they were practicing knowledge transfer networking with buyers and suppliers within Turkey, Europe and Asia.

- The main obstacles found in knowledge transfer processes were lack of IT infrastructure, human resource networking and lack of strong links between research institutions and industries.
- With regard to implementation of information technology, the most useful tools were the company website, e-mail and the internet.
- The study revealed that the information storage was always kept in the form of computer based and paper based methods and they rely on internet search and company data base with respect to IT resource.
- It was found that organisational culture and communication are influencing factor which promotes strong relationships in order to perform their task efficiently by knowledge sharing in their organisation.
- It was believed that the acquisition of private and public knowledge is another important factor in developing their products.
- The benefits as a result of knowledge sharing was realised through overall communication with each other to access improved business opportunities.
- Finally, it was observed that there are some risk factors involved in knowledge transfer which were mainly considered to be incorrect information, business competition and unfamiliar foreign business practices.

From the analysis, it shows that the participating firms were aware about the knowledge transfer activities and their implementation. Next chapter covers the detailed statistical analysis to test the hypotheses developed in chapter 4.

Chapter 7

Hypotheses Testing and Discussion

7.1: Introduction

This chapter describes the detail of the statistical analysis of thirteen sub-hypotheses to check whether they are fully supporting, partially supporting or not supporting the related hypotheses. On the basis of these analyses the five hypotheses under different themes are either accepted or rejected. The brief literature review of the statistical techniques used is explained first, followed by descriptive statistical analyses of different hypotheses to investigate the relationship within each hypothesis. The data are tested for reliability to check internal consistency and then correlation test is conducted to find out the relationships between variables. Further analysis of the data is observed using one-way analysis of variance (ANOVA), crosstabulation and Chi-square method. The SPSS (Statistical Package for Social Sciences) version 16.0 is used for statistical analysis and Microsoft Excel 2007 for plotting the graph. The statistical methods used are now explained next.

7.2: Statistical Analysis Techniques

7.2.1: Internal Consistency to Estimate Reliability

Internal consistency estimates reliability by grouping questions in a questionnaire that measure the same concept and after collecting the responses, correlation between variables is conducted to determine the reliability of the concept. Cronbach's Alpha (Salkind, 2000) is commonly used to compute correlation values for all questionnaires and a value closer to one indicates a higher reliability estimate of the questionnaire. Once the acceptable value of Cronbach's Alpha is obtained then correlation test is conducted to explore the relationship between variables.

7.2.2: Correlation Test

Correlation is a measure of the degree of agreement between two variables (Kline, 1997) its purpose is to know the closeness of relationship between two variables (Mark, 1996). In SPSS 16.0 the Pearson product- moment correlation co-efficient (usually referred to as the correlation co-efficient) is calculated and symbolised by the lower case letter r (Mark, 1996). This provides an indication of both the strength and the direction of the relationship between the variables. The correlation co-efficient between two variables can range from a maximum of $+r$ to a minimum of $-r$. If the bivariate relationship is a perfect positive correlation $r = +1$; a perfect negative correlation $r = -1$ and if it is not found relationship $r = 0$. There are not definitive guidelines to the strength of correlation between two variables and figure below is only as a simple reference.

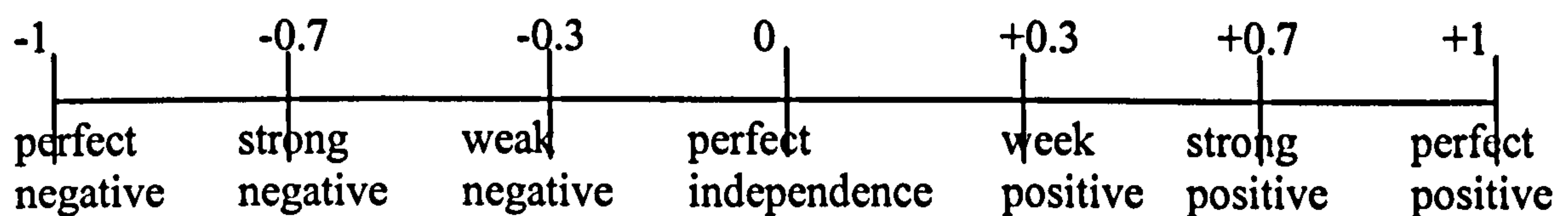


Figure 7.1 - Values of the Correlation Co-efficient (Frankfort – Nachmias and Nachmias, 1992)

SPSS apart from r also calculate the significance p-value which is probability of the observed relationship between variables in a sample occurred by pure chance. The higher the p-value indicates less reliability in the observed relations between variables in the sample. P-value is thus a reliable indicator of the relation between the respective variables in the population. Typically in the literatures $p \leq .05$ is considered borderline statistically significant and $p \leq .005$ or $p \leq .001$ are often regarded as statistically highly significant (Salkind, 2000).

7.2.3: One way Analysis of Variance (ANOVA)

One way analysis of variance (ANOVA) is not only one of the most powerful but also most common test to analyse multi group data. Analysis of variance (ANOVA) is used to test hypotheses about differences between two or more means. The t-test, based on the standard error of the difference between two means, can only be used to test differences between two means. When there are more than two means, it is possible to compare each mean with each other mean using t-tests. However, conducting multiple t-tests can lead to severe inflation of the Type I error rate (Salkind, 2000). Analysis of variance can be used to test differences among several means without increasing the Type I error rate. Analysis of variance assumes normal distributions and homogeneity of variance (Sapsford and Jupp, 1996: p. 252). Therefore, in one-way ANOVA, it is assumed that each of the populations is normally distributed with the same variance (σ^2). Research has shown that ANOVA is "robust" to violations of its assumptions (Salkind, 2000).

According to SPSS 16.0, Analysis of Variance, or ANOVA, is a method of testing the null hypothesis that several group means are equal in the population, by comparing the sample variance estimated from the group means to that estimated within the groups. The comparison between the actual variation of the group averages with the expected variation is expressed in terms of the F ratio:

$$F = (\text{Actual variation of the group averages}) / (\text{expected variation of the group averages})$$

Thus if the null hypothesis is correct the value of F to be about 1 whereas large F indicates a location effect. How big should be F before rejecting the null hypothesis is decided by F_{crit} values and threshold level of significance? The threshold value is

usually set at .05, any value less than this will result in significant effects, while any value greater than this value will result in non significant effects. The F-ratio which cuts off various proportions of the distributions may be computed for different values of df_1 (degrees of freedom representing variation of group averages) and df_2 (degrees of freedom indicating variation within groups or expected variation) for a specified significance level. These F-ratios are called F_{crit} value and may be found by entering the appropriate values for degrees of freedoms in the F-distribution program. The null hypothesis is rejected if $F > F_{crit}$ with real effects ($p < 0.05$).

7.2.4: Chi-square Test and Crosstabulation

Chi-square is a non-parametric statistical technique commonly used to test the null hypothesis, which states that there is no significant difference between the expected and observed result. This test is useful for data that are measured on nominal (categorical) and ordinal (ranked) scales. The chi-square test might be used any time the cross-tabulation function is used in SPSS. Chi-square is used to look at the statistical significance of an association between two categorical variables. In SPSS Version 16.0, the main output from Chi-square test is the Pearson chi-square value and associated significance value. The null hypothesis is rejected if significance value is less than or equal to 0.05. Chi-Square tests the hypothesis without indicating strength or direction of the relationship and thus does not indicate the extent of relationship between two variables. The crosstabulation is then used to find out the extent of dependency or prediction of one variable on other variable for better analysis. Crosstabulation provides a simple way of showing the response of subgroups in a sample and provide a great deal of detail how two variables are linked together and it is widely used in research reporting (Salkind, 2000).

On the basis of above statistical techniques, the hypothesis H₁, H₂ and H₃ are best suited for one way ANOVA analysis whereas H₄ and H₅ are for crosstabulation and Chi-square test. The section below now analyse each hypothesis in details with the above mentioned techniques.

7.3: Analysis of Hypothesis 1

This section tests the correlation and ANOVA test between two independent variables with knowledge transfer (Appendix G). The variables are ideas from buyers and suppliers and analysis is to test the relationship of these with KT.

Table 7.1: Correlation between Variables and Knowledge Transfer

		Knowledge transfer	share ideas with buyers	share ideas with Suppliers
Knowledge transfer	Pearson Correlation	1,000		
	Sig. (2-tailed)	,		
	N	265		
share ideas with buyers	Pearson Correlation	-,044	1,000	
	Sig. (2-tailed)	,475	,	
	N	264	264	
share ideas with Suppliers	Pearson Correlation	-,026	,864(**)	1,000
	Sig. (2-tailed)	,670	,000	,
	N	265	264	265

** Correlation is significant at the 0.01 level (2-tailed).

The results in Table 7.1 indicates that there is a negative correlation between the sharing ideas with buyers [$r = -0.044$, $N=264$, $p>0.05$] and sharing ideas with suppliers [$r = -0.026$, $N=265$, $p>0.05$] with knowledge transfer, indicating that there is no significant relationship between sharing ideas with buyers and sharing ideas with suppliers with knowledge transfer.

Table 7.2: ANOVA Test for Hypothesis 1

		Sum of Squares	df	Mean Square	F	Sig.
share ideas with buyers	Between Groups	4,190E-02	3	1,397E-02	,932	,426
	Within Groups	3,897	260	1,499E-02	<2.63	
	Total	3,939	263			
share ideas with Suppliers	Between Groups	5,761E-02	3	1,920E-02	1,723	,163
	Within Groups	2,908	261	1,114E-02	<2.63	
	Total	2,966	264			

To understand this relationship in detail and see the effects of each level, one-way ANOVA test is conducted next. The data collected here studies the effect of multiple level of one factor with multiple observations at each level. Multiple t-tests are not the answer because there are a large number of groups. With this kind of layout a calculation of the mean of each level is required to observe the variation within each level. The comparison between the actual variations of the group averages with expected variation indicates the level effect present in the data. More detail of the level effects can be obtained by studying the deviation of the mean of each level from grand mean. The one-way ANOVA is useful to compare the effects of multiple levels with

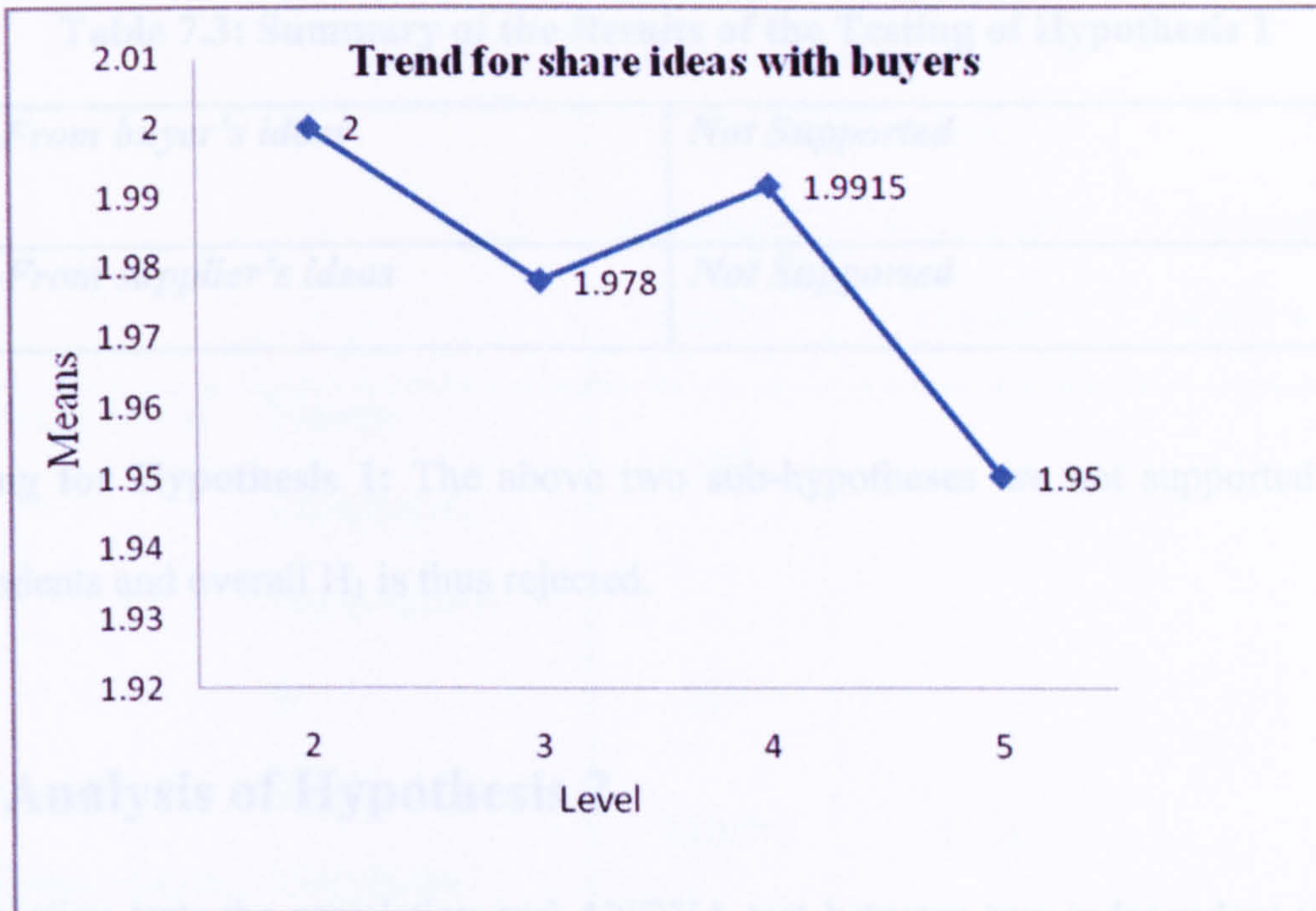
multiple observations at each level and utilised here to study the behaviour of different variables on knowledge transfer. ANOVA puts all the data into one number (F) and provides one P for the null hypothesis. The ANOVA test compare to other comparison tests such as t-tests also has fewer experiment-wise error rate (<http://www.psychstat.missouristat.edu>) and considered appropriate here to test the hypothesis. Table 7.2 shows the ANOVA tests for hypothesis H_1 to consider the effect of two sub-hypotheses H_{1a} and H_{1b} on knowledge transfer. The relationship of each sub-hypothesis on knowledge transfer in Turkish SMEs is considered next.

H_{1a}: Turkish SMEs share knowledge within their network from buyer's ideas

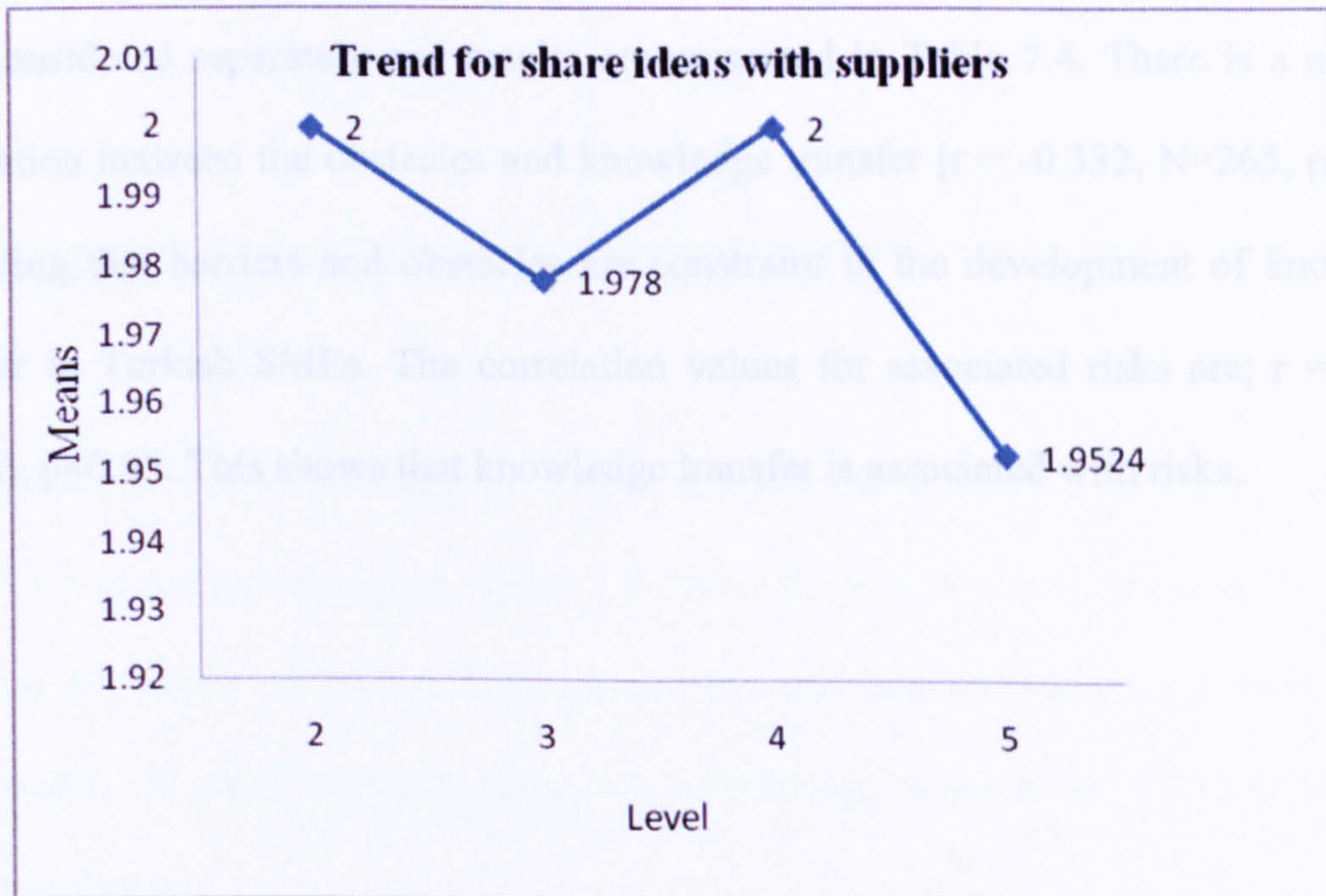
The Table 7.2 shows the value of $F = 0.932$ which is smaller than the critical value of 2.63 for the F-distribution at 3 and 260 degrees of freedom and 95% of confidence (obtained using online calculator for critical value of F from www.danielsoper.com). The significant value $p > 0.05$ indicates that effects are not significant. There is sufficient evidence to accept the null hypothesis and thus alternative hypothesis H_{1a} is rejected.

H_{1b}: Turkish SMEs share knowledge within their network from supplier's ideas

The Table 7.2 shows the value of $F = 1.723$ which is smaller than the critical value of 2.63 for the F-distribution at 3 and 261 degrees of freedom and 95% of confidence. The significant value of $p > 0.05$ with value of F indicates that the null hypothesis is accepted and thus alternative hypothesis H_{1b} is rejected. This concludes that knowledge transfer is not directly affected with the sharing of knowledge from buyers and suppliers. The trend in means as shown in Graphs 7.1 and 7.2 also confirmed that there is weak form of relationship with knowledge transfer.



Graph 7.1: Trend for Share Ideas with Buyers for KT



Graph 7.2: Trend for Share Ideas with Suppliers for KT

Table 7.3: Summary of the Results of the Testing of Hypothesis 1

<i>H_{1a}-From buyer's ideas</i>	<i>Not Supported</i>
<i>H_{1b}-From supplier's ideas</i>	<i>Not Supported</i>

Finding for Hypothesis 1: The above two sub-hypotheses are not supported by the respondents and overall H₁ is thus rejected.

7.4: Analysis of Hypothesis 2

This section tests the correlation and ANOVA test between two independent variables with knowledge transfer (Appendix G). First reliability test is conducted to check the internal consistency in data. Cronbach's alpha = 0.88 is obtained for obstacles and 0.66 for risks which are within acceptable limit. The correlation effects of each variable are then considered separately and results are presented in Table 7.4. There is a negative correlation between the obstacles and knowledge transfer [$r = -0.332$, $N=265$, $p<0.05$], indicating that barriers and obstacles are constraint in the development of knowledge transfer in Turkish SMEs. The correlation values for associated risks are; $r = 0.208$, $N=265$, $p<0.05$. This shows that knowledge transfer is associated with risks.

Table 7.4: Correlation between Variables and Knowledge Transfer

		Knowledge transfer	obstacles of knowledge transfer	Knowledge transfer is risky
Knowledge transfer	Pearson	1,000		
	Correlation			
	Sig. (2-tailed)	,		
	N	265		
obstacles of knowledge transfer	Pearson	-,332(**)	1,000	
	Correlation			
	Sig. (2-tailed)	,000	,	
	N	265	265	
Knowledge transfer is risky	Pearson	,208(**)	-,115	1,000
	Correlation			
	Sig. (2-tailed)	,001	,062	,
	N	265	265	265

** Correlation is significant at the 0.01 level (2-tailed).

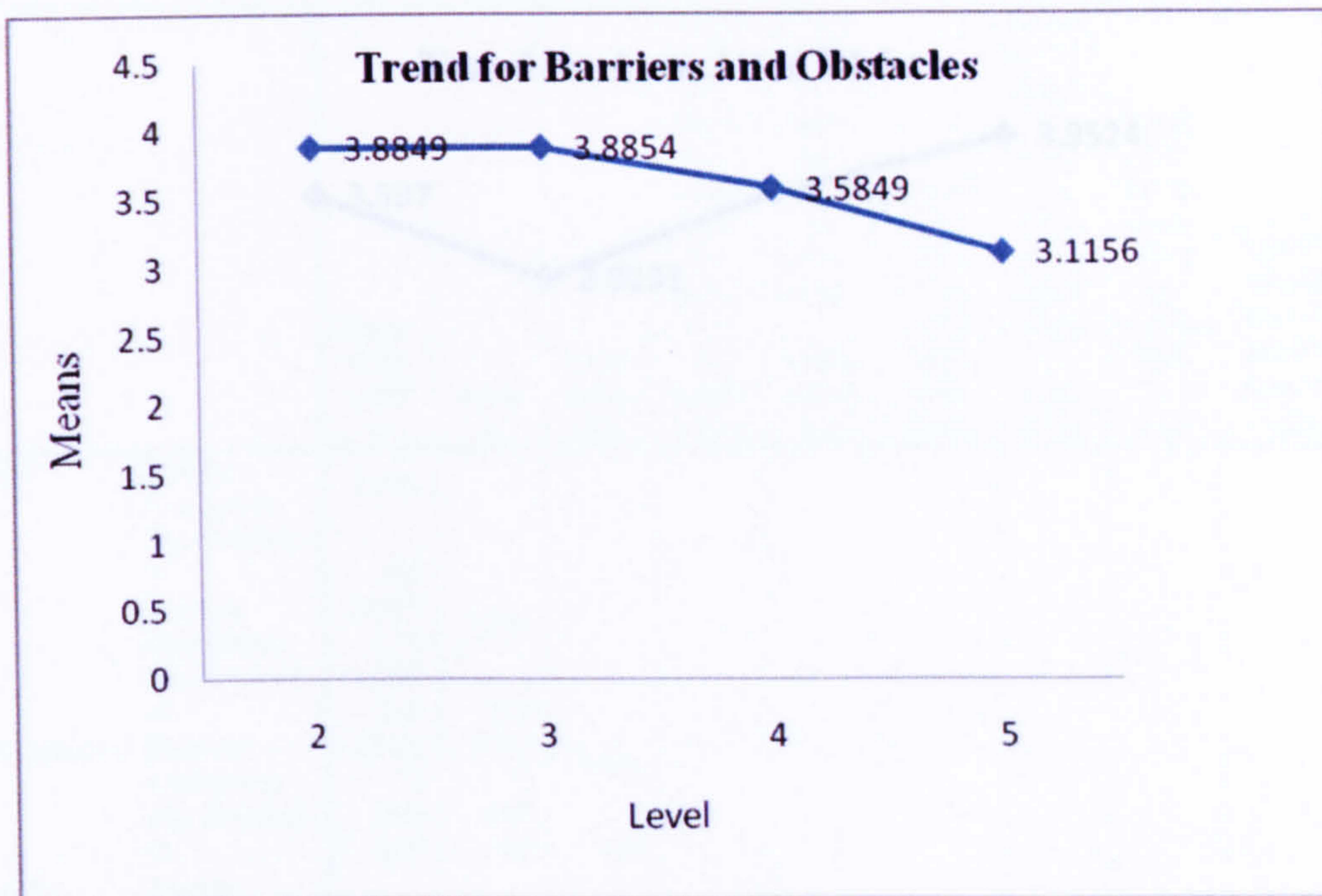
To understand this relationship in details and see the effects of each level, one-way ANOVA test is conducted next. Table 7.5 shows the ANOVA tests for hypothesis H₂ to consider the effect of two sub-hypotheses H_{2a} and H_{2b} on knowledge transfer. The relationship of each sub-hypothesis on knowledge transfer in Turkish SMEs is considered next.

Table 7.5: ANOVA Test for Hypothesis 2

		Sum of Squares	df	Mean Square	F	Sig.
obstacles of knowledge transfer	Between Groups	13,062	3	4,354	13,651	,000
	Within Groups	83,251	261	,319		
	Total	96,313	264			
Knowledge transfer is risky	Between Groups	29,776	3	9,925	15,004	,000
	Within Groups	172,651	261	,661		
	Total	202,427	264			

H_{2a}: KT in Turkish SMEs is constrained due to barriers and obstacles

The Table 7.5 shows the value of $F = 13.651$ which is greater than the critical value of 2.63 for the F-distribution at 3 and 260 degrees of freedom and 95% of confidence. The significant value of $p < 0.05$ indicates that effects are significant and real. There is sufficient evidence thus to reject the null hypothesis and accept the alternative hypothesis H_{2a} . The nature of the effects is further studied by examining the means. The trend in means as illustrated in Graph 7.3 shows that there is decreasing tendency of means with increasing levels of KT implying that all factors in barriers and obstacles strongly support the hypothesis that these are constraints for KT. From this analysis it is concluded that barriers and obstacles are perceived by the owner or manager to strongly affect the progress of KT in Turkish SMEs.

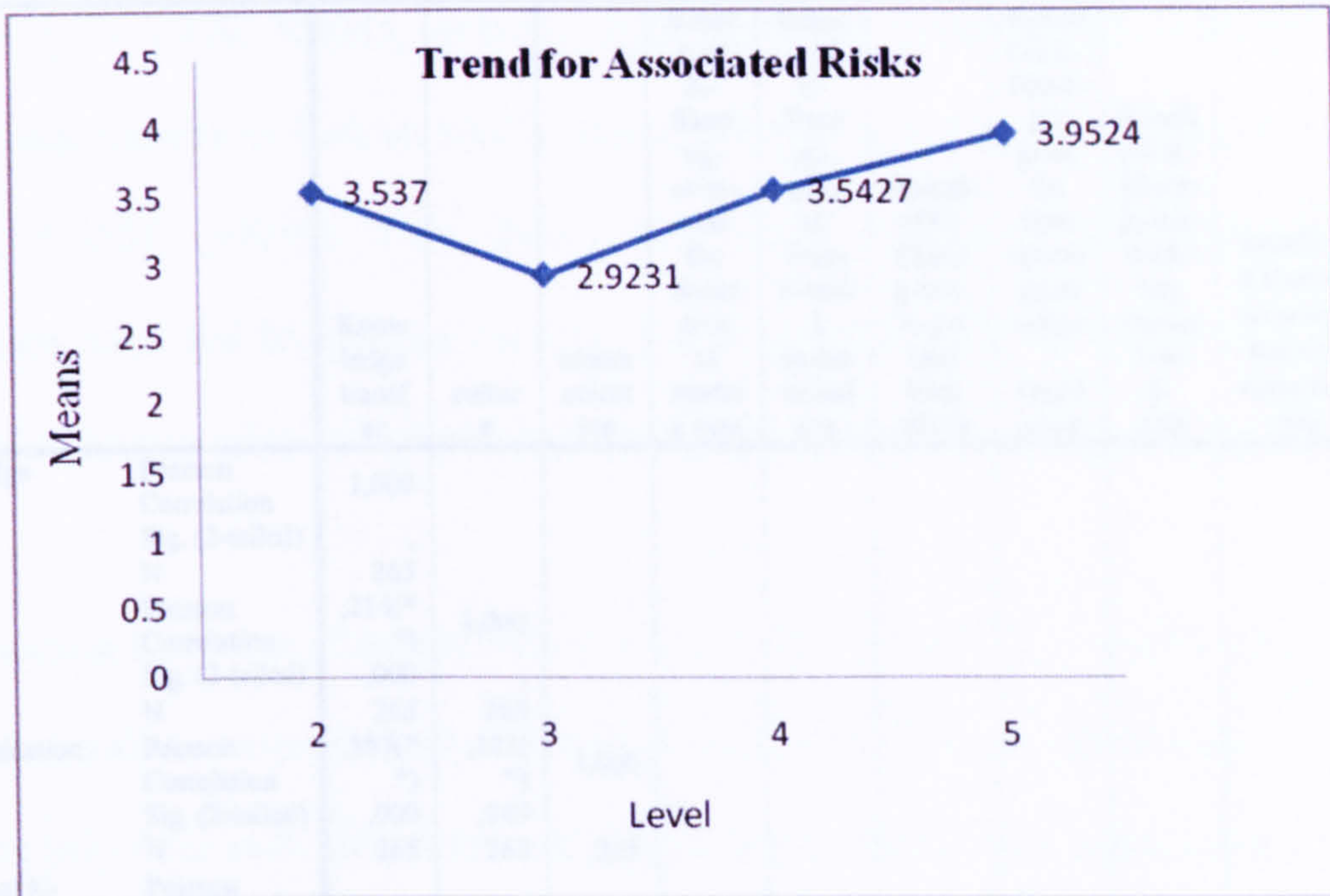


Graph 7.3: Trend for Barriers and Obstacles for KT

H_{2b}: KT in Turkish SMEs is associated with risks

The Table 7.5 shows the value of $F = 15.004$ which is greater than the critical value of 2.63 for the F-distribution at 3 and 261 degrees of freedom and 95% of confidence. The significant value of $p < 0.05$ with large value of F indicates that the null hypothesis is rejected and thus alternative hypothesis H_{2b} is accepted. This concludes that knowledge transfer is strongly associated with risks. The trend in means as shown in Graph 7.4 indicates that majority of the means shows increasing tendency with increasing level of KT and thus have relatively strong form of relationship.

Table 7.7: Correlation between Variables and Knowledge Transfer
A Correlation Analysis of the 303 Data Set



Graph 7.4: Trend for Associated Risks for KT

Table 7.6: Summary of the Results of the Testing of Hypothesis 2

<i>H_{2a}-due to barriers and obstacles</i>	<i>Supported</i>
<i>H_{2b}-associated with risks</i>	<i>Supported</i>

Finding for Hypothesis 2: The above two sub-hypotheses are supported by the respondents and overall H₂ is thus accepted.

7.5: Analysis of Hypothesis 3

This section tests the correlation and ANOVA test between three independent variables with knowledge transfer (**Appendix G**). First reliability test is conducted to check the internal consistency in data. Cronbach's alpha = 0.68 is obtained for culture and 0.58 for communication which are within acceptable limit. The correlation effects of each variable are then considered separately and results are shown in Table 7.7.

Table 7.7: Correlation between Variables and Knowledge Transfer

* Correlation is significant at the 0.05 level (2-tailed).

		Know ledge transf er	cultur e	comm unicat ion	Benef it of K- Shari ng- overc ome the limita tion of marke t size	Benef it of K- Shari ng- adds to firms overal l comm unicat ion	Benefit of K- Sharin g-easy to get help from others	Benefi t of K- Sharin g-it gives the firm apresti gious image / brand name	Benefi t of K- Sharin g-easy marke ting throug hout E- Asia	Benefit of K-Sharing- improves Business opportuni ties	Benefit of K-Sharing- provides useful marketing information
Knowledge transfer	Pearson Correlation	1,000									
	Sig. (2-tailed)	,									
	N	265									
culture	Pearson Correlation	,214(* *)	1,000								
	Sig. (2-tailed)	,000	,								
	N	265	265								
communication	Pearson Correlation	,887(* *)	,121(* *)	1,000							
	Sig. (2-tailed)	,000	,049	,							
	N	265	265	265							
Benefit of K-Sharing-overcome the limitation of market size	Pearson Correlation	,221(* *)	,152(* *)	,181(**)	1,000						
	Sig. (2-tailed)	,000	,013	,003	,						
	N	265	265	265	265						
Benefit of K-Sharing- adds to firms overall communication	Pearson Correlation	,015	,164(**)	,016	-,020	1,000					
	Sig. (2-tailed)	,812	,007	,795	,750	,					
	N	264	264	264	264	264					
Benefit of K-Sharing-easy to get help from others	Pearson Correlation	-,087	,152(* *)	,034	,043	,100	1,000				
	Sig. (2-tailed)	,162	,013	,584	,492	,109	,				
	N	262	262	262	262	261	262				
Benefit of K-Sharing-it gives the firm aprestigious image/ brand name	Pearson Correlation	,160(* *)	-,117	,203(**)	,046	,246(**)	,092	1,000			
	Sig. (2-tailed)	,009	,056	,001	,460	,000	,139	,			
	N	265	265	265	265	264	262	265			
Benefit of K-Sharing-easy marketing throughout E-Asia	Pearson Correlation	-,067	-,051	-,071	,144(* *)	,317(**)	-,092	,227(* *)	1,000		
	Sig. (2-tailed)	,286	,417	,252	,020	,000	,141	,000	,		
	N	259	259	259	259	258	256	259	259		
Benefit of K-Sharing-improves Business opportunities	Pearson Correlation	-,058	,136(* *)	-,003	-,062	,329(**)	,069	-,056	,101	1,000	
	Sig. (2-tailed)	,354	,030	,959	,323	,000	,272	,370	,111	,	
	N	258	258	258	258	257	255	258	252	258	
Benefit of K-Sharing-provides useful marketing information	Pearson Correlation	,203(* *)	,069	,164(**)	,265(**)	-,078	,290(* *)	,122(* *)	-,074	-,311(**)	1,000
	Sig. (2-tailed)	,001	,266	,008	,000	,206	,000	,049	,240	,000	,
	N	263	263	263	263	262	260	263	257	256	263

There is a positive correlation between the organisational culture and knowledge transfer [$r = 0.214$, $N=265$, $p<0.05$], indicating that organisational culture helps in knowledge transfer in Turkish SMEs. The correlation values for communication are; $r = 0.887$, $N=265$, $p<0.05$. This shows that there is strong relationship between communication and knowledge transfer. The correlation values for different beneficial factors indicating relationship with knowledge transfer are:

Overcoming limitation of market size [$r = 0.221$, $N=265$, $p<0.05$] – **significant**,

Firm's overall communication [$r = 0.015$, $N=264$, $p>0.05$] – **not significant**,

Getting help from each other's [$r = -0.087$, $N=262$, $p>0.05$] – **not significant**,

Prestigious brand or image [$r = 0.160$, $N=265$, $p<0.05$] – **significant**,

Accessible market in Europe and Asia [$r = -0.067$, $N=259$, $p>0.05$] – **not significant**,

Improving business opportunity [$r = -0.058$, $N=258$, $p>0.05$] – **not significant** and

Available useful marketing information [$r = 0.203$, $N=263$, $p<0.05$] – **significant**.

The results indicate that culture and communication have relationship with knowledge transfer in Turkish SMEs whereas only three beneficial factors as described above have significant relationship with KT. To understand this relationship in details and see the effects of each level, one-way ANOVA test is conducted next. Table 7.8 shows the ANOVA tests for hypothesis H_3 to consider the effect of three sub-hypotheses H_{3a} , H_{3b} and H_{3c} on knowledge transfer. The relationship of each sub-hypothesis on knowledge transfer in Turkish SMEs is considered next.

Table 7.8: ANOVA Test for Hypothesis 3

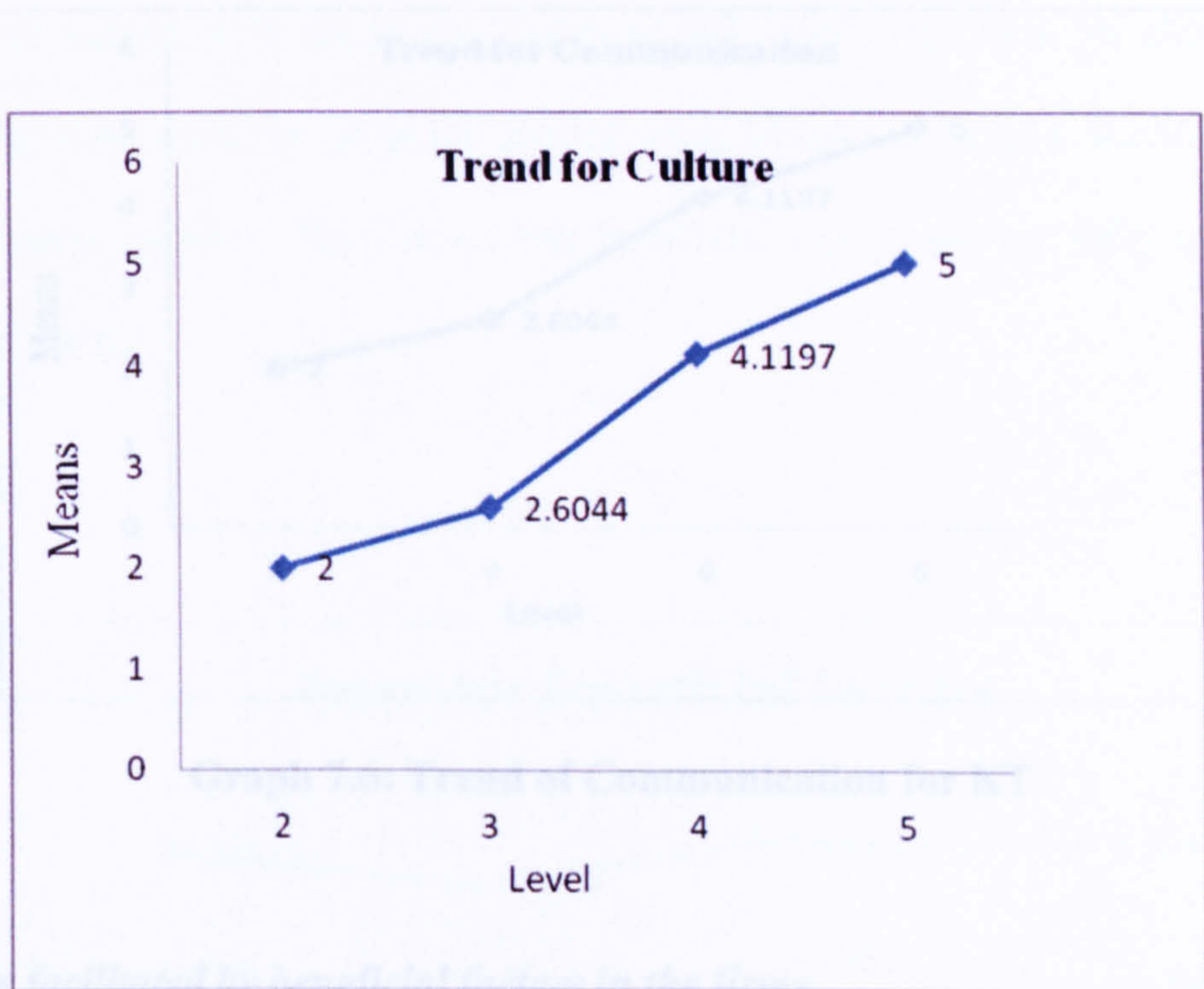
		Sum of Squares	df	Mean Square	F	Sig.
culture	Between Groups	12,714	3	4,238	6,893	,000
	Within Groups	160,471	261	,615	>2.63	
	Total	173,185	264			
communication	Between Groups	242,423	3	80,808	404,945	,000
	Within Groups	52,083	261	,200	>2.63	
	Total	294,506	264			
Benefit of K-Sharing- overcome the limitation of market size	Between Groups	22,933	3	7,644	6,764	,000
	Within Groups	294,977	261	1,130	>2.63	
	Total	317,909	264			
Benefit of K-Sharing- adds to firms overall communication	Between Groups	4,845	3	1,615	1,674	,173
	Within Groups	250,849	260	,965	<2.63	
	Total	255,693	263			
Benefit of K-Sharing- easy to get help from others	Between Groups	29,378	3	9,793	7,906	,000
	Within Groups	319,587	258	1,239	>2.64	
	Total	348,966	261			
Benefit of K-Sharing-it	Between	17,466	3	5,822	8,987	,000

gives the firm	Groups					
aprestigious image/	Within Groups	169,077	261	,648	>2.63	
brand name	Total	186,543	264			
Benefit of K-Sharing-	Between					
easy marketing	Groups	3,700	3	1,233	1,540	,205
throughout E-Asia	Within Groups	204,184	255	,801	<2.64	
	Total	207,884	258			
Benefit of K-Sharing-	Between					
improves Business	Groups	8,372	3	2,791	2,865	,037
opportunities	Within Groups	247,426	254	,974	>2.64	
	Total	255,798	257			
Benefit of K-Sharing-	Between					
provides useful	Groups	12,172	3	4,057	3,730	,012
marketing information	Within Groups	281,760	259	1,088	>2.63	
	Total	293,932	262			

H_{3a}: KT is facilitated by suitable organisational culture in the firms

The Table 7.8 shows the F-value = 6.893 which is greater than the cut-off value of 2.63 for the F-distribution at 3 and 261 degrees of freedom and 95% of confidence. The significant value $p < 0.05$ indicates that effects are significant and real implying that the means differ more than would be expected by chance alone. There is sufficient evidence to reject the null hypothesis and thus alternative hypothesis H_{3a} is accepted. The nature of these effects is further studied by examining the means as shown in Graph 7.5. The trend in means illustrates that there is increasing tendency of means with level implying strong form of relationship with KT. From this analysis it is concluded that

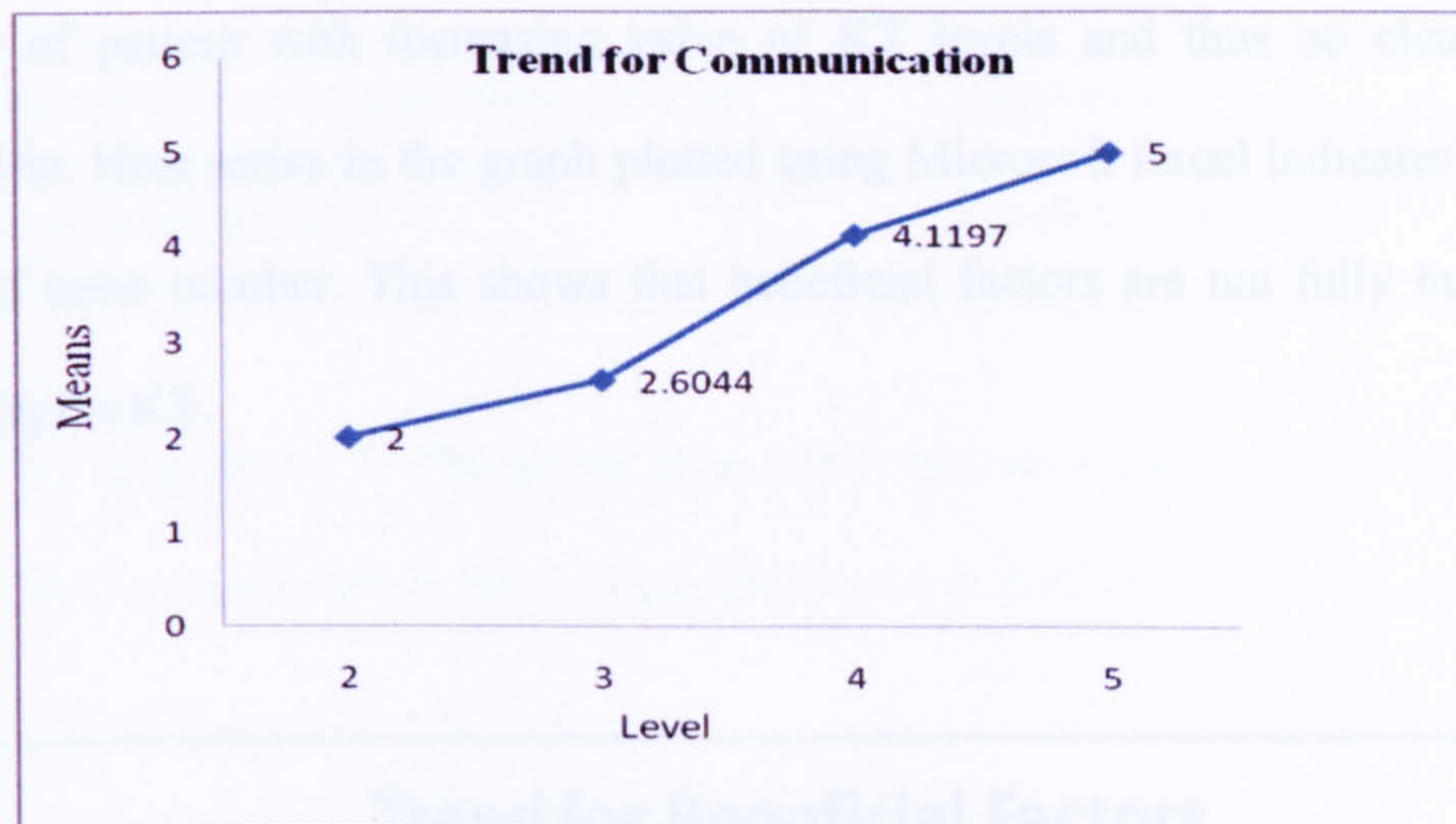
organisational culture is important and has major impact in knowledge transfer in Turkish SMEs.



Graph 7.5: Trend of Culture for KT

H_{3b}: KT is facilitated by appropriate communication channel in the firms

The Table 7.8 shows the value of $F = 404.945$ which is greater than the critical value of 2.63 for the F-distribution at 3 and 261 degrees of freedom and 95% of confidence. The significant value $p < 0.05$ indicates that effects are significant and real. Therefore the null hypothesis is rejected and alternative hypothesis H_{3b} is accepted. The Graph 7.6 also shows the increasing trend in means with levels of KT implying strong form of relationship. This shows that communication channel is also an important contributor in KT.



Graph 7.6: Trend of Communication for KT

H_{3c}: KT is facilitated by beneficial factors in the firms

The Table 7.8 shows the value of F and comparison with its critical values for different beneficial factors indicating its supports for hypothesis as explained below:

Overcoming limitation of market size [F = 6.764 > 2.63, p < 0.05] – **supported and significant,**

Firm's overall communication [F = 1.674 < 2.63, p > 0.05] – **not supported and not significant,**

Getting help from each others [F = 7.906 > 2.64, p < 0.05] – **supported and significant,**

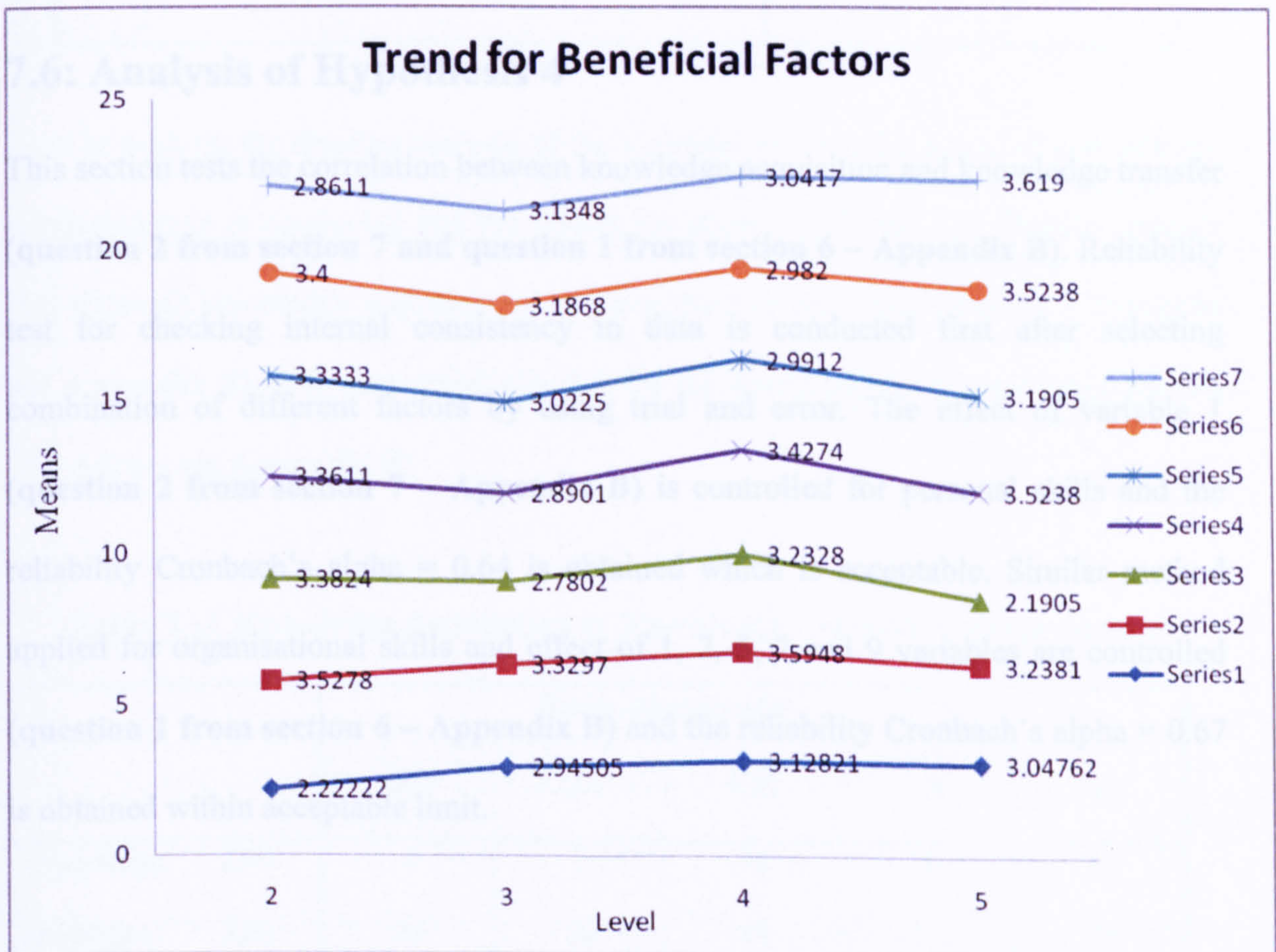
Prestigious brand or image [F = 8.987 > 2.63, p < 0.05] – **supported and significant,**

Accessible market in Europe and Asia [F = 1.540 < 2.63, p > 0.05] – **not supported and not significant,**

Improving business opportunity [F = 2.865 > 2.64, p < 0.05] – **supported and significant**

Available useful marketing information [F = 3.730 > 2.63, p < 0.05] – **supported and significant.**

Most of the determinants above supported the hypothesis and therefore H_{3c} is partially accepted. The Graph 7.7 show that means value for most determinants have mix tendency of pattern with increasing value of KT levels and thus no clear form of relationship. Here series in the graph plotted using Microsoft Excel indicates beneficial factors of same number. This shows that beneficial factors are not fully but partially supporting the KT.



Graph 7.7: Trend of Beneficial Factors for KT

Table 7.9: Summary of the Results of the Testing of Hypothesis 3

<i>H_{3a}-Suitable organisational culture</i>	<i>Supported</i>
<i>H_{3b}-Appropriate communication channel</i>	<i>Supported</i>
<i>H_{3c}-Beneficial factors</i>	<i>Partially Supported</i>

Finding for Hypothesis 3: The above three sub-hypotheses are supported by the views indicated by the employees in the Turkish SMEs and overall H₃ is thus accepted.

7.6: Analysis of Hypothesis 4

This section tests the correlation between knowledge acquisition and knowledge transfer (question 2 from section 7 and question 1 from section 6 – Appendix B). Reliability test for checking internal consistency in data is conducted first after selecting combination of different factors by using trial and error. The effect of variable 1 (question 2 from section 7 – Appendix B) is controlled for personal skills and the reliability Cronbach's alpha = 0.64 is obtained which is acceptable. Similar method applied for organisational skills and effect of 1, 2, 5, 7 and 9 variables are controlled (question 1 from section 6 – Appendix B) and the reliability Cronbach's alpha = 0.67 is obtained within acceptable limit.

The effects of each variable are then considered and correlation results are shown in Table 7.10. The result shows that there is no relationship between two variables [$r = -0.72$, $N=265$, $p>0.05$], indicating that knowledge acquisition is not essential for knowledge transfer.

Table 7.10: Correlations between Knowledge Acquisition and Knowledge Transfer

		Knowledge acquisition	Knowledge transfer
knowledge acquisition	Pearson Correlation	1,000	
	Sig. (2-tailed)	,	
	N	265	
Knowledge transfer	Pearson Correlation	-,072	1,000
	Sig. (2-tailed)	,241	,
	N	265	265

Now to perform the detailed analysis of the variables and see the extent of dependency, crosstabulation is conducted and the results are shown in Table 7.11. Results indicate that although knowledge acquisition is not important in the organisation (2 – Disagree, see Appendix B), it is considered valuable for the development of knowledge transfer (4 – Agree, see Appendix B).

Table 7.11 Knowledge Acquisition vs Knowledge Transfer Crosstabulation

		Knowledge transfer				Total
		2,00	3,00	4,00	5,00	
knowledge	2,00	6	7	34	10	57
acquisition	3,00	21	39	37		97
	4,00	9	35	37	11	92
	5,00		10	9		19
Total		36	91	117	21	265

This shows that there is no significant relationship between variables. In the case of Neutral (3) and Agree (4), there is significant relationship between variables. When

knowledge acquisition strongly agreed (5) as useful in the organisation it is supported by majority as neural contributor in the development of knowledge transfer. This indicates that there is partial support for this relationship. The data collected as analysed in chapter 6 for this hypothesis are measured on nominal (categorical) and ordinal (ranked) scales and are random and independent covering wider respondents and fit for non-parametric statistical test to verify the hypothesis. The Chi-square test is now performed to explore the relationship between two categorised variables to test the Null hypothesis. The Pearson Chi-square value for this hypothesis as shown in Table 7.12 is with 9 degree of freedom =41,861 and significance value $p < 0.05$.

Table 7.12 Knowledge Acquisition vs Knowledge Transfer Chi-square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41,861(a)	9	,000
Likelihood Ratio	53,160	9	,000
Linear-by-Linear Association	1,380	1	,240
N of Valid Cases	265		

a 3 cells (18,8%) have expected count less than 5. The minimum expected count is 1,51.

These results indicate that there is a statistically significant relationship between the variables and thus Null hypothesis H_{04} is rejected. Combining the analysis from crosstabulation and Chi-square test imply that alternative hypothesis H_4 is partially supported. This means that some of the variables considered important at the beginning are not contributing in the hypothesis.

7.7: Analysis of Hypothesis 5

The following analysis will test the correlation between two variables (question 2 and 3 from section 5 – Appendix B) from Turkish SMEs employees considering various factors supporting the hypotheses: *H₅: Adoption and utilisation of the IT applications in the Turkish SMEs is essential for their success.* The correlation coefficients will be first conducted to test the supporting relation between these two variables for the same factor. For example in case of a Company's website, how useful this factor is for adoption and utilisation of IT in the organisation. This correlation coefficient will thus indicate the support of each factor in the adoption and utilisation of IT technology. The Table 7.13 shows the correlation coefficients and significance levels for each factor. There is a strong positive correlation between the two variables for Company's website [$r = 0.815$, $N=260$, $p<0.01$], indicating that Company's website is important. Similarly there is strong positive relationship for E-mail [$r = 0.825$, $N=265$, $p<0.01$], Internet [$r = 0.405$, $N=265$, $p<0,01$] and Internet Electronics Bulletin Board [$r = 0.437$, $N=265$, $p<0.01$]. Only two factors show weak relationship but both are positive with high statistical significant. The value for Video conferencing is [$r = 0.132$, $N=265$, $p<0.05$] whereas for E-library is [$r = 0.242$, $N=265$, $p<0.01$]. The comparatively low value is may be due to the unawareness of these two new technologies in Turkey for KT.

Table 7.13: Correlation Test for Hypothesis 5 (H₅)

Correlations

	Most useful for Idea sharing-Company's website	Most useful for Idea sharing-Email	Most useful for Idea sharing-Video conferencing	Most useful for Idea sharing-E-Library	Most useful for Idea sharing-Internet	Most useful for Idea sharing-Internal Electronic Bulletin Board	How good IT applications used by employees-company's website	How good IT applications used by employees-Email	How good IT applications used by employees-Video conferencing	How good IT applications used by employees-E-library	How good IT applications used by employees-Internet	How good IT applications used by employees-Internal Electronic Bulletin board
IT Most useful for sharing-Company's website Pearson Correlation Sig. (2-tailed) N	1 .000 260	.815* .000 260	.113 .070 260	-.097 .119 260	.584* .000 260	.611* .000 260	.815* .000 260	.671* .000 260	-.447* .000 260	-.447* .000 260	.409* .000 260	.281* .000 260
IT Most useful for sharing-Email Pearson Correlation Sig. (2-tailed) N	.815* .000 260	1 .000 265	.110 .073 265	-.094 .127 265	.738* .000 265	.714* .000 265	1.000* .000 265	.825* .000 265	-.558* .000 265	-.558* .000 265	.500* .000 265	.340* .000 265
IT Most useful for sharing-Video conferencing Pearson Correlation Sig. (2-tailed) N	.113 .070 260	.110 .073 265	1 .000 265	-.088 .154 265	.036 .565 265	.065 .290 265	.110 .073 265	.053 .392 265	.132* .031 265	.132* .031 265	-.045 .462 265	.076 .215 265
IT Most useful for sharing-E-Library Pearson Correlation Sig. (2-tailed) N	-.097 .119 260	-.094 .127 265	-.088 .154 265	1 .000 265	.120 .052 265	-.229* .000 265	-.094 .127 265	-.010 .671 265	.242* .000 265	.242* .000 265	-.096 .120 265	-.140* .022 265
IT Most useful for sharing-Internet Pearson Correlation Sig. (2-tailed) N	.584* .000 260	.738* .000 265	.036 .565 265	.120 .052 265	1 .000 265	.527* .000 265	.738* .000 265	.611* .000 265	-.436* .000 265	-.436* .000 265	.405* .000 265	.399* .000 265
IT Most useful for sharing-Internal Electronic Bulletin Board Pearson Correlation Sig. (2-tailed) N	.611* .000 260	.714* .000 265	.065 .290 265	-.229* .000 265	.527* .000 265	1 .000 265	.714* .000 265	.654* .000 265	-.381* .000 265	-.381* .000 265	.421* .000 265	.437* .000 265
How good IT applications used by employees-company's website Pearson Correlation Sig. (2-tailed) N	.815* .000 260	1.000* .000 265	.110 .073 265	-.094 .127 265	.738* .000 265	.714* .000 265	1 .000 265	.825* .000 265	-.558* .000 265	-.558* .000 265	.500* .000 265	.340* .000 265
How good IT applications used by employees-Email Pearson Correlation Sig. (2-tailed) N	.671* .000 260	.825* .000 265	.053 .392 265	-.010 .871 265	.611* .000 265	.654* .000 265	.825* .000 265	1 .000 265	-.405* .000 265	-.405* .000 265	.474* .000 265	.292* .000 265
How good IT applications used by employees-Video Conferencing Pearson Correlation Sig. (2-tailed) N	-.447* .000 260	-.558* .000 265	.132* .031 265	.242* .000 265	-.436* .000 265	-.381* .000 265	-.558* .000 265	-.405* .000 265	1 .000 265	1.000* .000 265	-.182* .003 265	-.321* .000 265
How good IT applications used by employees-E-library Pearson Correlation Sig. (2-tailed) N	-.447* .000 260	-.558* .000 265	.132* .031 265	.242* .000 265	-.436* .000 265	-.381* .000 265	-.558* .000 265	-.405* .000 265	1.000* .000 265	1 .000 265	-.182* .003 265	-.321* .000 265
How good IT applications used by employees-Internet Pearson Correlation Sig. (2-tailed) N	.409* .000 260	.500* .000 265	-.045 .462 265	-.096 .120 265	.405* .000 265	.421* .000 265	.500* .000 265	.474* .000 265	-.182* .003 265	-.182* .003 265	1 .000 265	.257* .000 265
How good IT applications used by employees-Internal Electronic Bulletin Board Pearson Correlation Sig. (2-tailed) N	.281* .000 260	.340* .000 265	.076 .215 265	-.140* .022 265	.399* .000 265	.437* .000 265	.340* .000 265	.292* .000 265	-.321* .000 265	-.321* .000 265	.257* .000 265	1 265

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The data collected suits for the Chi-square test and it is now performed to explore the relationship between two categorised variables to test the Null hypothesis.

7.7.1: Company's Website (H_{5a})

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	715,828 ^a	12	.000
Likelihood Ratio	597,239	12	.000
Linear-by-Linear Association	172,174	1	.000
N of Valid Cases	260		

a. 3 cells (15,0%) have expected count less than 5. The minimum expected count is 2,05.

The Pearson Chi-square value for Company's website as shown in above table is with 12 degree of freedom =715,828 and significance value $p < 0.05$. These results indicate that there is statistically significant relationship between the variables and thus Null hypothesis H_{05a} is rejected. This implies that alternative hypothesis H_{5a} is supported. However, the Chi-square test does not indicate the extent of relationship between two variables. The crosstabulation is thus used to indicate the extent of dependency or prediction of one variable on other variable (see Appendix G). The result shows that 32.69% people consider this is not important and also not using for KT. One of the reasons for that is the high cost involved in maintaining the website. 62.3% indicated that this is a useful technology and also using it for KT. The majority of the respondents thus consider this is one of the important IT resources for the company and also using it for KT.

7.6.2: E-mail (H_{5b})

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	658,974 ^a	9	,000
Likelihood Ratio	567,427	9	,000
Linear-by-Linear Association	179,816	1	,000
N of Valid Cases	265		

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 6,66.

These results indicate there is statistically significant relationship between the variables for E-mail (chi-square with 9 degree of freedom = 658,974, $p < 0.05$) and thus Null hypothesis H_{05b} is rejected implying that alternative hypothesis H_{5b} is supported. The crosstabulation result shown in Appendix G indicates that majority 56.22% of the respondents strongly support the importance of E-mail in the organisation and utilising it for KT.

7.6.3: Video conferencing (H_{5c})

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	109,428 ^a	9	,000
Likelihood Ratio	59,330	9	,000
Linear-by-Linear Association	4,625	1	,032
N of Valid Cases	265		

a. 8 cells (50,0%) have expected count less than 5. The minimum expected count is ,14.

These results indicate there is statistically significant relationship between the variables for Video conferencing (chi-square with 9 degree of freedom = 109,428, $p < 0.05$) and thus Null hypothesis H_{05c} is rejected implying that alternative hypothesis H_{5c} is supported. The crosstabulation result (Appendix G) shows that majority of the respondents 63.39% accept that video conferencing is useful for knowledge sharing but they are not willing to use it for KT and matches with the similar pattern observed in chapter 6. This is due to a lack of awareness of the benefits of this technology for KT.

7.6.4: E-library (H_{5d})

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	436,276 ^a	12	,000
Likelihood Ratio	280,571	12	,000
Linear-by-Linear Association	15,478	1	,000
N of Valid Cases	265		

a. 12 cells (60,0%) have expected count less than 5. The minimum expected count is ,18.

These results also report that there is statistically significant relationship between the variables for E-library (chi-square with 12 degree of freedom = 436,276, $p < 0.05$) and thus Null hypothesis H_{05d} is rejected implying that alternative hypothesis H_{5d} is

supported. The crosstabulation result (**Appendix G**) shows that majority 76.98% of respondents consider this technology is not useful and do not use it for KT. This is due to lack of clear benefit from this technology and involving extra cost.

7.6.5: Internet (H_{5e})

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	64,196 ^a	9	,000
Likelihood Ratio	62,263	9	,000
Linear-by-Linear Association	43,198	1	,000
N of Valid Cases	265		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5,13.

These results show that there is statistically significant relationship between the variables for internet (chi-square with 9 degree of freedom = 64,196, $p < 0.05$) and thus Null hypothesis H_{05e} is rejected implying that alternative hypothesis H_{5e} is supported. The crosstabulation result (**Appendix G**) indicates that more or less same equal percentage (32.83% and 35.09%) of respondents think that this is a useful technology but 35.09% are not using this. This indicates that most of the people know about this technology and considers it useful but some are not using in the company as they consider that this may impede their secrecy by transferring the important information.

7.6.6: Internet Electronics Bulletin Board (H_{5f})

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	291,536 ^a	9	,000
Likelihood Ratio	257,380	9	,000
Linear-by-Linear Association	50,512	1	,000
N of Valid Cases	265		

a. 3 cells (18,8%) have expected count less than 5. The minimum expected count is 2,44.

These results indicate that there is a statistically significant relationship between the variables for Internet electronic bulletin board (chi-square with 9 degree of freedom = 291,536, $p < 0.05$) and thus Null hypothesis H_{05f} is rejected implying that alternative hypothesis H_{5f} is supported. The crosstabulation result (Appendix G) shows that 36.6% of the respondents do not consider this technology useful and thus not using it. 16.22% consider useful but not using it and 36.22% consider it useful and also using it. Nearly half of the people considered this as useful for the organisation and nearly 36.22% of the people are using this technology. This is mostly used by a manager or owner to convey important message to the employees.

Table 7.14: Summary of the Results of the Testing of Hypothesis 5

<i>H_{5a}-Companys Website</i>	<i>Supported</i>
<i>H_{5b}-E-mail</i>	<i>Supported</i>
<i>H_{5c}-Video Conferencing</i>	<i>Supported</i>
<i>H_{5d}-E-library</i>	<i>Supported</i>
<i>H_{5e}-Internet</i>	<i>Supported</i>
<i>H_{5f} Internal Electronics Bulletin Board</i>	<i>Supported</i>

Finding for Hypothesis 5: The above six sub-hypotheses are supported by the views indicated by the employees in the Turkish SMEs and overall H₅ is thus accepted.

Based on the information available in Table 7.8 and Appendix G, the inter-correlations and linkage of the important variables with different aspects of KT are summarized below:

Table 7.15: Summary of the Results of the inter-correlations and linkages between important variables

Important Variables	Linkage with the aspects of KT
<p>Obstacles: limited access of finance, lack of IT infrastructure, poor private and public relationship, lack of qualified human resources, bureaucracy hurdles, lack of networking and lack of links between research institutions and industries</p> <p>Risks: national business competition, possible loss of brand integrity and possible loss of market share</p>	<p>Knowledge Sharing</p>
<p>Culture: people work in a team and help each other, cooperation among employees are encouraged with easy coordination of the project, people are focused for the same objective of the firms</p> <p>Communication: company follows the good practice guidelines, new concepts are regularly updated and private and public knowledge sharing are encouraged through discussion forum</p> <p>Beneficial factors: helps to overcome the limitation of the market, facilitate to obtain help, provides firm a prestigious image and brand name and provides useful marketing information for improving business opportunities</p>	<p>Organisational Culture and Communication Channel for KT</p>
<p>Knowledge acquisition: obtained from various sources such as company knowledge's database, regular IT training courses and exchange of knowledge from other colleagues and improves the employee's skills and methodology for better performance and understanding the operation of the company</p>	<p>Private (Internal) and Public (External) Knowledge Acquisition for KT</p>
<p>IT resources: company website, Email, Video conferencing, E-library, Internet and Electronic bulletin board</p>	<p>Information Technology Application and its Implementation for KT</p>

7.8: Summary

This chapter has established the relationships of different themes through hypotheses to find out the extent of the contribution of various determinants to KT in the Turkish textile and apparel industries. The SPSS statistical tools are used to test the various hypotheses. The results show that hypothesis H₁ is not accepted because the respondents did not think that ideas obtained from buyers and suppliers can be used to enhance the knowledge transfer in SMEs. The hypothesis H₂ is accepted with strong support. This shows that Turkish SMEs is also following the normal trend and indicated that KT is obstructed by barriers and obstacles and also associated with risks. The knowledge transfer in Turkish SMEs is facilitated by suitable organisational cultures and appropriate communication channels. The beneficial factors for KT in the literature are also relevant for Turkey and help in facilitating KT for SMEs. Thus hypothesis H₃ is also accepted. Hypothesis H₄ expresses the benefits of knowledge acquisition from various private and public sources for KT. This is found true for Turkish SMEs and is accepted. Finally various IT resources are considered in line with the available literature to find the effect of these for KT in Turkish SMEs. The analysis results show that some of the known IT technologies in Turkey such as E-mail, Internet, website etc. are also considered valuable and the related hypothesis H₅ is also accepted. This shows the general trend of considering various themes affecting the development of KT in Turkish textile and apparel industries. The next chapter thus concludes with major findings of the thesis and recommends various important steps necessary for further improving the KT in Turkish textile and apparel industries.

Chapter 8

Research Conclusions and Recommendations

8.1: Introduction

This study is based on the concept that knowledge transfer is an important asset and vital for enhancing capability and competitiveness of the SMEs. The literatures reviews indicated that knowledge transfer is regarded as one of the essential elements for the success of SMEs in many parts of the world. Some studies in Turkey details about the knowledge management practices in Turkish SMEs (Bozbura, 2004) but none of them studied the impact of KT for Turkish textile and apparel industries which are one of the largest SMEs in Turkey and a major contributor for its economy (Uz *et al.*, 2004). The major problem for Turkish SMEs is the way of implementation of the new technologies. The developed countries adopts the new technologies step by step whereas Turkey implements state-of-the-art systems from the beginning (Seidman, 2004) and thus some of the successes of KT in developed countries cannot be applied or implemented directly to Turkey. Qualitative finding was thus considered necessary to get the idea of present situation in Turkey and then move forward to formulate different quantitative strategies. Researcher went to Turkey and conducted eighteen face to face interviews with the owners or managers of textile and apparel industries to obtain the first hand idea. It offered new possibilities for this research and based on scholarly views and present situation in Turkey, various determinants attached with KT were utilised to formulate different quantitative strategies in the form of hypotheses and tested in the context of Turkish textile and apparel industries. This investigation explored how the various characteristics in the organisations such as relationships, cultures, communication channels, knowledge acquisition and IT technology underlie knowledge transfer in organisations. This research took into consideration how different types of characteristics affect transferring of knowledge in the context of a Turkish textile and apparel industries. The major findings of this study along with further recommendations are reported in the next section.

8.2 Research Findings

Knowledge transfer is a complex process for any SMEs and involves interconnectedness and interdependencies of various elements which are highly influenced by geographical, political, cultural and social aspects of the country (Uz *et al.*, 2004). The qualitative study thus required to get the good information from the relevant sources to refine the hypotheses. This study thus selected people at higher positions in the Turkish textile and apparel industries for face to face interviews as they have authentic information and long experiences and the following organisations helped in the process, chamber of commerce and textile export organisation, KOSGEB and TCMA. As indicated in **chapter 4**, 12 out of 18 people considered that sharing ideas and information with buyers is helpful for KT whereas 15 out of 18 indicated same in the case of suppliers. Majority of them also considered lack of IT support, trust, finance, qualified human resources and support from government and non-government organisation are barriers and obstacles in KT. They also considered that incorrect market information and unfamiliar business practices are major risk factors associated with KT. Majority of them (16 out of 18) indicated that suitable organisational culture based on trust and collaboration and appropriate communication channels are necessary for KT. 14 out of 18 people indicated that public and private knowledge acquisition is essential for KT. Majority of them expressed that implementation of IT technology resources are necessary by utilisation of email, internet and company website for KT. Findings from qualitative research and based on extensive literature reviews in **chapter 3 and 4** were combined together to form the basis of the quantitative analysis. Sieber (1973) suggested that qualitative research methods constitute a theoretical substructure for quantitative analysis. The qualitative research results can therefore be utilised for quantitative analysis. The five research hypotheses were formulated to consider the major themes of knowledge transfer in the context of Turkish textile and apparel

industries and tested with various statistical tools available in SPSS version 16.0. The brief descriptions of the data used for quantitative analysis are explained next.

250 paper based questionnaires were handed and 600 people were contacted via online survey (**Appendix B and Appendix C**) to obtain the data for quantitative research. Out of 850, 265 responded to the questionnaires. According to **chapter 6**, majority of respondents 61.9% were male and 37.7% were female. Majority of the respondents were Turkish (91.3%) and 43% were from age group of 31-35 reflecting the views of mature people. 70.9% respondents were likely to get involved in the company's knowledge transfer activities and majority of them (56.2%) can speak and understand more than one language. 80% of the SMEs selected were involved in the business for 4-10 years and considered well established for getting involve in knowledge transfer activities and 82.6% of them employ more than 50 persons in their company. 46.8% SMEs were privately owned and have freedom to involve in knowledge transfer activities. 47.5% of the SMEs have their webpage out of that 100% were using it for normal purpose like marketing, selling and buying and for quick communication and only 19.6% were using it for sharing ideas with others (knowledge transfer activities). Majority of the SMEs 64.2% do not have any branch and they may be less interested in participating in knowledge transfer activities. Four big cities in Turkey (Istanbul, Ankara, Bursa and Izmir) were selected for SMEs where people are more aware of knowledge transfer activities. 95.5% of the SMEs indicated inexpensive labour and 27.5% lower tax compare with Europe is the major consideration for doing business in Turkey. 87.5% of the SMEs expressed important geographical position of Turkey in Asia and Europe (See **chapter 2**) is the major reason for doing business in Turkey. 99.6% of the SMEs recognised that improving their IT is a vital factor for their business growth in future whereas 60.8% considered quality control and 60.6% human resource

development. The findings of the hypotheses are now explained next on the basis of statistical analysis.

Results for the first hypothesis have qualitatively indicated that Turkish SMEs were practicing knowledge transfer with buyers and suppliers whereas no such prediction can be established quantitatively as analysed in **chapter 7**. In **chapter 6**, it is indicated that 98.1% of the SMEs share their business ideas with buyers and 98.9% with sellers and it is mostly done for business purpose to improve their product by feedback obtained from knowledgeable buyers and suppliers. The rejection of this hypothesis in **chapter 7** shows that although knowledge sharing is considered important (**chapter 6**) for developing network with buyers and suppliers for marketing but it is not an important constituents for development of knowledge transfer activities in Turkish textile and apparel industries.

The test of the second hypothesis (**chapter 7**) shows that the knowledge transfer in Turkish textile and apparel industries is affected by the barriers and obstacles obtained from limited access of finance, lack of IT infrastructure, poor private and public relations, lack of qualified human resources, bureaucracy hurdles, lack of networking and lack of links between research institutions and industries (**Appendix E**). It also indicates that some risk factors involved in KT in Turkey textile and apparel industries which are mainly considered to be national business competition, possible loss of brand integrity and possible loss of market share (**Appendix E**). In **chapter 7**, Graph 7.3 shows that there is strong relationship between barriers and obstacles with knowledge transfer. Graph 7.4 also indicates that there is relatively strong relationship between associated risks with KT. Both sub-hypotheses in **chapter 7** are thus highly supporting. In **chapter 6**, the following percentage of respondents indicated that limited finance

(67.2%), lack of IT infrastructure (67.9%), poor private and public relation in SMEs (70.8%), lack of qualified human resources (71.0%), bureaucratic hurdles (67.9%), lack of networking (62.6%) and lack of strong links between research and industry (60.0%). More than 50% respondents thus realised the importance of barriers and obstacles coming in the way and hindering the development of KT for Turkish textile and apparel industries. This is also supported in **chapter 3** and **4** through literature reviews. The following risk factors were considered by the respondents in **chapter 6** which are associated with KT: incorrect market information (47.2%), confusing market regulation (61.1%), national business competition (53.9%), unfamiliar foreign business practices (58.5%), possible loss of brand integrity (58.1%) and possible loss of business market share (54.7%). In the hypothesis only three associated risk factors such as national business competition, possible loss of brand integrity and possible loss of business market share were selected after internal consistency reliability check and other factors were not found to be important contributors in the risks associated with KT. This shows that the SMEs are more concerned with the risk factors inside domestic market because of KT rather than foreign market and related regulations. Although incorrect market information is recognised as risk factor of KT in literature review (**chapter 4**) it is not considered important in the case of Turkish textile and apparel industries.

The third hypothesis indicates that in Turkish textile and apparel industries people work in a team and help each other, cooperation among employees are encouraged with easy coordination of the project, people are focused for the same objective of the firms, company follows the good practice guidelines, new concepts are regularly updated and private and public knowledge sharing are encouraged through discussion forum. This also states that knowledge transfer in Turkish textile and apparel industries helps to overcome the limitation of the market, facilitate to obtain help, provides firm a

prestigious image and brand name and provides useful marketing information for improving business opportunities. As indicated in **chapter 6** for organisational culture, 37.3% worked in team, 21.5% respondents help each other, 52.8% believed that cooperation among them are encouraged, 59.6% saw work is organised according to person, 52.4% agreed that information shared among all, 46.4% agreed of the easy coordination of the project, 39.6% agreed that group socialise outside the office hour, 57.7% believed that people share the same business objective and 48.7% indicated that overall company atmosphere is open and friendly. For communication channels, 56.0% respondents agreed that communicating aims, objectives and strategies are clearly instructed, 62.2% agreed that policies to the employees are clear, 22.3% indicated that guidelines are regularly updated, 31.4% favoured the periodic creation of new concepts, 48.7% described that data and information are regularly circulated through electrical and traditional way and 41.9% strongly believed that private and public discussion forum is organised on timely basis to encourage knowledge sharing. In **chapter 6**, 31.7% agreed that KT benefits to overcome the limitation of the market size, 52.0% indicated it adds to the firm's overall communication, 33.2% agreed that it make easy to get help from others, 40.8% believed KT gives a prestigious image or brand name for the company, 37.4% indicated it help to get marketing information from Europe and Asia, 47.9% expressed that it improves business opportunity and 76.2% find it useful for marketing information. Hypothesis analysis in **chapter 7** shows that following factors in cultures: work is organised according to person, information shared among all and socialisation outside the office hours are not found to be important in the reliability test for internal consistency. In the case of communication: communicating aims, objectives and policies to the employees and circulating data and information through electrical and traditional on a regular basis were not accounted for the same reason. ANOVA analysis (**chapter 7**) indicated that KT is not beneficial for adding benefit in

the firm's overall communication and accessing market in Europe and Asia. Thus two sub-hypotheses concerning with organisational culture and communication channel are supported after getting rid of some of the unimportant factors related to the Turkish textile and apparel industries whereas the third sub-hypothesis for beneficial factor is partially supported (**chapter 7**).

Results for the fourth hypothesis show that knowledge acquisition from various sources such as company knowledge's database, regular IT training courses, exchange of knowledge from other colleagues are important and this knowledge acquisition improves the employee's skills and methodology for better performance and understanding the operation of the company in Turkish textile and apparel industries. In **chapter 7**, the effect of gaining personal experiences from public and other companies through knowledge acquisition was found to be unimportant through reliability test for internal consistency. Cross-tabulation results showed that only some of the factors partially supporting the hypothesis. Chi-square test indicated that this hypothesis is significant for KT in Turkish textile and apparel industries and thus partially accepted. In **chapter 6**, 40.4% agreed that they acquired knowledge from public and other companies, 60.7% agreed that they learned new skills and methodology for better performance, 41.2% indicated that they learned ideas to thoroughly understand the operation inside the company, 33.2% agreed that they learned knowledge from company's database, 43.4% from regular IT training programmes and 24.6% indicated that they learned knowledge through interaction with other people. The professional experience is not useful for KT in Turkish textile and apparel industries because it remains in the head of individuals and mostly not shared as also indicated in literature review (**chapter 3**). The level of knowledge required for the Turkish textile and apparel industries at the moment is not important as analysed in the questionnaire for the KT.

Only partial knowledge is important and supporting the KT in textile and apparel industries and further investigation in this area are required to get the clear picture.

Finally fifth hypothesis indicates that company website, Email, Video conferencing, E-library, Internet and Electronic bulletin board is widely adopted and utilised in the Turkish textile and apparel industries and are useful for knowledge transfer. In chapter 7, strong correlation were obtained for company's website, email and internet and weak correlation for video conferencing and E-library with KT. Crosstabulation showed that 62.3% indicated that they are using company's website for KT. In case of email it was 56.22%. 63.39% respondents considered video conferencing as an important IT tool but they are not using it for KT. This is due to their unawareness of the benefits of this technology for KT. In case of E-library 76.89% considered that this technology is not useful for KT. Majority 67.92% considered internet as useful IT resource but only 35.09% are using it for KT as they consider that this may impede their secrecy and some of the secret information can be passed through internet. 52.44% of the people consider electronic board as useful for KT but only 36.22% are using it for knowledge transfer activities. These results for this hypothesis is also in line with the results shown in chapter 6 where more than 50% respondents considered these IT resources are important for knowledge sharing. This technology is mostly used for conveying an important message from owner or manager to employees. These findings are explained based on the results of the research, interviews with employees and owners or managers in the SMEs, and opinions and results of other research offered in the literature. To visualise these findings in a better and comprehensive way, the determinants selected through statistical analysis important for knowledge transfer in Turkish textile and apparel industries under different themes are shown in Figure 8.1.

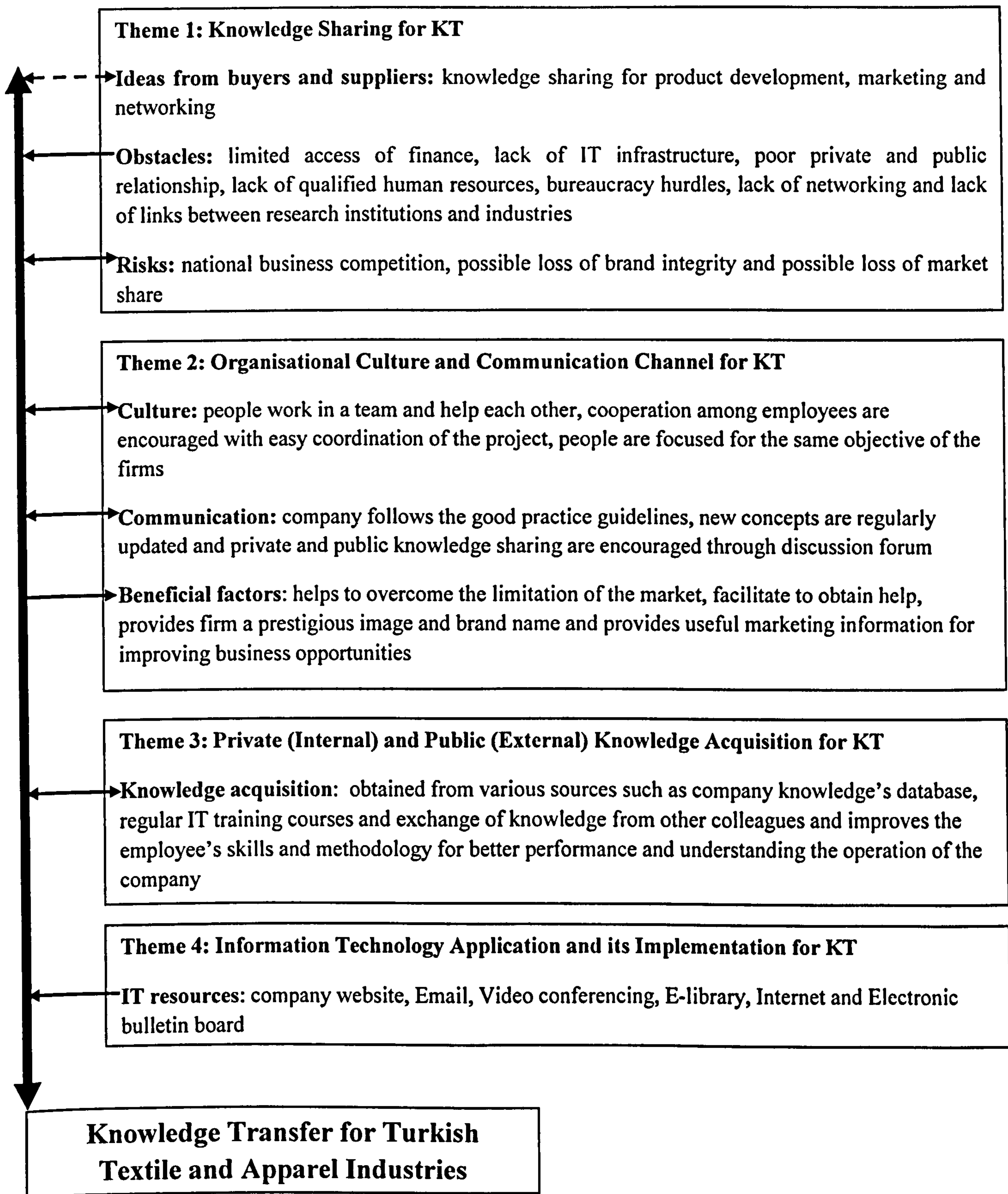


Figure 8.1: Determinants for Knowledge Transfer in Turkish Textile and Apparel Industries

8.3: Limitations of the Study

This study provides an insight into the Turkish textile and apparel industries and establishing the qualitative and quantitative approach to find out the important determinants for knowledge transfer activities and was conducted using standard procedures. A number of limitations, however, are noted for this study:

- All information used in the study was gathered through one survey instrument completed by respondents. Thus the limitation of common-method bias and self-report bias apply to this study to a certain degree, again quite typical for such studies.
- Textile and apparel industries are one of the biggest manufacturing industries in Turkey and data collected for analysis were from only 265 respondents. The response might not thus truly representative of the whole Turkey and the findings may not be generalised at large.
- The study was conducted only in the four big cities (Istanbul, Ankara, Bursa and Izmir) but textile and apparel industries in Turkey are widespread in small towns and villages and may represent different views for KT.
- As a citizen of Bangladesh and also considering as biggest competitors in textile and apparel industries in the world, it created difficulty to obtain the data from various textile and apparel industries in Turkey who are engaged in import/export and having branches outside Turkey. This study thus mostly recommends the knowledge transfer activities in the in SMEs inside Turkey and may not be true representation.
- A further methodological issue relates to the use of two questionnaire surveys (paper based and online). Although the approach used ensured that responses from employees were not biased and helped to achieve a good response rate, it also meant that the validity of inter-survey comparisons might be affected.

- One of the limitations of this research is the complexity of the terms used for knowledge transfer in Turkish textile and apparel industries and was narrowed down sometimes for the purpose of the study.

8.4: Further Recommendations

A number of recommendations, which follow from this initial study, are made below for future research:

- This study can be extended to study the knowledge transfer activities in any SMEs discipline.
- A larger study might be conducted by adding the parameter to study the knowledge transfer mechanism in any big enterprises.
- This study can be used to make a comparison of knowledge transfer activities in SMEs either in the same country or several developing countries.
- Several recommendations have come out of this work, particularly for the Turkey textile and apparel industries. Some of the important factors not considered in KT for Turkish textile and apparel industries because of the present environment and the management might consider it to adopt to have a competitive edge. A few recommendations are:
 - Identification of important knowledge within the organisation and creating a database and environment to share it in an efficient way;
 - Capturing, Collecting and managing best practices that can be used/reused; and
 - Providing channels of communication either socially or electronically for knowledge transfer to take place.

8.5: Concluding Remark

Understanding knowledge transfer activities in a broader perspective is both beneficial and important because it provides a set of tools and a visualisation that allows better understanding and certain interventions if needed. Elements including knowledge sharing, organisational culture, communication channel, knowledge acquisition and IT technology played a big role in this study in discovering the knowledge transfer activities in Turkish SMEs.

A vast majority of the Turkish textile and apparel industries are run as a family business and they mostly rely on old technology and also are reluctant to change. Owners or managers do not consider that KT is important for the success of their business and want to prevent outflow of knowledge from the company. This also puts barriers in acquiring knowledge from outside, and makes knowledge transfer activities even harder. This study proposed four themes necessary for the success of KT and illustrated the important determinants used to achieve effective knowledge transfer in Turkish textile and apparel industries. Although many factors considered in literature reviews were found not important in the context of Turkish textile and apparel industries but are sufficient at present to influence the other textile and apparel industries to start the knowledge transfer activities in their organisation. They require to shed their conservative approach and to adopt best practices from all over the world to survive in today's rapidly evolving global market with intense competition. The textile and apparel industry in Turkey must adopt the knowledge transfer activities and this will both help and enforce them to improve continuously.

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Appendices

Appendix A

Face to face interview feedbacks for qualitative research



UNIVERSITY OF PLYMOUTH BUSINESS SCHOOL

Interviews

The Determinants of Knowledge Transfer in Turkish Textile and Apparel Industry

Türk Tekstil ve Hazır Giyim Endüstrisinde Bilgi Transferin Belirleyicileri

Researcher/ Arařtırmacı:

Dababrata N. Chowdhury

University of Plymouth Business School

The United Kingdom

Supervisor/ Danıřman:

Dr. Lynne Butel

Principal Lecturer in Strategic Management

University of Plymouth Business School.

Interviews Questions

1) **Name:**

2) **Address:**

3) **Position:**

4) Work experience: İş Tecrübesi

5) Number of people employed: Çalışan Sayısı

6) What are the advantages of doing business in Turkey?

Türkiyede İş Yapma Avantajları Nelerdir?

Ans:

7) Do you share your information with your buyers and suppliers?

Müşteri ve Tedarikçilerinizle Bilgi Paylaşımı Yaparmısınız?

Ans:

8) Do you use modern IT technology for your business?

İşinizde Moder Bilişim Teknolojileri Kullanırmısınız?

Ans:

9) Do you believe trust and collaboration are necessary in the business?

İşinizde Güven ve İşbirliğinin Gerekli olduğuna İnanırmısınız?

Ans:

10) What are the most important obstacles in Knowledge Transfer (Idea Sharing) to SMEs in Turkey?

Türkiyede faaliyet gösteren KOBİ'lerde Bilgi Transferinin en Önemli Engelleri Nelerdir?

Ans:

11) Why do you think Knowledge Transfer (Sharing Ideas) in SMEs is important?

Niçin KOBİ'lerde Bilgi Transferinin Önemli Olduğunu Düşünüyorsunuz?

Ans:

12) Do you think that communications/Networks is necessary for sharing ideas?

Fikir Paylaşımı için iletişimin gerekli olduğunu düşünürmüsünüz?

Ans:

13) Do you consider that acquisition of knowledge is beneficial for the business?

İş için bilginin elde edilmesini göz önüne alırmısınız?

Ans:

14) Do you use private and public knowledge in your company to develop any product?

Şirketinizde herhangi bir ürünün geliştirilmesi için Özel veya Kamuya ait bilgileri kullanırmısınız?

Ans:

15) Why do you think knowledge sharing is risky for your business? Niçin bilgi paylaşımının riskli olduğunu şirketiniz için düşünürsünüz?

Overall Summary of the Interview with Respondents

1)Name

2)Address

3)Position

4) Work experience

The average work experience of the interviewees is 6 years.

5) Number of people employed

The interviewees, on average, employed 40 people in their work place.

6) What are the advantages of doing business in Turkey?

Majority of the interviewees opined that Turkey's geostrategic location is an important advantage of doing business there. As Turkey is in the middle of Europe and Asia, it has a dual advantage of conducting business with both Europe and Asia. The interviewees also cited the benefits of Turkey's common language and a strong governmental support provided to SMEs as other advantages of doing business in Turkey.

7) Do you share your information with your buyers and suppliers?

An overwhelming majority of interviewees (12 buyers and 15 suppliers) agreed that they shared their information with their buyers and suppliers to improve their product quality. The suppliers (15/18) tend to share their information more than the buyers (12/18). This could be attributed to the fact that the suppliers are in the downstream of the supply chain responsible for ensuring the product quality.

8) Do you use modern IT technology for your business?

A majority of the interviewees use information and communication technology in their businesses. As SMEs are not well endowed with resources, they tend to use information and communication technology tools extensively to advertise their products and to collect the orders. As cost is an important element in influencing the choice of ICT tools, a majority of interviewees suggested that they use cost-effective ICT tools such as internet (17), email (15), website (10), and internet electronic bulletin board (10). Interviewees also reported to use video conferencing tools though not very widely (8).

9) Do you believe trust and collaboration are necessary in the business?

This question elicited a mixed response from the interviewees. The trust is considered to be an important element between the partners to facilitate collaboration. Although more than half of the interviewees (10) agreed for the need for collaboration between the partners, only a third of the interviewees (6) agreed for the need for trust between the partners. This contrast could be attributed to the cultural elements in Turkey.

10) What are the most important obstacles in Knowledge Transfer (Idea Sharing) to SMEs in Turkey?

The interviewees identified lack of trust and lack of finance as important obstacles to knowledge transfer between SMEs in Turkey. A minority of the interviewees also suggested lack of IT support (2), lack of qualified human resource (1), and the non-cooperation from the government (3) as other obstacles to knowledge transfer between the partners in Turkey.

11) Why do you think Knowledge Transfer (Sharing Ideas) in SMEs is important?

Many interviewees agreed that there was a need for sharing ideas between the SMEs to reach the goals easily and quickly. As the operational domain of most of the buyers and suppliers are in the small and medium sized enterprises, the interviewees felt that it was all the more important to share the ideas between them.

12) Do you think that communications is necessary for sharing ideas?

An overwhelming majority of the partners (16) agreed for the need for enhanced communications for sharing ideas. Though there is a lack of trust between the partners in Turkish SMEs, the partners understood the need for collaboration and enhanced communications to share the ideas between them.

13) Do you consider that acquisition of knowledge is beneficial for the business?

Majority of interviewees (14) agreed that the acquisition of knowledge is beneficial for their businesses and can be a valuable asset.

14) Do you use private and public knowledge in your company to develop any product?

The interviewees suggested that they share both private and public knowledge to develop a product as it helps them to share and exchange ideas.

15) Why do you think knowledge sharing is risky for your business?

Some of the interviewees argued that knowledge sharing could be risky for them. They argued that the risk may be due to incorrect information from the partners which could lead them to an unfamiliar business practice in their organisations.

Appendix B

Paper based questionnaires for quantitative analysis

(English version)



Questionnaire

Title:

The Determinants of Knowledge Transfer Mechanism for Turkish Textile and Apparel Industry

By

Dababrata N. Chowdhury

University of Plymouth Business School

United Kingdom.

Supervisor

Dr. Lynne Butel

Principal Lecturer in Strategic Management

University of Plymouth Business School.

Dear Sir/Madam

Thank you for your time taking this survey. This research aims to identify Knowledge Transfer Process and Networking. I want to discover how important Knowledge Transfer is in Turkish SMEs, to compare Knowledge Transfer strategies deployed in textile firms and finally to understand the impact of IT on Knowledge Transfer between Europe and Asia and within Turkey. This questionnaire is a necessary tool to complete my PhD in Business and Management from the University of Plymouth, UK.

Accordingly, the enclosed questionnaire is designed to benefit from your distinguished experience, and to discover your views on the currently used knowledge transfer processes and network techniques in Small and Medium sized Enterprises in Turkey.

This questionnaire is classified in to 7 sections. The first section is about you, the second section is about your company, the third section is about your business views, section four is about Knowledge Transfer/Information Sharing, section five is about Information Technology Implementation, section six is on Organization Culture and Communication and finally seventh section is on level of internal/external knowledge acquisition

All information will be treated in the strictest confidence. No data will be published which can be identified as a specific response from your organization. There are no right or wrong answers, your opinions/facts are what you already use in your organizations. So, your participation is highly valuable for my research.

As a way of expressing gratitude for your co-operation in completing this survey, I will be happy to send you a copy of the survey results. If you would like to have a copy of the results, please fill in your details at the end of the questionnaire.

Finally, if you have any queries or would have further information please do not hesitate to contact me on my e-mail addresses:

daba.chowdhury@plymouth.ac.uk

or

Phone: +44 (0)7930926374

Or contact my Supervisor Dr. L. Butel on Lynne.Butel@plymouth.ac.uk

Or phone -0044(0)1752-232868

Thank you very much for your assistance and co-operation with me in this research.

Yours Sincerely

Daba Brata Chowdhury

If there is any question you prefer not to answer please leave it blank and proceed to the next question.

Section 1)

Personal Information

1) Please select your gender:

Female Male

2) Age Group: (Please select appropriate)

20 or less 21-25 Years 26-30 Years 31-35 Years 36 or more

3) Education level: (Please select appropriate)

School High School College education

Further education Higher/University education Postgraduate

Doctorate No Formal Education

4) What is your nationality?

5) Your working position in this company:

Administrative Staff Technical Staff Line Manager

Junior Manager Senior Manager Owner

Temporary Staff Others – Please Specify _____

6) Work experience: (Please select appropriate)

Less than a year 1- 5 Years 6-10 Years 11-15 Years 16 or more

7) Languages you speak and understand (Please select all that applies)

English Turkish Kurdish French

- German Arabic Spanish

Others – Please Specify _____

8) Racial/ethnic group you belong to:

- Turk Kurt Arab Arab-Turk
- Asian European Rest of the world

Section 2)

Company Information

1) Company Operation

- 0-3 Years 4-6 Years
- 7-10 Years More than 10 Years

2) Number of people employed

- 0-50 50-100 100-200 Above 200

3) Your company's ownership:

- Liability Ltd Company Joint Venture Company
- Private Company Joint Stock Company
- State-Owned Enterprise Others – Please Specify _____

4) Does your company have a website? (For example: www.mycompany.com)

- Yes (Please specify: _____) No

5) If yes to Question 4, what does your company mainly use it for?

- Marketing Sharing ideas with other companies
- Selling/buying goods Quick Communication
- Above all Others (Please specify: _____)

6) How does your company get itself identified in Europe and Asia?

- Trade Fair Via Trade Organization
 Website marketing Seminars
 Media Advertisements (For example: Newspapers, TV, Radio etc.,)
 Above all Others (Please specify: _____)

7) Does your company have any branches? (If no, skip to Section 3)

- Yes No

8) How many branches does your company have?

- Less than 2 3-5 6-10 More than 10

9) How many branches does your company have in Turkey and abroad?

- Less than 2 3-5 6-10 More than 10

10) Where is the location of your company's Head Office?

- Europe Asia Middle-East
 Turkey Other (Please specify: _____)

Section 3)

Business Views

1) What are the advantages of doing business in Turkey? (Please select all that applies)

- Economic Labour Lower Tax Government Support
 Common Language Geography Easy Communication
 Others – Please Specify _____

2) What is your experience of business in Turkey in recent years and elaborate your answer.

- Unsatisfactory Fair Good Excellent

3) What are the future plans to develop your business if any:

- Improving Information Technology (IT)
- Improving Quality Control Systems
- Improving marketing strategies
- Human Resource Development
- No future plans
- Others – Please Specify _____

Section 4)

Knowledge Transfer/Information Sharing

1) Do you share your business ideas with buyers?

- Yes
- No

2) If yes to Question 1, whom does it share with?

- Buyers not involved during product development stage
- Buyers involved in early stage of product development
- Buyers engaged in ongoing involvement throughout product development
- Buyers who are important according to our knowledge
- Others (Please Specify _____)

3) Do you share your business ideas with suppliers?

- Yes
- No

4) If yes to Question 3, whom does it share with?

- Suppliers not involved during product development stage
- Suppliers involved in early stage of product development

Suppliers engaged in ongoing involvement throughout product development

Suppliers who are important according to our knowledge

Others (Please Specify _____)

5) Do you share your business ideas with other organizations?

Universities/HE organizations

Private research organizations

Trade Associations

Government/ Public research organizations.

Others

Not sharing ideas at all

6) If yes to question 5, does your business share ideas with the following countries?

With European Countries

With Asian Countries

Both European and Asian Countries With other Countries

7) Do you share your business ideas with competitors based in?

Europe

Turkey

Asia

Rest of the world

Not sharing ideas at all

8) When you need information or advice in Turkey beyond your own resources, who is generally the first person/organisation you contact? (Please select all that applies)

Universities/HE organizations

Private research organizations

Trade Associations

Government/ Public research organizations.

Chamber of Commerce

Not taking advice at all

Bank

Others (Please Specify _____)

9) What type of information/resources do you share with Europe and Asian countries? (Please select all that applies)

Finance (Banking, Loans, Profit/loss, turnover etc)

Management (Strategy, Management Style, Leadership, Unions etc)

IT (Modern technology, Computer Networks, Databases, Internet etc)

HR (Recruitment/Elimination process, Salary, promotions/demotions etc)

None

Not Aware

10) Have you deployed any secured method for information/knowledge transfer? (Please select all that applies)

Barcodes

Computer Cryptography

Copyrights

Patents

None

Not Aware

11) What are the most important obstacles in Knowledge Transfer (Idea Sharing) for SMEs in Turkey? (Please select all that applies)

	Strongly Disagree 1	Somewhat Disagree 2	Neutral 3	Somewhat Agree 4	Strongly Agree 5
Limited Access to Finance					
Lack of IT infrastructure					
Poor Private and Public relationship in SMEs					
Lack of Qualified Human Resource					
Bureaucracy hurdles					
Lack of networking					
Lack of strong links between research and Industry					

12) Why do you think Knowledge Transfer (Sharing Ideas) in SMEs is important?

Section 5)

Information Technology Implementation

1) Which method of information storage does your company currently use?

- Computer-based applications Paper based
 Mixed of IT and Papers None

2) Is your organization equipped with modern IT communication technologies (example: Voice over IP communication systems, Intranet e-mail system, Virtual Private Network (VPN) connection etc)?

- Yes No Not Sure

3) In general, which applications of IT do you find most useful for idea sharing?

	Not Useful 1	Somewhat Useful 2	Neutral 3	Useful 4	Very Useful 5
Company's Website					
Email					
Video Conferencing					
E-Library					
Internet					
Internal Electronic Bulletin Board					

4) In your opinion, how good are IT applications used by employees inside your organization?

	Not Good 1	Somewhat Good 2	Neutral 3	Good 4	Very Good 5
Company's Website					
Email					
Video Conferencing					
E-Library					
Internet					
Internal Electronic Bulletin Board					

5) What kind of IT resource do you rely on when you need information regarding a specific topic? (Please select all that applies)

- Search Internet
 Use personal, existing knowledge
 Search on e-library
 Discuss with colleagues via email
 Search company's databases
 Others (Please specify: _____)

6) How frequently do you use the E-mail per day?

- Less than 5 mail
 5-10 mail
 10-20 mail
 More than 20 mail
 Not using email at all

7) Do you think the E-mail system is an effective form of communication for your organization?

- Yes
 No

8) How did the application of IT support the process of knowledge transfer in your organization?

	Strongly Disagree 1	Somewhat Disagree 2	Neutral 3	Somewhat Agree 4	Strongly Agree 5
The process of exchanging knowledge is easier					
The space and time constraints in communication is decreased					
The knowledge storage capacity is increased					
The speed of transferring and acquiring information is significantly increased					

Section 6)

Organizational culture and Communication

Please select your appropriate view for the following questions related to your organizational culture and communication.

Question 1)

	Not Important	Somehow Important	Neutral	Important	Extremely important
1. People work like they are part of a team aimed at a particular task.					
2. People here help each another and try to keep their relationships strong.					
3. Cooperation among employees across different departments of the company is actively encouraged.					

4. Work is organized so that each person can see the relationship between his or her job and the goals of the company.					
5. Information is widely shared so that everyone can get the same information.					
6. People in our group/department often socialise outside the office.					
7. It is easy to coordinate projects across different parts of the company.					
8. People understand and share the same business objectives.					
9. Overall, company atmosphere is open and friendly.					

Question 2)

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. The company's aims, objectives and strategies are clearly written and communicated with all employees.					
2. The company's policies are clearly communicated with all employees.					
3. Good work practice guidelines are regularly updated in my company.					
4. Knowledge on new concepts in the company are well created and periodically circulated.					
5. The data and information are circulated on a regular basis through both electrical and traditional information channels.					
6. Private/Public discussion forum is organized in the company on time basis in order to encourage knowledge sharing.					

Section 7)

Level of Private (Internal) and Public (External) Knowledge Acquisition

Please note: Private Knowledge means ideas that are shared only within your organization and Public Knowledge means ideas that are shared or discussed between two or more organizations and is easy to access)

1) Do you use private and public knowledge in your company to develop any product?

Private Knowledge/in-house ideas Public Knowledge/outside ideas.

Neither

Mixture of Private and Public Knowledge

Not Sure

2) Please select your appropriate view for the following questions related to the level of knowledge acquisition in your organization.

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1. I gained adequate professional experience from public/other companies.					
2. I learnt adequate new skills and methodology for better task performance from my company					
3. I gained adequate ideas and thoroughly understand the operation process inside the company.					
4. I learnt adequate knowledge from company's knowledge databases.					
5. I learnt adequate Information Technology (IT) concepts by attending regular training programmes.					
6. I usually interact with others in person in order to exchange knowledge.					

3) Please select your appropriate view for the following questions related to the benefits of knowledge sharing.

The benefits from knowledge Sharing are:	Strongly Disagree 1	Somewh at Disagree 2	Neutral 3	Somewh at Agree 4	Strongly Agree 5
It overcomes the limitation of market size					
It adds to the firm's overall communication					
It is easy to get help from others					
It gives the firm a prestigious image/brand name					
It allows easy marketing throughout Europe and Asia.					
It improves business opportunities					
It provides useful marketing information					

4) Please select your appropriate view for the following questions related to the risks of knowledge sharing for external knowledge.

Knowledge Transfer is risky due to:	Strongly Disagree 1	Somewhat Disagree 2	Neutral 3	Somewhat Agree 4	Strongly Agree 5
Incorrect market information					
Confusing import/export regulations					
National business competition					
Unfamiliar foreign business practices					
Possible loss of brand integrity					
Possible loss of business market share					

Comments and Feedback

If you have any comments that you wish to express regarding this questionnaire, please write them in the space below, *(continue on a separate sheet if necessary)*.

If you would like to be informed of the results of this survey, please supply your contact details below.

Your Name:

Name of Company:

.....

Address:

.....

.....

Country: Postcode.....

Please return the completed questionnaire in the enclosed pre-paid envelope to:

Dababrata Chowdhury

12 konkur Evleri. Merter

Istanbul. Turkey.

(Turkish version)



Anket

Türk Tekstil ve Hazır Giyim Endüstrisinde Bilgi Transferin Belirleyicileri

Researcher/ Arařtırmacı:

Dababrata N. Chowdhury

University of Plymouth Business School

The United Kingdom

Supervisor/ Danıřman:

Dr. Lynne Butel

Principal Lecturer in Strategic Management

University of Plymouth Business School.

Sayın ilgili,

Bu ankete zaman ayırdığınız için öncelikle teşekkür ederim. Bu araştırmanın amacı, bilgi transferi sürecini tanımlamak, Türkiye'deki küçük ve orta ölçekli işletmelerde bilgi transferinin önemini kavramak ve tekstil de kullanılan bilgi transferi stratejilerini karşılaştırmaktır. Sonuç olarak da Avrupa ve Asya arasında ve Türkiye içinde bilgi transferinde Bilgi Teknolojisinin etkisi ispatlanacaktır. Bu anket İngilterede bulunan Plymouth Üniversitesi' ndeki doktora diplomamı almamda önemli bir araçtır.

Ekte bulunan anket, sizin şu anda Türkiye'de küçük ve orta ölçekli işletmelerde kullanılmakta olan bilgi transferi süreçleri üzerine tecrübelerinizi ve görüşlerinizi içine alacak şekilde tasarlanmıştır.

Ankette yer alan 7 bölüm aşağıdaki şekildedir:

1. Bölüm : Kişisel bilgiler
2. Bölüm : şirket Bilgileri
3. Bölüm : İş hayatına bakış açısı
4. Bölüm : Bilgi transferi ve paylaşımı
5. Bölüm : Bilgi teknolojisinin gerçekleştirimi
6. Bölüm : Organizasyon kültürü ve iletişim
7. Bölüm : İç/Dış bilgi edinme seviyesi

Bütün bilgiler gizlilik prensipleri içinde tutulacaktır. Sizin izniniz olmadan hiçbir veri yayımlanmayacaktır. Bu ankette, kesin olarak doğru yada yanlış cevap yoktur,

sadece sizin görüşleriniz veya organizasyonunuzda kullanıyor olduğunuz gerçekler bulunmaktadır. Bundan dolayı, katılımınız araştırmam açısından oldukça önemlidir.

Katılımınıza minnettarlık olarak, bu anketin bir kopYaşını göndermekten memnun olurum. Eğer anketin sonuçlarını almak istiyorsanız, lütfen anket sonundaki "iletişim bilgileri"

Bölümünü doldurunuz.

Sonuç olarak, eğer herhangi bir sorunuz varsa, veya daha fazla bilgi almak istiyorsanız, lütfen aşağıdaki iletişim bilgilerimden bizimle irtibata geçiniz.

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Bu arařtırmaya katılımınız ve iřbirliđiniz için çok tesekkür ederim.

Saygılarımla,

Daba Brata Chowdhury

Eđer herhangi bir soruya cevap vermek istemezseniz lütfen boş bırakıp diđer soruya geçiniz.

Bölüm 1)

Kişisel Bilgiler

1) Cinsiyetinizi seçiniz:

Bayan Bay

2) Yaş grubu: (Uygun olanı seçiniz)

20 veya altı 21-25 26-30 31-35 36 ve üstü

3) Eğitim seviyesi: (Uygun olanı seçiniz)

ilkokul ortaokul Kolej/lise

onlisans Üniversite Master

Doktora Eğitimsiz

4) Milliyetiniz?

T.C. Diđer..... (lütfen belirtiniz)

5) Şirketteki pozisyonunuz:

- Yönetim Personeli Teknik personel Müdür
 Orta Kademe Müdür Direktor Şirket Sahibi
 Geçici personel Diğer - Belirtiniz _____

6) İş deneyimi:

- 1 yıldan az 1-5 Yıl 6-10 Yıl 11-15 Yıl 16 ve üstü

7) Konuşabildiğiniz veya anlayabildiğiniz diller

- İngilizce Türkçe Fransızca Almanca
 İspanyolca Diğer- Lütfen belirtiniz : _____

8) Etnik grup:

- Türk Kürt Arap Arap-Türk
 Asyalı Avrupalı Laz Çerkez
 Diğer

Bölüm 2)

Şirket Bilgileri

1) Kuruluşundan buyana hizmette bulunduğu yıl

- 0-3 Yıl 4-6 Yıl 7-10 Yıl 11 yıl ve üstü

2) Personel sayısı

- 0-50 50-100 100-200 Above 200

3) Şirket şekli:

- limited şirket Ortakli Şirket özel şirket
 anonim şirket Kamu kurumu Diğer _____

4) Şirketin web sitesi var mı? (Örneğin : www.mycompany.com)

- Evet (Lütfen belirtiniz: _____) Hayır

5) Eğer şirketin web sitesi varsa, bu en çok ne amaçla kullanılmaktadır?

- Pazarlama Diğer şirketlerle bilgi paylaşımı
 Alım/Satım Hızlı iletişim
 Hepsi Diğer (Lütfen belirtiniz: _____)

6) Şirket kendisini Asya ve Avrupa da nasıl tanıtılmaktadır?

- Ticaret fuarı Ticari organizasyon Websitesi
 Seminerler Medya Reklamları (Ornek: Gazate, TV, Radyo etc.,)
 Hepsi Diğer (Lütfen belirtiniz: _____)

7) Şirketin herhangi bir şubesi var mı? (Yoksa 3. Bölüme geçiniz)

- Evet Hayır

8) Şirketin kaç şubesi var?

- 2den az 3-5 6-10 10 ve üstü

9) Şirketin Türkiye içinde ve yurt dışında kaç şubesi bulunmaktadır?

- 2den az 3-5 6-10 10 ve üstü

10) Şirketin Yönetim ofisi nerededir?

- Avrupa Asya Orta-dogu
 Türkiye Diğer (Lütfen belirtiniz: _____)

Bölüm 3)

Ticari görüş

1) Türkiye de ticaret yapmanın avantajları nelerdir? (Lütfen uygun tüm seçenekleri işaretleyiniz)

- Ekonomik işgücü Düşük vergi Hükümet desteği
- Ortak dil Coğrafya Kolay iletişim
- Diğer – Lütfen belirtiniz _____

2) Son yıllarda Türkiye'deki ticari deneyiminizi nasıl değerlendiriyorsunuz? Lütfen boş bırakılan yere kısaca açıklayınız.

- Kötü orta iyi mükemmel
- _____
- _____

3) Eğer varsa, ticaretinizi geliştirmedeki gelecek planlarınız nelerdir:

- Bilgi teknolojisini geliştirmek Kalite kontrol sistemini geliştirmek
- Pazarlama stratejileri geliştirmek İnsan kaynakları sistemi kurmak
- Gelecek plan yok Diğer– Lütfen belirtiniz : _____

Bölüm 4)

Bilgi paylaşımı/transferi

1) İş fikirlerinizi alıcılarla paylaşıyor musunuz?

- Evet Hayır

2) Eğer 1. soruya evet dediyseniz, kimlerle paylaşıyorsunuz?

- Ürünün geliştirme sürecine katılmayan alıcılarla,
- Ürünün geliştirme sürecinin ilk aşamalarına katılan alıcılarla,
- Ürünün tüm geliştirme safhalarında aktif rol alan alıcılarla,
- Önemli gördüğümüz alıcılarla,
- Diğer (Lütfen belirtiniz _____)

3) İş fikirlerinizi tedarikçilerle paylaşıyor musunuz?

- Evet
- Hayır

4) Eğer 3. soruya cevabınız evet ise, kimlerle paylaşıyorsunuz?

- Ürünün geliştirme sürecine katılmayan tedarikçilerle,
- Ürünün geliştirme sürecinin ilk aşamalarına katılan tedarikçilerle,
- Ürünün tüm geliştirme safhalarında aktif rol alan tedarikçilerle,
- Önemli gördüğümüz tedarikçilerle,
- Diğer (Lütfen belirtiniz _____)

5) İş fikirlerinizi Diğer organizasyonlarla paylaşıyor musunuz?

- Üniversiteler
- Özel araştırma kurumları
- Ticari dernekler
- Devlet/ Kamu araştırma kurumları
- Diğer
- Bilgi paylaşımı yok

6) Eğer 5. soruya evet cevabi verilmişse, iş fikirlerinizi aşağıdaki ülkelerle paylaşıyor musunuz?

- Avrupa ülkeleri
- Asya ülkeleri
- Avrupa ve Asya ülkeleri
- Diğer ülkeler(Lütfen belirtiniz _____)

7) Fikirlerinizi, aşağıdaki coğrafyada bulunan rakiplerinizle paylaşıyor musunuz?

- Avrupa Türkiye Asya
- Dünyanın Diğer kesimleri (Lütfen belirtiniz _____)
- Fikir paylaşımı yok

8) Kendi kaynaklarınız otesinde bir bilgiye ihtiyaç duyduğunuzda, ilk iletişim kurdüğünüz Kişi veya organizasyon hangisidir? (Lütfen uygun tüm seçenekleri işaretleyiniz)

- Üniversiteler Özel araştırma kurumları
- Ticaret dernekleri Devlet/ kamu araştırma kurumları
- Ticaret odaları Bilgi alımı yok
- Banka Diğer (Lütfen belirtiniz _____)

9) Asya ve Avrupa ülkeleri ile ne tür bilgi/kaynak paylaşıyorsunuz?

- Finans (Bankacılık, Kredi, kar/zarar, is miktarı gibi)
- Yönetim (Strateji, Yönetim şekli, Liderlik, sendikalar, vs.)
- IT (Modern teknoloji, Bilgisayar ağları, Veritabanları, İnternet gibi)
- İnsan kaynakları (İşe alım/ eleme süresi, maaş, promosyon)
- Hiçbiri

10) Bilgi transferi için herhangi bir güvenli metod kullandınız mı?

- Barkod Bilgisayar Sifreleme Telif Hakkı
- Patent Hiçbiri

11) Türkiye'deki küçük ve orta ölçekli işletmelerin bilgi transferi ile ilgili en önemli sorunları nelerdir?
(Lütfen uygun seçenekleri işaretleyiniz)

	Kesinlikle katılmıyorum 1	Kısmen katılmıyorum 2	Yorumsuz 3	Kısmen katılıyorum 4	Kesinlikle katılıyorum 5
Finansa sınırlı erişim					
Bilgi teknolojileri altyapısının eksikliği					
özel ve kamu ilişkilerinin zayıflığı					
Kalifiye işgücü yetersizliği					
Bürokrasi işleyişinin yetersizliği					
Bilginin/ iletişim ağlarının yetersizliği					
Endüstri ile araştırma şirketleri ve üniversiteler arasındaki güçlü ilişkinin yetersiz olması					
Pazarlamada Yaşanan sorunlar					
Hizmet kalitesini etkileyen sorunlar (ulaşım, depolama, paketleme vs.)					
Yeni pazarlara ulaşmadaki sınırlamalar					
Müşteriye ulaşmada Yaşanan zorluklar					

12) Sizce küçük ve orta ölçekli işletmelerde bilgi transferi (fikir paylaşımı) neden önemlidir? (aşağıdaki Bölüme kısaca açıklayınız)

.....

.....
.....
.....

Bölüm 5)

Bilişim Teknolojileri Uygulaması

1) Şirketinizde bilgi depolama amacı ile hangi yöntem kullanılmaktadır?

- Bilgisayar tabanlı yazılımlar Kağıt
 IT ve Kağıt birlikte Hiçbiri

2) Organizasyonunuzda modern iletişim teknolojileri kullanılıyor mu? (Örneğin VoIP, Intranet, e-posta sistemi, VPN' vs.)

- Evet Hayır Emin değil

3) Genel olarak bilgi paylaşımında ne tür bilişim uygulamalarını Kullanışlı buluyorsunuz?

	Kullanışsız 1	Kısmen Kullanışlı 2	EtKisiz 3	Kullanışlı 4	Oldukça Kullanışlı 5
Şirket Web sitesi					
Eposta					
Video Konferans					
E-Kütüphane					
İnternet					
Şirket içi Elektronik Bulten Sistemi					

4) Size göre, Bilişim uygulamaları çalışanlar tarafından yeterince iyi kullanılıyor mu?

	Yetersiz 1	Kısmen yeterli 2	EtKisiz 3	Yeterli 4	Oldukça Yeterli 5
Şirket Web sitesi					
Eposta					
Video Konferans					
E-Kütüphane					
İnternet					
Şirket içi Elektronik Bulten Sistemi					

5) Belirli bir konuda bilgiye ihtiyacınız olduğunda hangi tür Bilişim kaynaklarına güvenirsiniz?

- İnternette Arama
 Mevcut Kişisel bilgi kullanımı
 E-Kütüphanede arama
 çalışma arkadaşları ile Eposta yoluyla tartışma
 Şirket veritabanında arama
 Diğer(Lütfen belirtiniz: _____)

6) E-posta sisteminizi günde ne sıklıkla kullanmaktasınız?

- 5ten az e-posta
 5-10 e-posta
 11-20 e-posta
 21 ve üzeri
 E-mail kullanmıyorum

7) E-posta sisteminin, organizasyonunuz için etkili bir iletişim yöntemi olduğunu düşünüyor musunuz?

- Evet
 Hayır

8) Şirketteki IT uygulamaları destek birimi bilgi transferi sürecini nasıl desteklemektedir?

	Kesinlikle katılmıyorum 1	Kısmen katılmıyorum 2	Yorumsuz 3	Kısmen katılıyorum 4	Kesinlikle katılıyorum 5
Bilgi değişimi daha kolaydır.					

İletişimdeki zaman ve yer Kısıtlaması azaltıldı.					
Bilgi depolama kapasitesi artırıldı					
Bilginin elde edilmesi ve transferi Oldukça hızlandı					

Bölüm 6)

Organizasyon kültürü ve iletişim

Soru 1)

	Kesinlikle katılmıyorum	Kısmen katılım yorum	EtKisiz	Kısmen katılım yorum	Kesinlikle katılıyorum
1. İnsanlar, belirli bir amaca yönelmiş takımın bir parçası olarak çalışırlar..					
2. İnsanlar birbirine yardım eder ve aralarındaki ilişkileri güçlü tutmaya çalışırlar.					
3. Şirketin farklı Bölümlerinde çalışanlar arasındaki işbirliği aktif olarak desteklenmektedir.					
4. İşler, çalışanların kendi işleri ile şirketin hedefi arasında ilişki kurmalarını sağlayacak şekilde organize edilmektedir.					
5. Herkesin aynı bilgiye ulaşmasını sağlayacak şekilde , bilgi paylaşılmaktadır..					
6. Bölümdeki çalışanlar ofis dışında sosyal aktivitelerde bulunurlar.					
7. Şirketin farklı Kısımları arasındaki projeleri organize etmek daha kolaydır.					

8. İnsanlar aynı iş amaçlarını paylaşır ve taşırlar.					
9. Genelde şirket ortamı sıcaktır.					

Question 2)

	Kesinlikle katılmıyorum	Kısmen katılmıyorum	EtKisz	Kısmen katılıyorum	Kesinlikle katılıyorum
1. Şirketin amaç, objektif ve stratejileri açıkça yazılıdır ve tüm çalışanlar tarafından bilinmektedir.					
2. Şirketin politikası tüm çalışanlar tarafından bilinmektedir.					
3. Pratik uygulamalar sürekli olarak şirket içinde güncellenmektedir.					
4. Yeni konseptler iyi oluşturulmakta ve şirket içinde periyodik olarak dağıtılmaktadır.					
5. Veri ve bilgi belirli sıklıklarla elektronik ve geleneksel yöntemlerde şirket içinde dağıtılmaktadır.					
6. Bilgi paylaşimini cesaretlendirmek için özel / genel forumlar oluşturulmaktadır..					

Bölüm 7)

Ozel ve kamusal Bilgi Edinimi Seviyesi

Lütfen dikkat: Özel bilgi, kendi organizasyonunuz içinde paylaşılan; kamusal bilgi ise bir veya daha fazla oraganizasyon arasında paylaşılan veya tartışılan bilgi anlamına gelmektedir)

1) Şirketinizde özel ve genel bilgiyi ürün geliştirmede kullanır mısınız?

Özel bilgi

kamusal bilgiler.

Hiçbiri

Özel ve kamusal bilgi karisimi

Kesin deęil

2)

	Kesinlikle katılmıyorum	Kısmen katılmıyorum	EtKisz	Kısmen katılıyorum	Kesinlikle katılıyorum
1. kamusal /Dięer Őirketlerden profesyonel bilgi ve beceri kazandım..					
2. Kendi Őirketimden daha performanslı olmak için yeni yöntemler öğrendim.					
3. Őirketten bilginin yanısıra iç operasyon sürecinin nasıl işlediğini öğrendim..					
4. Őirketin bilgi veritabanından çok Őey öğrendim.					
5. Düzenli Eğitim programlarına katılarak çok miktarda BiliŐim teknolojileri kavramları öğrendim.					
6. Bilgi deęiŐimi için genellikle yüzyüze görüşmeyi tercih ederim.					

3)

Bilgi transferinden elde edilen faydalar:	Kesinlikl e katılmıyo rum	Kısmen katılmıyo rum	EtKisiz	Kısmen katılıyoro m	Kesinlikl e katılıyoro m
Pazar hacminin sınırlanmasında işe yarar					
şirketin iletişim altyapısına yardımcı olur					
Diğerlerinden yardım almak kolaylaşır					
firmaya prestij kazandırır					
İş fırsatlarını geliştirir					
paylaşımli bilgi Oldukça etkili hale gelir					
Yararlı pazarlama bilgisi sunar					

4)

Bilgi transferi su acilardan risklidir:	Kesinlikl e katılmıyo rum	Kısmen katılmıyo rum	EtKisiz	Kısmen katılıyoro m	Kesinlikl e katılıyoro m
Yanlış pazar bilgisi					
Anlaması zor ihracat/ithalat kuralları					
Tanıdık olmayan uluslararası uygulamalar					
Markanın muhtemel kaybı					
Pazar payının muhtemel kaybı					
Ulusal is rekabeti					

Yorum ve geribildirimler

Anket hakkında ifade etmek istediğiniz yorum varsa, lütfen aşağıdaki boşluğa yazınız.

Eget anket sonucu hakkında bilgilendirilmek istiyorsanız, lütfen aşağıya iletişim bilgilerinizi yazınız.

Adınız:

Şirketiniz:

Adres:

.....

.....

E-mail : Fax :

Ülke: Postakodu.....

Anketi lütfen aşağıdaki adrese gönderiniz:

Dababrata Chowdhury
12 konkur Evleri. B1-blok. Merter
Istanbul. Turkey.

Appendix C

Website (online) based questionnaires for quantitative analysis

(English version)

Dababrata N. Chowdhury
Business School
University of Plymouth
United Kingdom



The Determinants of Knowledge Transfer in Turkish Textile and Apparel Industry

Section 1

Personal Information

1. Please select your gender:

Female Male

2. Age Group:

20 or less 21 - 25 26 - 30 31 - 35 36 or more

3. Education level: (please select highest achieved)

<input type="radio"/> School	<input type="radio"/> Higher/University education
<input type="radio"/> High School	<input type="radio"/> Postgraduate
<input type="radio"/> College education	<input type="radio"/> Doctorate
<input type="radio"/> Further education	<input type="radio"/> No formal education

4. What is your nationality?

5. Your working position in this company:

- Administrative staff
- Technical staff
- Line Manager
- Junior Manager
- Senior Manager
- Owner
- Temporary staff

5a. Other (please specify)

6. Work experience: (please select appropriate)

- Less than a year
- 1 - 5 years
- 6 - 10 years
- 11 - 15 years
- 16 or more years

7. Languages you speak and understand (please select all that applies)

- English
- Turkish
- Kurdish
- French
- German
- Arabic
- Spanish

7a. Others - please specify

8. Racial/ethnic group you belong to:

- Turk
- Kurt
- Asian
- European

- Arab
- Arab-Turk
- Rest of the world

Section 2

Company Information

9. Company Operation

- 0 - 3 years
- 4 - 6 years
- 7 - 10 years
- More than 10 years

10. Number of people employed

- 0 - 50
- 51 - 99
- 100 - 200
- Above 200

11. Your company's ownership:

- Liability Ltd Company
- Private Company
- State-Owned Enterprise
- Joint Venture Company
- Joint Stock Company

11a. Other (please specify)

▲

✕

▼

12. Does your company have a website? (for example www.mycompany.com)

- Yes
- No

12a. If 'yes' please specify

▲

✕

▼

13. If 'yes' to Question 12, what does your company mainly use it for? (please choose all that apply)

- Marketing
- Selling/buying goods
- Sharing ideas with other companies
- Quick communication

13a. Other (please specify)

14. How does your company get itself identified in Europe and Asia? (please choose all that apply)

- Trade Fair
- Website marketing
- Media Advertisements (e.g newspapers, TV, Radio)
- Via Trade Organisation
- Seminars

14a. Others (please specify)

15. Does your company have any branches?

- Yes
- No

16. How many branches does your company have?

- Less than 2
- 3 - 5
- 6 - 10
- More than 10

17. How many branches does your company have in Turkey and abroad?

- Less than 2
- 3 - 5
- 6 - 10
- More than 10

18. Where is the location of your company's Head Office?

- Europe
- Turkey
- Asia
- Middle East

18a. Other (please specify)

Section 3

Business Views

19. What are the advantages of doing business in Turkey? (please select all that applies)

- | | |
|--|---|
| <input type="checkbox"/> Economic Labour | <input type="checkbox"/> Geography |
| <input type="checkbox"/> Common Language | <input type="checkbox"/> Government Support |
| <input type="checkbox"/> Lower Tax | <input type="checkbox"/> Easy Communication |

19a. Other (please specify)

20. What is your experience of business in Turkey in recent years and elaborate your answer.

- Unsatisfactory Fair Good Excellent

20a. Please elaborate

21. Where are the future plans to develop your business, if any: (please select more than one)

- Improving Information Technology (IT)
- Improving marketing strategies
- Improving Quality Control Systems
- Human Resource Development

21a. Other (please specify)

Section 4

Knowledge Transfer/Information Sharing

22. Do you share your business ideas with your buyers?

- Yes No

23. If 'yes' to Question 23, whom does it share with? (more than one can be selected)

- Buyers not involved during product development stage
- Buyers involved in early stage of product development
- Buyers engaged in ongoing involvement throughout product development
- Buyers who are important according to our knowledge

23a. Other (please specify)

24. Do you share your business ideas with your suppliers?

- Yes No

25. If 'yes' to Question 25, with whom does it share? (more that one can be selected)

- Suppliers not involved during product development stage
- Suppliers involved in early stage of product development
- Suppliers engaged in ongoing involvement throughout product development
- Suppliers who are important according to our knowledge

25a. Other (please specify)

	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>

26. Do you share your business ideas with other organisations? (more than one can be selected)

- University/HE organisations
- Trade Associations
- Private research organisations
- Government/Public research organisations
- Not sharing ideas at all

26a. Other (please specify)

	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>

27. If yes to Question 27, do you share your business ideas with the following countries? (please select all that apply)

- With European Countries
- With Asian Countries
- Both European and Asian Countries
- With other countries
- Not sharing ideas at all

28. Do you share your business ideas with competitors based in: (please select all that apply)

- Europe
- Turkey
- Asia
- Rest of the world
- Not sharing ideas at all

29. When you need information or advice in Turkey beyond your own resources, who is generally the first person/organisation you contact? (please select all that applies)

- Universities/HE organisations
- Trade Associations
- Chamber of Commerce
- Bank
- Private research organisations
- Government/Public research organisations
- Not taking advise at all

29a. Other (please specify)

▲

□

▼

30. What type of information/resources do you share with Europe and Asian countries? (please select all that apply)

- Finance (banking, Loans, Profit/loss,turnover etc.)
- Management (strategy, Management Style, Leadership, Unions etc.)
- IT (modern technology, Computer Networks, Databases, Internet etc.)
- HR (recruitment/elimination process, Salary, Promotions/demotions etc.)
- None
- Not Aware

31. Have you deployed any secured method for information/knowledge transfer? (please select all that apply)

- Barcodes
- Computer Cryptography
- Copyrights
- Patents
- None
- Not Aware

32. What are the most important obstacels in Knowledge Transfer (idea sharing) for SME's in Turkey?

Strongl
y
disagre
e Somewh
at
disagree Neutr
al Somewh
at agree Strongly
agree

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Limited access to finance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of IT infrastructure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor private and public relationship in SMEs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of qualified human resource	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bureaucracy hurdles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of networking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of strong links between research and industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of service quality (transport, warehouse and packaging etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Limited access to new market	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty with customers communicating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. Why do you think Knowledge Transfer (sharing Ideas) in SMEs is important?

▲

▼

Section 5

Information Technology Implementation

34. Which method of information does your company currently use?

- Computer-based applications
- Paper based
- Mixture of IT and paper
- None
- I don't know

35. Is your organisation equipped with modern IT communication technologies (e.g. Voice over IP communications systems, Intranet email system, Virtual Private Network (VPN) connection etc)?

- Yes
- No
- Not sure

36. In general, which applications of IT do you find most useful for idea sharing|?

	Not useful	Somewhat useful	Neutral	Useful	Very useful
Company's website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video conferencing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-Library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internal Electronic Bulletin Board	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. In your opinion, how good are IT applications used by employees inside your organisation?

	Not good	Somewhat good	Neutral	Good	Very good
Company's website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Email	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Conferencing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-Library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internal Electronic Bulletin Board	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

38. What kind of IT resource do you rely on when you need information regarding a specific topic?
(please select all that applies)

- Search Internet
- Search on e-library
- Search company's database
- Use personal, existing knowledge
- Discuss with colleagues via email

38a. Other (please specify)

39. How frequently do you use the E-mail per day?

- Less than 5 mail
- 5 - 10 mail
- 11 - 20 mail
- More than 20 mail
- No using email at all

40. Do you think the E-mail system is an effective form of communication for your organisation?

- Yes
- No

41. How did the application of IT support the process of knowledge transfer in your organisation?

	Strongl y disagre e	Somewh at disagree	Neutr al	Somewh at agree	Strongl y agree
The process of exchanging knowledge is easier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The space and time constraints in communication is decreased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The knowledge storage capacity is increased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The speed of transferring an acquiring information is significantly increased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 6

Organisational culture and Communication

Please select your appropriate view on the following questions related to your organisational culture and communication.

42. Question A

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
People work like they are part of a team aimed at a particular task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People here help each other and try to keep their relationships strong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperation among employees across different departments of the company is actively encouraged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work is organised so that each person can see the relationship between his or her job and the goals of the company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information is widely shared so that everyone has access to the same information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People in our group/department often socialise outside the office	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to coordinate projects across different parts of the company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People understand and share the same business objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, company atmosphere is open and friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

43. Question B

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
The company's aims, objectives and strategies are clearly written and communicated with all employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The company's policies are clearly communicated with all employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Good work practice guidelines are regularly updated in my company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge of new concepts in the company are well created and periodically circulated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The data and information are circulated on a regular basis through both electrical and traditional information channels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Private/Public discussion forum is organised in the company on time basis in order to encourage knowledge sharing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 7

Level of Private (internal) and Public (external) Knowledge Acquisition

Please note: Private Knowledge means ideas that are shared only within your organisation and Public Knowledge means ideas that are shared or discussed between two or more organisations and is easy to access.

44. Do you use private and public knowledge in your company to develop any product?

- Private Knowledge (inhouse)
- Public Knowledge(external)
- Mixture of Private and Public Knowledge
- Neither
- Not sure

45. Please select your appropriate view for the following questions related to the level of knowledge acquisition in your organisation

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I gained a lot of professional experience from public/other companies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
I learnt a lot of new skills and methodology for better task performance from my company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I gained a lot of ideas and thoroughly understand the operational processes inside the company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learnt a lot from the company's knowledge databases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learnt a lot of Information Technology (IT) concepts by attending regular training programmes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually interact with others in person in order to exchange knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your appropriate view for the following questions related to the benefits of knowledge sharing.

46. The benefits from knowledge sharing are:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
It overcomes the limitation of market size	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It adds to the firm's overall communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to get help from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It gives the firm a prestigious image/ brand name	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It allows for easier marketing throughout Europe and Asia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shared knowledge improves business opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It provides useful marketing information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your appropriate view for the following questions related to the risks of knowledge sharing for external knowledge.

47. Knowledge Transfer is risky due to:

	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
Incorrect market information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confusing import/export regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National business competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unfamiliar foreign business practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Possible loss of brand integrity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Possible loss of business market share	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments and Feedback

Comments. If you have any comments that you wish to express regarding this questionnaire, please write them in the space below.

If you would like to be informed of the results of this survey, please supply your contact details below.

Your name

Name of Company

Address

Business Suffix

Country

Postcode

(Turkish version)

Dababrata N. Chowdhury
Business School
University of Plymouth
United Kingdom



Türk Tekstil ve Hazır Giyim Endüstrisinde Bilgi Transferin Belirleyicileri

Bölüm 1) Kişisel Bilgiler

1. Cinsiyetinizi seçiniz:

Bayan Bay

2. Yaş grubu: (Uygun olanı seçiniz)

20 veya altı
 21-25
 26-30
 31-35
 36 ve üstü

3. Eğitim seviyesi: (Uygun olanı seçiniz)

ilkokul Üniversite
 ortaokul Master
 Kolej/lise Doktora
 onlisans Eğitimsiz

4. Milliyetiniz?

5. Şirketteki pozisyonunuz:

- Yönetim Personeli Orta Kademe Müdür
- Teknik personel Direktor
- Müdür Şirket Sahibi.

5a. Diğer - Belirtiniz

6. İş deneyimi:

- 1 yıldan az 11-15 Yıl
- 1- 5 Yıl 16 ve üstü
- 6-10 Yıl

7. Konuşabildiğiniz veya anlayabildiğiniz diller

- İngilizce Almanca
- Türkçe İspanyolca
- Fransızca

Diğer

8. Etnik grup:

- Türk Asyalı

Kürt

Arap

Arap-Türk

Avrupalı

Laz

çerkez

Diğer

Bölüm 2)

Şirket Bilgileri

9. Kuruluşundan buyana hizmette bulunduğu yıl

0-3 Yıl

7-10 Yıl

4-6 Yıl

11 yıl ve üstü

10. Personel sayısı

0 - 50

100 - 200

51 - 99

Above 200

11. Şirket şekli:

limited şirket

anonim şirket

Ortakli Şirket

Kamu kurumu

özel şirket

11a. Diğer

12. Şirketin web sitesi var mı? (Örneğin : www.mycompany.com)

Evet

Hayır

12a. Lütfen belirtiniz:

13. Eğer şirketin web sitesi varsa, bu en çok ne amaçla kullanılmaktadır?

- | | |
|--|---|
| <input type="checkbox"/> Pazarlama | <input type="checkbox"/> Hızlı iletişim |
| <input type="checkbox"/> Diğer şirketlerle bilgi paylaşımı | <input type="checkbox"/> Hepsi |
| <input type="checkbox"/> Alım/Satım | |

Diğer (Lütfen belirtiniz)

14. Şirket kendisini Asya ve Avrupa da nasıl tanıtılmaktadır?

- | | |
|--|--|
| <input type="checkbox"/> Ticaret fuarı | <input type="checkbox"/> Seminerler |
| <input type="checkbox"/> Ticari organizasyon | <input type="checkbox"/> Medya Reklamları (Ornek: Gazate, TV, Radyo etc.,) |
| <input type="checkbox"/> Websitesi | <input type="checkbox"/> Hepsi |

Diğer (Lütfen belirtiniz:

15. Şirketin herhangi bir şubesi var mı? (Yoksa 3. Bölüme geçiniz)

- | | |
|----------------------------|-----------------------------|
| <input type="radio"/> Evet | <input type="radio"/> Hayır |
|----------------------------|-----------------------------|

16. Şirketin kaç şubesi var?

- | | |
|-------------------------------|----------------------------------|
| <input type="radio"/> 2den az | <input type="radio"/> 6 - 10 |
| <input type="radio"/> 3 - 5 | <input type="radio"/> 10 ve üstü |

17. Şirketin Türkiye içinde ve yurt dışında kaç şubesi bulunmaktadır?

- 2den az 6 - 10
 3 - 5 10 ve üstü

18. Şirketin Yönetim ofisi nerededir?

- Avrupa Orta-dogu
 Asya Türkiye

Diğer (Lütfen belirtiniz):

Bölüm 3)

Ticari görüş

19. Türkiye de ticaret yapmanın avantajları nelerdir? (Lütfen uygun tüm seçenekleri işaretleyiniz)

- Ekonomik işgücü Ortak dil
 Düşük vergi Coğrafya
 Hükümet desteği Kolay iletişim

19a. Diğer – Lütfen belirtiniz

20. Son yıllarda Türkiye'deki ticari deneyiminizi nasıl değerlendiriyorsunuz? Lütfen boş bırakılan yere kısaca açıklayınız.

- Kötü iyi
 orta mükemmel

20a. Lütfen belirtiniz

21. Eğer varsa, ticaretinizi geliştirmedeki gelecek planlarınız nelerdir:

- Bilgi teknolojisini geliştirmek İnsan kaynakları sistemi kurmak
- Kalite kontrol sistemini geliştirmek Gelecek plan yok
- Pazarlama stratejileri geliştirmek

Diğer- Lütfen belirtiniz :

Bölüm 4)

Bilgi paylaşımı/transferi

22. İş fikirlerinizi tedarikçilerle paylaşıyor musunuz?

- Evet Hayır

23. Eğer 1. soruya evet dediyseniz, kimlerle paylaşıyorsunuz?

- Ürünün geliştirme sürecine katılmayan alıcılarla,
- Ürünün geliştirme sürecinin ilk aşamalarına katılan alıcılarla,
- Ürünün tüm geliştirme safhalarında aktif rol alan alıcılarla,
- Önemli gördüğümüz alıcılarla,

Diğer -Lütfen belirtiniz

24. Is Fikirlerinizi tedarikçilerle paylaşıyor musunuz?

- Evet Hayır

25. Eğer 3. soruya cevabınız evet ise, kimlerle paylaşıyorsunuz?

- Ürünün geliştirme sürecine katılmayan tedarikçilerle,
 Ürünün geliştirme sürecinin ilk aşamalarına katılan tedarikçilerle,
 Ürünün tüm geliştirme safhalarında aktif rol alan tedarikçilerle,
 Önemli gördüğümüz tedarikçilerle,

Diğer - Lütfen belirtiniz

26. Is Fikirlerinizi Diğer organizasyonlarla paylaşıyor musunuz?

- Üniversiteler
 Özel araştırma kurumları
 Ticari dernekler
 Devlet/ Kamu araştırma kurumları
 Bilgi paylaşımı yok

Diğer - Lütfen belirtiniz

27. Eğer 5. soruya evet cevabi verilmişse, is fikirlerinizi aşağıdaki ülkelerle paylaşıyor musunuz?

- Avrupa ülkeleri Avrupa ve Asya ülkeleri
 Asya ülkeleri Diğer ülkeler

28. Fikirlerinizi, aşağıdaki coğrafyada bulunan rakiplerinize paylaşıyor musunuz?

- Avrupa Dünyanın Diğer kesimleri
 Türkiye Fikir paylaşımı yok

Asya

29. Kendi kaynaklarınız ötesinde bir bilgiye ihtiyaç duyduğunuzda, ilk iletişim kurdüğünüz Kişi veya organizasyon hangisidir? (Lütfen uygun tüm seçenekleri işaretleyiniz)

- | | |
|---|--|
| <input type="checkbox"/> Üniversiteler | <input type="checkbox"/> Ticaret odaları |
| <input type="checkbox"/> Özel araştırma kurumları | <input type="checkbox"/> Bilgi alımı yok |
| <input type="checkbox"/> Ticaret dernekleri | <input type="checkbox"/> Banka |
| <input type="checkbox"/> Devlet/ kamu araştırma kurumları | |

Diğer - Lütfen belirtiniz

30. Asya ve Avrupa ülkeleri ile ne tür bilgi/kaynak paylaşıyorsunuz?

- Finans (Bankacılık, Kredi, kar/zarar, is miktarı gibi)
- Yönetim (Strateji, Yönetim şekli, Liderlik, sendikalar, vs.)
- IT (Modern teknoloji, Bilgisayar ağları, Veritabanları, İnternet gibi)
- İnsan kaynakları (İşe alım/ eleme süresi, maaş, promosyon)
- Hiçbiri

31. Bilgi transferi için herhangi bir güvenli metod kullandınız mı?

- | | |
|---|----------------------------------|
| <input type="checkbox"/> Barkod | <input type="checkbox"/> Patent |
| <input type="checkbox"/> Bilgisayar Sifreleme | <input type="checkbox"/> Hiçbiri |
| <input type="checkbox"/> Telif Hakkı | |

32. Türkiye'deki küçük ve orta ölçekli işletmelerin bilgi transferi ile ilgili en önemli sorunları nelerdir? (Lütfen uygun seçenekleri işaretleyiniz)

	Kesinlikle katılmıyorum	Kısmen katılmıyorum	Yorumsuz	Kısmen katılıyorum	Kesinlikle katılıyorum
Finansa sınırlı erişim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Kesinlikle katılmıyor um	Kısmen katılmıyor um	Yorumsuz	Kısmen katılıyor m	Kesinlikle katılıyor m
Bilgi teknolojileri altyapısının eksikliği	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
özel ve kamu ilişkilerinin zayıflığı	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kalifiye işgücü yetersizliği	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bürokrasi işleyişinin yetersizliği	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bilginin/ iletişim ağlarının yetersizliği	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Endüstri ile araştırma şirketleri ve üniversiteler arasındaki güçlü ilişkinin yetersiz olması	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pazarlamada Yaşanan sorunlar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hizmet kalitesini etkileyen sorunlar (ulaşım, depolama, paketleme vs.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yeni pazarlara ulaşmadaki sınırlamalar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Müşteriye ulaşmada Yaşanan zorluklar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. Sizce küçük ve orta ölçekli işletmelerde bilgi transferi (fikir paylaşımı) neden önemlidir? (aşağıdaki Bölüme kısaca açıklayınız)

Bölüm 5)

Bilişim Teknolojileri Uygulaması

34. Şirketinizde bilgi depolama amacı ile hangi yöntem kullanılmaktadır?

- | | |
|---|--|
| <input type="radio"/> Bilgisayar tabanlı yazılımlar | <input type="radio"/> IT ve Kağıt birlikte |
| <input type="radio"/> Kağıt | <input type="radio"/> Hiçbiri |

35. Organizasyonunuzda modern iletişim teknolojileri kullanılıyor mu? (Örneğin VoIP, Intranet, e-posta sistemi, VPN' vs.)

Evet Hayır Emin değil

36. Genel olarak bilgi paylaşımında ne tür bilişim uygulamaların kullandığınızı buluyorsunuz?

	Kullanışsız	Kısmen Kullanışlı	Etkisiz	Kullanışlı	Oldukça Kullanışlı
Şirket Web sitesi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eposta	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Konferans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-Kütüphane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
İnternet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Şirket içi Elektronik Bülten Sistemi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. Size göre, bilişim uygulamaları çalışanlar tarafından yeterince iyi kullanılıyor mu?

	Yetersiz	Kısmen yeterli	Etkisiz	Yeterli	Oldukça Yeterli
Şirket Web sitesi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eposta	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Konferans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-Kütüphane	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
İnternet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Şirket içi Elektronik Bülten Sistemi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

38. Belirli bir konuda bilgiye ihtiyacınız olduğunda hangi tür bilişim kaynaklarına güvenirsiniz?

- İnternette Arama
- Mevcut Kişisel bilgi kullanımı
- E-Kütüphanede arama
- Çalışma arkadaşları ile Eposta yoluyla tartışma
- Şirket veritabanında arama

Diğer - Lütfen belirtiniz

39. E-posta sisteminizi günde ne sıklıkla kullanmaktasınız?

- 5ten az e-posta 21 ve üzeri
 5-10 e-posta E-mail kullanmıyorum
 11-20 e-posta

40. E-posta sisteminin, organizasyonunuz için etkili bir iletişim yöntemi olduğunu düşünüyor musunuz?

- Evet Hayır

41. Şirketteki IT uygulamaları destek birimi bilgi transferi sürecini nasıl desteklemektedir?

	Kesinlikle katılmıyor	Kısmen katılmıyor	Yorumsuz	Kısmen katılıyor	Kesinlikle katılıyor
Bilgi değişimi daha kolaydır	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
İletişimdeki zaman ve yer kısıtlaması azaltıldı	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bilgi depolama kapasitesi artırıldı	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bilginin elde edilmesi ve transferi oldukça hızlandı	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Bölüm 6)

Organizasyon kültürü ve iletişim

42.

	Kesinlikle katılmıyor	Kısmen katılmıyor	EtKisiz	Kısmen katılıyor	Kesinlikle katılıyor
1. İnsanlar, belirli bir amaca yönelmiş takımın bir parçası olarak çalışırlar..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. İnsanlar birbirine yardım eder ve aralarındaki ilişkileri güçlü tutmaya çalışırlar.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Şirketin farklı bölümlerinde çalışanlar arasındaki işbirliği aktif olarak desteklenmektedir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. İşler, çalışanların kendi işleri ile şirketin hedefi arasında ilişki kurmalarını sağlayacak şekilde organize	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

edilmektedir.

5. Herkesin aynı bilgiye ulaşmasını sağlayacak şekilde ,
bilgi paylaşmaktadır..

6. Bölümdeki çalışanlar ofis dışında sosyal aktivitelerde bulunurlar.

7. Şirketin farklı kısımları arasındaki projeleri organize etmek daha kolaydır.

8. İnsanlar aynı iş amaçlarını paylaşır ve taşırlar.

9. Genelde şirket ortamı sıcaktır.

Kesinlikle katılmıyorum	Kısmen katılmıyorum	EtKisi z	Kısmen katılıyorum	Kesinlikle katılıyorum
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

43.

1. Şirketin amaç, objektif ve stratejileri açıkça yazılıdır ve tüm çalışanlar tarafından bilinmektedir

2. Şirketin politikası tüm çalışanlar tarafından bilinmektedir.

3. Pratik uygulamalar sürekli olarak şirket içinde güncellenmektedir.

4. Yeni konseptler iyi oluşturulmakta ve şirket içinde periyodik olarak dağıtılmaktadır.

5. Veri ve bilgi belirli sıklıklarla elektronik ve geleneksel yöntemlerde şirket içinde dağıtılmaktadır.

6. Bilgi paylaşımını cesaretlendirmek için özel / genel forumlar oluşturulmaktadır..

Kesinlikle katılmıyorum	Kısmen katılmıyorum	EtKisi z	Kısmen katılıyorum	Kesinlikle katılıyorum
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Bölüm 7)

Ozel ve kamusal Bilgi Edinimi Seviyesi

Lütfen dikkat: Ozel bilgi, kendi organizasyonunuz içinde paylaşılan; kamusal bilgi ise bir veya daha fazla oraganizasyon arasında paylaşılan veya tartışılan bilgi anlamına gelmektedir)

44. Şirketinizde özel ve genel bilgiyi ürün geliştirmede kullanır mısınız?

- Özel bilgi
- kamusal bilgiler
- Hiçbiri
- Özel ve kamusal bilgi karisimi
- Kesin değil

45.

	Kesinlikle katılmıyorm	Kısmen katılmıyorm	Etkisiz	Kısmen katılıyor m	Kesinlikle katılıyor m
1. kamusal /Diğer şirketlerden profesyonel bilgi ve beceri kazandım.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Kendi şirketimden daha performansli olmak için yeni yöntemler öğrendim.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Şirketten bilginin yanısıra iç operasyon sürecinin nasıl işlediğini öğrendim..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Şirketin bilgi veritabanından çok şey öğrendim.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Düzenli Eğitim programlarına katılarak çok miktarda Bilişim teknolojileri kavramları öğrendim.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Bilgi değişimi için genellikle yüzyüze görüşmeyi tercih ederim.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

46. Bilgi transferinden elde edilen faydalar:

	Kesinlikle katılmıyorm	Kısmen katılmıyorm	Etkisiz	Kısmen katılıyor m	Kesinlikle katılıyor m
1. Pazar hacminin sınırlanmasında işe yarar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Şirketin iletişim altyapisina yardımcı	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Kesinlikle katılmıyorm	Kısmen katılmıyorm	Etkisiz	Kısmen katılıyor m	Kesinlikle katılıyor m
olur					
3. Diğerlerinden yardım almak kolaylaşır	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Firmaya prestij kazandırır	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. İş fırsatlarını geliştirir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Paylaşımlı bilgi Oldukça etkili hale gelir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Yararlı pazarlama bilgisi sunar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

47. Bilgi transferi şu acılardan risklidir:

	Kesinlikle katılmıyorm	Kısmen katılmıyorm	EtKisiz	Kısmen katılıyor m	Kesinlikle katılıyor m
Yanlış pazar bilgisi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anlaması zor ihracat/ithalat kuralları	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tanıdık olmayan uluslararası uygulamalar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Markanın muhtemel kaybı	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pazar payının muhtemel kaybı	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ulusal iş rekabeti	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Yorum ve geribildirimler

Anket hakkında ifade etmek istediğiniz yorum varsa, lütfen aşağıdaki boşluğa yazınız.

Adınız:

Şirketiniz:

Adres:

Ülke:

Postakodu

E-mail

Fax :

Anketi gönderiniz:

Appendix D

Covering letters with paper based and online questionnaire

(English version)



Questionnaire

Title:

The Determinants of Knowledge Transfer in Turkish Textile and Apparel Industry

By

Dababrata N. Chowdhury

University of Plymouth Business School

United Kingdom.

Supervisor

Dr. Lynne Butel

Principal Lecturer in Strategic Management

University of Plymouth Business School.

Dear Sir/Madam

Thank you for your time taking this survey. This research aims to identify Knowledge Transfer Process and Networking. I want to discover how important Knowledge Transfer is in Turkish SMEs, to compare Knowledge Transfer strategies deployed in textile firms and finally to understand the impact of IT on Knowledge Transfer between Europe and Asia and within Turkey. This questionnaire is a necessary tool to complete my PhD in Business and Management from the University of Plymouth, UK.

Accordingly, the enclosed questionnaire is designed to benefit from your distinguished experience, and to discover your views on the currently used knowledge transfer processes and network techniques in Small and Medium sized Enterprises in Turkey.

This questionnaire is classified in to 7 sections. The first section is about you, the second section is about your company, the third section is about your business views, section four is about Knowledge Transfer/Information Sharing, section five is about Information Technology Implementation, section six is on Organization Culture and Communication and finally seventh section is on level of internal/external knowledge acquisition

All information will be treated in the strictest confidence. No data will be published which can be identified as a specific response from your organization. There are no right or wrong answers, your opinions/facts are what you already use in your organizations. So, your participation is highly valuable for my research.

As a way of expressing gratitude for your co-operation in completing this survey, I will be happy to send you a copy of the survey results. If you would like to have a copy of the results, please fill in your details at the end of the questionnaire.

Finally, if you have any queries or would have further information please do not hesitate to contact me on my e-mail addresses:

daba.chowdhury@plymouth.ac.uk

or

Phone: +44 (0)7930926374

Or contact my Supervisor Dr. L. Butel on Lynne.Butel@plymouth.ac.uk

Or phone -0044(0)1752-232868

Thank you very much for your assistance and co-operation with me in this research.

Yours Sincerely

Dababrata N Chowdhury

(Turkish version)



Anket

**Avrupa ve Asya arasında bilgi (birikim) transferi:
Türkiye bilişim ağları arasında bir köprü müdür?**

Dababrata N. Chowdhury

University of Plymouth Business School

The United Kingdom

Supervisor

Dr. Lynne Butel

Principal Lecturer in Strategic Management

University of Plymouth Business School.

Sayın ilgili,

Bu ankete zaman ayırdığınız için öncelikle teşekkür ederim. Bu araştırmanın amacı, bilgi transferi sürecini tanımlamak, Türkiye'deki küçük ve orta ölçekli işletmelerde bilgi transferinin önemini kavramak ve tekstil de kullanılan bilgi transferi stratejilerini karşılaştırmaktır. Sonuç olarak da Avrupa ve Asya arasında ve Türkiye içinde bilgi transferinde Bilgi Teknolojisinin etkisi ispatlanacaktır. Bu anket İngilterede bulunan Plymouth Üniversitesi' ndeki doktora diplomamı almamda önemli bir araçtır.

Ekte bulunan anket, sizin şu anda Türkiye'de küçük ve orta ölçekli işletmelerde kullanılmakta olan bilgi transferi süreçleri üzerine tecrübelerinizi ve görüşlerinizi içine alacak şekilde tasarlanmıştır.

Ankette yer alan 7 bölüm aşağıdaki şekildedir:

1. Bölüm : Kişisel bilgiler
2. Bölüm : şirket Bilgileri
3. Bölüm : İş hayatına bakış açısı
4. Bölüm : Bilgi transferi ve paylaşımı
5. Bölüm : Bilgi teknolojisinin gerçekleştirimi
6. Bölüm : Organizasyon kültürü ve iletişim
7. Bölüm : İç/Dış bilgi edinme seviyesi

Bütün bilgiler gizlilik prensipleri içinde tutulacaktır. Sizin izniniz olmadan hiçbir veri yayımlanmayacaktır. Bu ankette, kesin olarak doğru yada yanlış cevap yoktur,

sadece sizin görüşleriniz veya organizasyonunuzda kullanıyor olduğunuz gerçekler bulunmaktadır. Bundan dolayı, katılımınız araştırmam açısından oldukça önemlidir.

Katılımınıza minnettarlık olarak, bu anketin bir kopyasını göndermekten memnun olurum. Eğer anketin sonuçlarını almak istiyorsanız, lütfen anket sonundaki "iletişim bilgileri"

Bölümünü doldurunuz.

Sonuç olarak, eğer herhangi bir sorunuz varsa, veya daha fazla bilgi almak istiyorsanız, lütfen aşağıdaki iletişim bilgilerimden bizimle irtibata geçiniz.

daba.chowdhury@plymouth.ac.uk

nipulchow@yahoo.co.uk

veya

Phone: +44 (0)7930926374 veya Dr.L.butel on Lynne.Butel@plymouth.ac.uk veya phone - 0044(0)1752-232868

Bu arařtırmaya katılımınız ve iřbirliđiniz için çok tekkür ederim.

Saygılarımla,

Dababrata N Chowdhury

Appendix E

Frequency table for surveys

Information of spoken and understanding of languages (Section1)

Table E.1: Information of spoken and understanding of languages

Language-English					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	116	43.8	43.8	43.8
	ticked	149	56.2	56.2	100.0
	Total	265	100.0	100.0	

language-Turkish					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ticked	263	99.2	100.0	100.0
Missing	System	2	.8		
	Total	265	100.0		

Language-Kurdish					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	229	86.4	86.4	86.4
	ticked	36	13.6	13.6	100.0
	Total	265	100.0	100.0	

Language-French					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	243	91.7	91.7	91.7
	ticked	22	8.3	8.3	100.0
	Total	265	100.0	100.0	

Language-Arabic

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	233	87.9	87.9	87.9
ticked	32	12.1	12.1	100.0
Total	265	100.0	100.0	

Language-Spanish

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	203	76.6	76.6	76.6
ticked	62	23.4	23.4	100.0
Total	265	100.0	100.0	

Language-German

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	214	80.8	80.8	80.8
ticked	51	19.2	19.2	100.0
Total	265	100.0	100.0	

Information of company's webpage (Section 2)

Table E.2: Information of company's webpage

use webpage mainly-Marketing					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ticked	265	100.0	100.0	100.0

use webpage mainly-Sharing Ideas with others Company					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	213	80.4	80.4	80.4
	ticked	52	19.6	19.6	100.0
	Total	265	100.0	100.0	

use webpage mainly-Selling /Buying Goods					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ticked	265	100.0	100.0	100.0

use webpage mainly-Quick Communication					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ticked	265	100.0	100.0	100.0

use webpage mainly-Above all					
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		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	226	85.3	85.3	85.3
	ticked	39	14.7	14.7	100.0
	Total	265	100.0	100.0	

Promotional tools for Europe and Asia:

Table E.3: Promotional Tools

Company Identification in Europe and Asia-Trade Fair					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ticked	263	99.2	100.0	100.0
Missing	System	2	.8		
	Total	265	100.0		

company Identification in Europe and Asia-Via trade Org					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ticked	263	99.2	100.0	100.0
Missing	System	2	.8		
	Total	265	100.0		

company Identification in Europe and Asia- Via website

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	44	16.6	16.6	16.6
ticked	221	83.4	83.4	100.0
Total	265	100.0	100.0	

company Identification in Europe and Asia-Seminars

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	259	97.7	97.7	97.7
ticked	6	2.3	2.3	100.0
Total	265	100.0	100.0	

company Identification in Europe and Asia-Media Ad

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	241	90.9	91.3	91.3
ticked	23	8.7	8.7	100.0
Total	264	99.6	100.0	
Missing System	1	.4		
Total	265	100.0		

company Identification in Europe and Asia-above all

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	262	98.9	98.9	98.9
ticked	3	1.1	1.1	100.0
Total	265	100.0	100.0	

company Identification in Europe and Asia-others

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	265	100.0	100.0	100.0

Company's location and branches

Table E.4: Company's location and branches

company have any branches				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no	168	63.4	63.9	63.9
yes	95	35.8	36.1	100.0
Total	263	99.2	100.0	
Missing System	2	.8		
Total	265	100.0		

how many branches

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 2	14	5.3	14.1	14.1
	3 to 5	79	29.8	79.8	93.9
	6 to 10	6	2.3	6.1	100.0
	Total	99	37.4	100.0	
Missing	System	166	62.6		
	Total	265	100.0		

branches in Turkey and abroad

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 2	8	3.0	8.2	8.2
	3 to 5	86	32.5	87.8	95.9
	6 to 10	4	1.5	4.1	100.0
	Total	98	37.0	100.0	
Missing	System	167	63.0		
	Total	265	100.0		

company head office-Europe

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	eur	6	2.3	5.9	5.9
	asia	7	2.6	6.9	12.7
	tur	89	33.6	87.3	100.0
	Total	102	38.5	100.0	

Missing System	163	61.5		
Total	265	100.0		

Business Views (Section3)

Advantages of doing business in Turkey

Table E.5: Advantages of doing business in Turkey

advantage doing business in turkey-Economic					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	12	4.5	4.5	4.5
	ticked	253	95.5	95.5	100.0
	Total	265	100.0	100.0	
advantage doing business in turkey-Lower Tax					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	192	72.5	72.5	72.5
	ticked	73	27.5	27.5	100.0
	Total	265	100.0	100.0	
advantage doing business in turkey-Government Support					
		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	not ticked	233	87.9	87.9	87.9
	ticked	32	12.1	12.1	100.0
	Total	265	100.0	100.0	

advantage doing business in turkey-Common Language

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	232	87.5	87.5	87.5
	ticked	33	12.5	12.5	100.0
	Total	265	100.0	100.0	

advantage doing business in turkey-Geography

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	33	12.5	12.5	12.5
	ticked	232	87.5	87.5	100.0
	Total	265	100.0	100.0	

advantage doing business in turkey-Easy Communication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	4	1.5	1.5	1.5
	ticked	261	98.5	98.5	100.0
	Total	265	100.0	100.0	

Future plan for development

Table E.6: Future Development

future develop plan-Improving Info.Tech

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid ticked	264	99.6	100.0	100.0
Missing System	1	.4		
Total	265	100.0		

future develop plan-Improving Quality control system

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	103	38.9	39.0	39.0
ticked	161	60.8	61.0	100.0
Total	264	99.6	100.0	
Missing System	1	.4		
Total	265	100.0		

future develop plan-Improve marketing Strategies

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	49	18.5	18.6	18.6
ticked	215	81.1	81.4	100.0
Total	264	99.6	100.0	
Missing System	1	.4		
Total	265	100.0		

future develop plan-HRM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	89	33.6	33.7	33.7
	ticked	175	66.0	66.3	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		

future develop plan-No plans

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	264	99.6	100.0	100.0
Missing	System	1	.4		
Total		265	100.0		

Knowledge Transfer or Informational Sharing Networks (Section 4)

Table E.7: whom does it share?

Whom does it share-not involved product development					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	257	97.0	97.3	97.3
	ticked	7	2.6	2.7	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		

whom does it share-early stage of product development					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	261	98.5	98.5	98.5
	ticked	4	1.5	1.5	100.0
	Total	265	100.0	100.0	

whom does it share- engaged ongoing development					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	35	13.2	13.2	13.2
	ticked	230	86.8	86.8	100.0
	Total	265	100.0	100.0	

whom does it share-not involved product development					
---	--	--	--	--	--

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	257	97.0	97.3	97.3
	ticked	7	2.6	2.7	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
Total		265	100.0		

whom does it share-early stage of product development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	261	98.5	98.5	98.5
	ticked	4	1.5	1.5	100.0
	Total	265	100.0	100.0	

whom does it share- engaged ongoing development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	35	13.2	13.2	13.2
	ticked	230	86.8	86.8	100.0
	Total	265	100.0	100.0	

whom does it share-important according to the knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	40	15.1	15.1	15.1
	ticked	225	84.9	84.9	100.0

Total	265	100.0	100.0	
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Share ideas with Suppliers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no	3	1.1	1.1	1.1
yes	262	98.9	98.9	100.0
Total	265	100.0	100.0	

Whom does it share-not involved product development

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	254	95.8	95.8	95.8
ticked	11	4.2	4.2	100.0
Total	265	100.0	100.0	

Whom does it share-early stage of product development

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	237	89.4	89.4	89.4
ticked	28	10.6	10.6	100.0
Total	265	100.0	100.0	

Whom does it share- engaged ongoing development

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	not ticked	32	12.1	12.1	12.1
	ticked	233	87.9	87.9	100.0
	Total	265	100.0	100.0	

Whom does it share-important according to the knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	44	16.6	16.6	16.6
	ticked	221	83.4	83.4	100.0
	Total	265	100.0	100.0	

Sharing business ideas with other organizations, countries and competitors

Table E.8: Sharing business ideas with other organizations

Share business ideas with others organization-Private Res.Org					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	32	12.1	12.1	12.1
	Ticked	233	87.9	87.9	100.0
	Total	265	100.0	100.0	
Share business ideas with others organization-Trade Association					
		Frequency	Percent	Valid Percent	Cumulative

					Percent
Valid	not ticked	45	17.0	17.0	17.0
	Ticked	220	83.0	83.0	100.0
	Total	265	100.0	100.0	

Share business ideas with others organization-Trade Association

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	45	17.0	17.0	17.0
	Ticked	220	83.0	83.0	100.0
	Total	265	100.0	100.0	

Share business ideas with others organization-not at all

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	255	96.2	96.2	96.2
	Ticked	10	3.8	3.8	100.0
	Total	265	100.0	100.0	

Point of contact of information or advice

Table E.9: Point of contact of information and advice

For information/advice resource first person to contact-Uni/IE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	244	92.1	92.1	92.1

Ticked	21	7.9	7.9	100.0
Total	265	100.0	100.0	

For information/advice resource first person to contact-Private Res.Org

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	36	13.6	13.6	13.6
Ticked	229	86.4	86.4	100.0
Total	265	100.0	100.0	

For information/advice resource first person to contact-Trade Assoc

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	43	16.2	16.2	16.2
Ticked	222	83.8	83.8	100.0
Total	265	100.0	100.0	

For information/advice resource first person to contact-Gov/pub Res Org

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	246	92.8	92.8	92.8
Ticked	19	7.2	7.2	100.0
Total	265	100.0	100.0	

For information/advice resource first person to contact-Chamber of commerce

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	134	50.6	50.6	50.6
Ticked	131	49.4	49.4	100.0
Total	265	100.0	100.0	

For information/advice resource first person to contact-not taking advice

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	241	90.9	90.9	90.9
Ticked	24	9.1	9.1	100.0
Total	265	100.0	100.0	

For information/advice resource first person to contact-Bank

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	229	86.4	86.4	86.4
Ticked	36	13.6	13.6	100.0
Total	265	100.0	100.0	

Types of information or resource shared with Europe and Asian countries

Table E.10: Types of information shared in Europe and Asia

Information share with Europe or Asia- Management				
	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	not ticked	48	18.1	18.1	18.1
	ticked	217	81.9	81.9	100.0
	Total	265	100.0	100.0	

Information share with Europe or Asia- IT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	60	22.6	22.6	22.6
	ticked	205	77.4	77.4	100.0
	Total	265	100.0	100.0	

Information share with Europe or Asia- IIR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	237	89.4	89.4	89.4
	ticked	28	10.6	10.6	100.0
	Total	265	100.0	100.0	

Deployment of secured method for knowledge transfer

Table E.11: Control method for knowledge transfer

Deployed any secured method for information/KT-Barcodes					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	109	41.1	41.1	41.1
	ticked	156	58.9	58.9	100.0
	Total	265	100.0	100.0	

Deployed any secured method for information/KT-Computer Cryptography					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	171	64.5	64.5	64.5
	ticked	94	35.5	35.5	100.0
	Total	265	100.0	100.0	

Deployed any secured method for information/KT-Copyrights					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	51	19.2	19.2	19.2
	ticked	214	80.8	80.8	100.0
	Total	265	100.0	100.0	

Deployed any secured method for information/KT-Patents					
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		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	56	21.1	21.1	21.1
	ticked	209	78.9	78.9	100.0
	Total	265	100.0	100.0	

Major obstacles in Knowledge Transfer

Table E.12: Major obstacles in knowledge transfer

Important obstacles in KT for SME-Limited Finance					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat disagree	49	18.5	18.5	18.5
	neutral	38	14.3	14.3	32.8
	somewhat agree	132	49.8	49.8	82.6
	strongly agree	46	17.4	17.4	100.0
	Total	265	100.0	100.0	

Important obstacles in KT for SME-Lack of IT infrastructure					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat disagree	2	.8	.8	.8
	neutral	83	31.3	31.3	32.1
	somewhat agree	168	63.4	63.4	95.5

strongly agree	12	4.5	4.5	100.0
Total	265	100.0	100.0	

Important obstacles in KT for SME-Poor Private/public relation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid somewhat disagree	34	12.8	12.8	12.8
neutral	46	17.4	17.4	30.2
somewhat agree	144	54.3	54.3	84.5
strongly agree	41	15.5	15.5	100.0
Total	265	100.0	100.0	

Important obstacles in KT for SME-Lack of HR

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid somewhat disagree	34	12.8	12.8	12.8
neutral	41	15.5	15.5	28.3
somewhat agree	146	55.1	55.1	83.4
strongly agree	44	16.6	16.6	100.0
Total	265	100.0	100.0	

Important obstacles in KT for SME-Lack of Bureaucracy

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid somewhat disagree	6	2.3	2.3	2.3
neutral	79	29.8	29.8	32.1

somewhat agree	163	61.5	61.5	93.6
strongly agree	17	6.4	6.4	100.0
Total	265	100.0	100.0	

Important obstacles in KT for SME-Lack of Inform/Networking

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid somewhat disagree	43	16.2	16.2	16.2
neutral	56	21.1	21.1	37.4
somewhat agree	124	46.8	46.8	84.2
strongly agree	42	15.8	15.8	100.0
Total	265	100.0	100.0	

Important obstacles in KT for SME-lack of research and Industry

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid somewhat disagree	6	2.3	2.3	2.3
neutral	100	37.7	37.7	40.0
somewhat agree	142	53.6	53.6	93.6
strongly agree	17	6.4	6.4	100.0
Total	265	100.0	100.0	

Method of information storage

Table E.13: Method of information storage

Use method of Information-Computer based applications					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	149	56.2	56.2	56.2
	ticked	116	43.8	43.8	100.0
	Total	265	100.0	100.0	

use method of Information-Paper based					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	57	21.5	21.5	21.5
	ticked	208	78.5	78.5	100.0
	Total	265	100.0	100.0	

use method of Information-mixed of IT And Papers					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not ticked	115	43.4	43.4	43.4
	ticked	150	56.6	56.6	100.0
	Total	265	100.0	100.0	

Application of useful IT in Knowledge Transfer

Table E.14: Useful IT application for knowledge transfer

IT Most useful for Idea sharing-Company's website					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	5	1.9	1.9	1.9
	useless	13	4.9	4.9	6.8
	somewhat useful	46	17.4	17.4	24.2
	neutral	39	14.7	14.7	38.9
	useful	117	44.2	44.2	83.0
	very useful	45	17.0	17.0	100.0
	Total	265	100.0	100.0	

IT Most useful for Idea sharing-Email					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat useful	46	17.4	17.4	17.4
	neutral	42	15.8	15.8	33.2
	useful	129	48.7	48.7	81.9
	very useful	48	18.1	18.1	100.0
	Total	265	100.0	100.0	

IT most useful for Idea sharing-Video conferencing					
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		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat useful	12	4.5	4.5	4.5
	neutral	34	12.8	12.8	17.4
	useful	159	60.0	60.0	77.4
	very useful	60	22.6	22.6	100.0
	Total	265	100.0	100.0	

IT most useful for Idea sharing-E-Library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	useless	165	62.3	62.3	62.3
	somewhat useful	40	15.1	15.1	77.4
	neutral	16	6.0	6.0	83.4
	useful	20	7.5	7.5	90.9
	very useful	24	9.1	9.1	100.0
	Total	265	100.0	100.0	

IT Most useful for Idea sharing- Internet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat useful	34	12.8	12.8	12.8
	neutral	51	19.2	19.2	32.1
	useful	121	45.7	45.7	77.7
	very useful	59	22.3	22.3	100.0
	Total	265	100.0	100.0	

IT Most useful for Idea sharing- Internal Electronic Bulletin Board

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid somewhat useful	76	28.7	28.7	28.7
neutral	50	18.9	18.9	47.5
useful	101	38.1	38.1	85.7
very useful	38	14.3	14.3	100.0
Total	265	100.0	100.0	

IT applications among the employees for knowledge transfer in the organization

Table E.15: The employees for knowledge transfer in the organization

how good IT applications used by employees-company's website

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid somewhat good	46	17.4	17.4	17.4
neutral	42	15.8	15.8	33.2
good	129	48.7	48.7	81.9
very good	48	18.1	18.1	100.0
Total	265	100.0	100.0	

How good IT applications used by employees-Email

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat good	74	27.9	27.9	27.9
	neutral	42	15.8	15.8	43.8
	good	101	38.1	38.1	81.9
	very good	48	18.1	18.1	100.0
	Total	265	100.0	100.0	

How good IT applications used by employees-Video Conferencing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not good	208	78.5	78.5	78.5
	somewhat good	42	15.8	15.8	94.3
	neutral	12	4.5	4.5	98.9
	good	3	1.1	1.1	100.0
	Total	265	100.0	100.0	

How good IT applications used by employees- E-library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not good	208	78.5	78.5	78.5
	somewhat good	42	15.8	15.8	94.3
	neutral	12	4.5	4.5	98.9
	good	3	1.1	1.1	100.0
	Total	265	100.0	100.0	

How good IT applications used by employees-Internet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat good	126	47.5	47.5	47.5
	neutral	40	15.1	15.1	62.6
	good	57	21.5	21.5	84.2
	very good	42	15.8	15.8	100.0
	Total	265	100.0	100.0	

How good IT applications used by employees-Internal Electronic bulletin board.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat good	91	34.3	34.3	34.3
	neutral	49	18.5	18.5	52.8
	good	108	40.8	40.8	93.6
	very good	17	6.4	6.4	100.0
	Total	265	100.0	100.0	

IT support for Knowledge Transfer in the organization

Table E.16: IT support from knowledge transfer

IT support the KT- The process of exchange knowledge is easier					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat disagree	93	35.1	35.2	35.2
	neutral	48	18.1	18.2	53.4
	somewhat agree	52	19.6	19.7	73.1
	strongly agree	71	26.8	26.9	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		
IT support the KT- space and time is decreased					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat disagree	88	33.2	33.3	33.3
	neutral	56	21.1	21.2	54.5
	somewhat agree	71	26.8	26.9	81.4
	strongly agree	49	18.5	18.6	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		
IT support the KT- knowledge storage capacity is increased					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat disagree	71	26.8	26.9	26.9
	neutral	88	33.2	33.3	60.2
	somewhat agree	59	22.3	22.3	82.6
	strongly agree	46	17.4	17.4	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		

IT support the KT- speed of transferring increased

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat disagree	92	34.7	34.8	34.8
	neutral	19	7.2	7.2	42.0
	somewhat agree	48	18.1	18.2	60.2
	strongly agree	105	39.6	39.8	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		

Organizational Culture and Communication (Section 6 from Questionnaire)

Table E.17: The relationship between individual and group

Culture and Communication-people work like they are parts of team					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	false	108	40.8	40.9	40.9
	average	58	21.9	22.0	62.9
	True	32	12.1	12.1	75.0
	Extremely true	66	24.9	25.0	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		
Culture and Communication-people help each other's and get strong relation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	false	115	43.4	43.6	43.6
	average	93	35.1	35.2	78.8
	True	46	17.4	17.4	96.2
	Extremely true	10	3.8	3.8	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		
Culture and Communication-cooperation among employees					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	extremely false	13	4.9	4.9	4.9
	false	112	42.3	42.4	47.3
	average	67	25.3	25.4	72.7
	True	21	7.9	8.0	80.7
	Extremely true	51	19.2	19.3	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		

Culture and Communication-work is organized for goals of company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	extremely false	19	7.2	7.3	7.3
	false	88	33.2	33.6	40.8
	average	73	27.5	27.9	68.7
	True	42	15.8	16.0	84.7
	Extremely true	40	15.1	15.3	100.0
	Total	262	98.9	100.0	
Missing	System	3	1.1		
	Total	265	100.0		

Culture and Communication-information widely shared

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	extremely false	2	.8	.8	.8

	false	52	19.6	19.8	20.6
	average	69	26.0	26.3	46.9
	True	56	21.1	21.4	68.3
	Extremely true	83	31.3	31.7	100.0
	Total	262	98.9	100.0	
Missing	System	3	1.1		
	Total	265	100.0		

Culture and Communication-often socialize outside the office

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	extremely false	13	4.9	4.9	4.9
	false	70	26.4	26.6	31.6
	average	75	28.3	28.5	60.1
	True	67	25.3	25.5	85.6
	Extremely true	38	14.3	14.4	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
	Total	265	100.0		

Culture and Communication-coordinate projects across diff parts of company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	false	66	24.9	25.1	25.1
	average	76	28.7	28.9	54.0
	True	99	37.4	37.6	91.6
	Extremely true	22	8.3	8.4	100.0

	Total	263	99.2	100.0	
Missing	System	2	.8		
	Total	265	100.0		

Culture and Communication-understand and share the same objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	extremely false	13	4.9	4.9	4.9
	false	99	37.4	37.4	42.3
	average	56	21.1	21.1	63.4
	True	45	17.0	17.0	80.4
	Extremely true	52	19.6	19.6	100.0
	Total	265	100.0	100.0	

Culture and Communication-atmosphere is open and friendly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	extremely false	10	3.8	3.8	3.8
	false	53	20.0	20.0	23.8
	average	73	27.5	27.5	51.3
	True	58	21.9	21.9	73.2
	Extremely true	71	26.8	26.8	100.0
	Total	265	100.0	100.0	

The relationship between individual, group and organisation

TableE.18: The relationship between individual, group and organization

Culture and Communication-company's aims, objectives and strategies are clear					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat disagree	67	25.3	25.3	25.3
	neutral	76	28.7	28.7	54.0
	somewhat agree	112	42.3	42.3	96.2
	strongly agree	10	3.8	3.8	100.0
	Total	265	100.0	100.0	
Culture and Communication-policies are clear to employees					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	11	4.2	4.2	4.2
	somewhat disagree	89	33.6	33.6	37.7
	neutral	78	29.4	29.4	67.2
	somewhat agree	27	10.2	10.2	77.4
	strongly agree	60	22.6	22.6	100.0
	Total	265	100.0	100.0	
Culture and Communication-guidelines are regularly updated					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	13	4.9	4.9	4.9

somewhat disagree	102	38.5	38.5	43.4
neutral	91	34.3	34.3	77.7
somewhat agree	46	17.4	17.4	95.1
strongly agree	13	4.9	4.9	100.0
Total	265	100.0	100.0	

Culture and Communication-knowledge of new concepts are periodically circulated

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	12	4.5	4.5	4.5
somewhat disagree	96	36.2	36.2	40.8
neutral	74	27.9	27.9	68.7
somewhat agree	37	14.0	14.0	82.6
strongly agree	46	17.4	17.4	100.0
Total	265	100.0	100.0	

Culture and Communication-data and information circulated both electrical and traditional

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	10	3.8	3.8	3.8
somewhat disagree	53	20.0	20.0	23.8
neutral	73	27.5	27.5	51.3
somewhat agree	70	26.4	26.4	77.7
strongly agree	59	22.3	22.3	100.0
Total	265	100.0	100.0	

Culture and Communication- discussion forum is organized to encourage knowledge sharing.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	15	5.7	5.7	5.7
somewhat disagree	42	15.8	15.8	21.5
neutral	97	36.6	36.6	58.1
somewhat agree	52	19.6	19.6	77.7
strongly agree	59	22.3	22.3	100.0
Total	265	100.0	100.0	

**Level of Private (Internal) and Public (External) knowledge Acquisition
(Section 7 from Questionnaire)**

Table E.19: Acquire of private and public knowledge

Develop any product for private and public knowledge- private knowledge/in-house ideas				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	92	34.7	34.7	34.7
ticked	173	65.3	65.3	100.0
Total	265	100.0	100.0	

Develop any product for private and public knowledge- Public Knowledge/outside ideas				
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	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	85	32.1	32.1	32.1
ticked	180	67.9	67.9	100.0
Total	265	100.0	100.0	

Develop any product for private and public knowledge- Mixture of private and public knowledge

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not ticked	59	22.3	22.3	22.3
ticked	206	77.7	77.7	100.0
Total	265	100.0	100.0	

Table E.20: Level of knowledge acquisition

Knowledge Acquisition-gained professional experience				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	9	3.4	3.4	3.4
somewhat disagree	84	31.7	31.8	35.2
neutral	64	24.2	24.2	59.5
somewhat agree	50	18.9	18.9	78.4
strongly agree	57	21.5	21.6	100.0
Total	264	99.6	100.0	
Missing System	1	.4		

Total	265	100.0		
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Knowledge Acquisition-learn a lots of new skills and methodology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	11	4.2	4.2	4.2
	somewhat disagree	93	35.1	35.4	39.5
	neutral	76	28.7	28.9	68.4
	somewhat agree	35	13.2	13.3	81.7
	strongly agree	48	18.1	18.3	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
	Total	265	100.0		

Knowledge Acquisition-gained a lots of ideas for operations process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	2.3	2.3	2.3
	somewhat disagree	63	23.8	23.8	26.0
	neutral	87	32.8	32.8	58.9
	somewhat agree	55	20.8	20.8	79.6
	strongly agree	54	20.4	20.4	100.0
	Total	265	100.0	100.0	

Knowledge Acquisition-learnt a lots knowledge from companies database

	Frequency	Percent	Valid Percent	Cumulative
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					Percent
Valid	strongly disagree	1	.4	.4	.4
	somewhat disagree	59	22.3	22.4	22.8
	neutral	115	43.4	43.7	66.5
	somewhat agree	52	19.6	19.8	86.3
	strongly agree	36	13.6	13.7	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
	Total	265	100.0		

Knowledge Acquisition-learn IT by attending training programmes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	5	1.9	1.9	1.9
	somewhat disagree	47	17.7	17.8	19.7
	neutral	97	36.6	36.7	56.4
	somewhat agree	56	21.1	21.2	77.7
	strongly agree	59	22.3	22.3	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		

Knowledge Acquisition-interact with other person to exchange knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	9	3.4	3.4	3.4
	somewhat disagree	109	41.1	41.1	44.5

neutral	82	30.9	30.9	75.5
somewhat agree	31	11.7	11.7	87.2
strongly agree	34	12.8	12.8	100.0
Total	265	100.0	100.0	

Table E.21: Benefits from knowledge sharing

Benefit of K-Sharing-overcome the limitation of market size					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	9	3.4	3.4	3.4
	somewhat disagree	112	42.3	42.3	45.7
	neutral	60	22.6	22.6	68.3
	somewhat agree	55	20.8	20.8	89.1
	strongly agree	29	10.9	10.9	100.0
	Total	265	100.0	100.0	
Benefit of K-Sharing- adds to firms overall communication					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	somewhat disagree	56	21.1	21.2	21.2
	neutral	68	25.7	25.8	47.0
	somewhat agree	101	38.1	38.3	85.2
	strongly agree	39	14.7	14.8	100.0
	Total	264	99.6	100.0	

Missing	System	1	.4		
	Total	265	100.0		

Benefit of K-Sharing-easy to get help from others

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	38	14.3	14.5	14.5
	somewhat disagree	34	12.8	13.0	27.5
	neutral	102	38.5	38.9	66.4
	somewhat agree	63	23.8	24.0	90.5
	strongly agree	25	9.4	9.5	100.0
	Total	262	98.9	100.0	
Missing	System	3	1.1		
	Total	265	100.0		

Benefit of K-Sharing-it gives the firm prestigious image/ brand name

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	7	2.6	2.6	2.6
	somewhat disagree	39	14.7	14.7	17.4
	neutral	111	41.9	41.9	59.2
	somewhat agree	99	37.4	37.4	96.6
	strongly agree	9	3.4	3.4	100.0
	Total	265	100.0	100.0	

Benefit of K-Sharing-easy marketing throughout E-Asia

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	14	5.3	5.4	5.4
	somewhat disagree	54	20.4	20.8	26.3
	neutral	92	34.7	35.5	61.8
	somewhat agree	99	37.4	38.2	100.0
	Total	259	97.7	100.0	
Missing	System	6	2.3		
	Total	265	100.0		

Benefit of K-Sharing-improves Business opportunities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	24	9.1	9.3	9.3
	somewhat disagree	39	14.7	15.1	24.4
	neutral	68	25.7	26.4	50.8
	somewhat agree	127	47.9	49.2	100.0
	Total	258	97.4	100.0	
Missing	System	7	2.6		
	Total	265	100.0		

Benefit of K-Sharing-provides useful marketing information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	29	10.9	11.0	11.0
	somewhat disagree	26	9.8	9.9	20.9
	neutral	66	24.9	25.1	46.0

	somewhat agree	133	50.2	50.6	96.6
	strongly agree	9	3.4	3.4	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
	Total	265	100.0		

Table E.22: Risk factors in knowledge transfer

KT is Risk- Incorrect market information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	35	13.2	13.2	13.2
	somewhat disagree	38	14.3	14.3	27.5
	neutral	67	25.3	25.3	52.8
	somewhat agree	125	47.2	47.2	100.0
	Total	265	100.0	100.0	

KT is Risk- Confusing foreign import/export regulations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	24	9.1	9.1	9.1
	somewhat disagree	28	10.6	10.6	19.7
	neutral	50	18.9	18.9	38.6
	somewhat agree	162	61.1	61.4	100.0
	Total	264	99.6	100.0	
Missing	System	1	.4		
	Total	265	100.0		

KT is Risk- National business competition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	33	12.5	12.8	12.8
	somewhat disagree	11	4.2	4.3	17.1
	neutral	71	26.8	27.5	44.6

	somewhat agree	114	43.0	44.2	88.8
	strongly agree	29	10.9	11.2	100.0
	Total	258	97.4	100.0	
Missing	System	7	2.6		
	Total	265	100.0		

KT is Risk- unfamiliar foreign business practices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	24	9.1	9.1	9.1
	somewhat disagree	18	6.8	6.8	16.0
	neutral	66	24.9	25.1	41.1
	somewhat agree	139	52.5	52.9	93.9
	strongly agree	16	6.0	6.1	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
	Total	265	100.0		

KT is Risk- possible loss of brand integrity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	30	11.3	11.4	11.4
	somewhat disagree	16	6.0	6.1	17.4
	neutral	64	24.2	24.2	41.7
	somewhat agree	122	46.0	46.2	87.9
	strongly agree	32	12.1	12.1	100.0
	Total	264	99.6	100.0	

Missing	System	1	.4		
	Total	265	100.0		

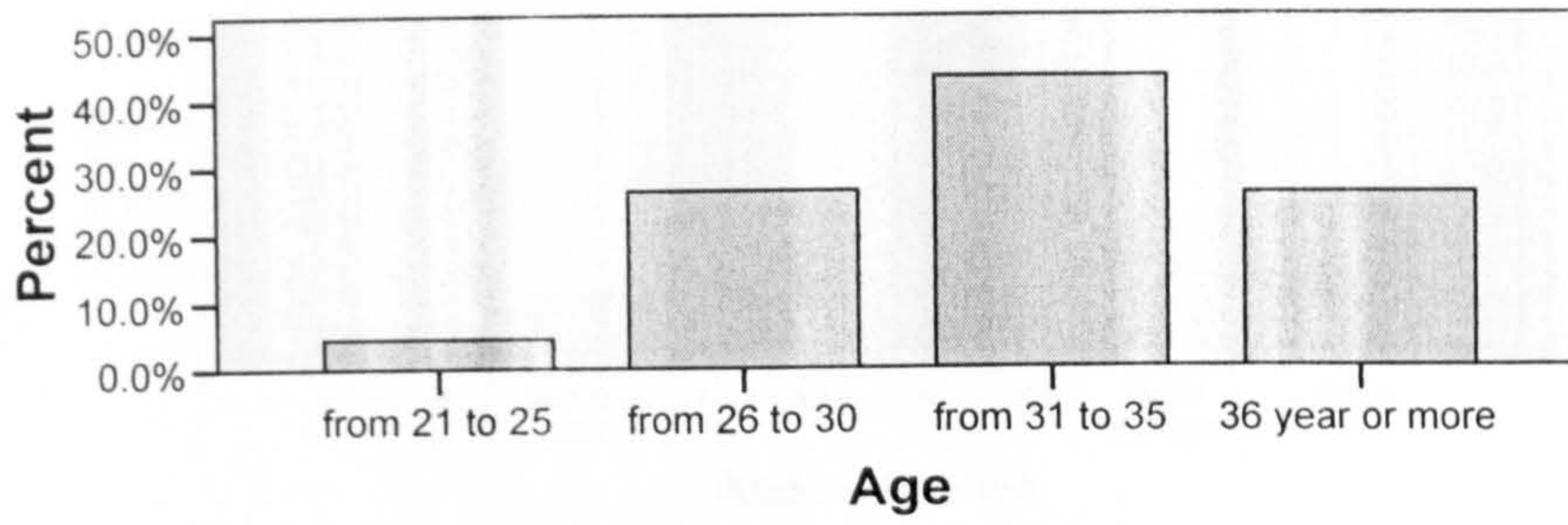
KT is Risk- loss of business market share.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	27	10.2	10.3	10.3
	somewhat disagree	35	13.2	13.3	23.6
	neutral	56	21.1	21.3	44.9
	somewhat agree	126	47.5	47.9	92.8
	strongly agree	19	7.2	7.2	100.0
	Total	263	99.2	100.0	
Missing	System	2	.8		
	Total	265	100.0		

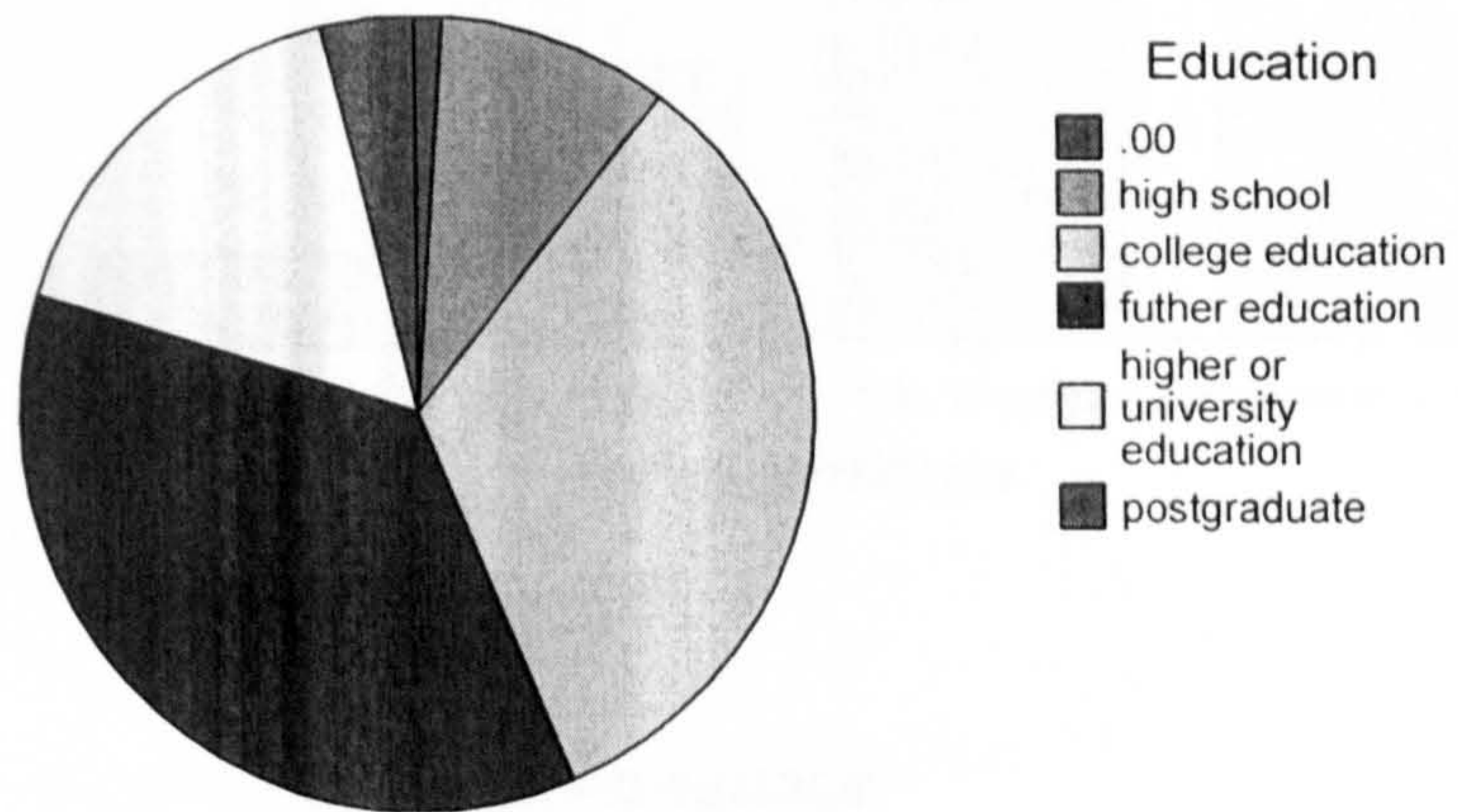
Appendix F

Graphs for Survey

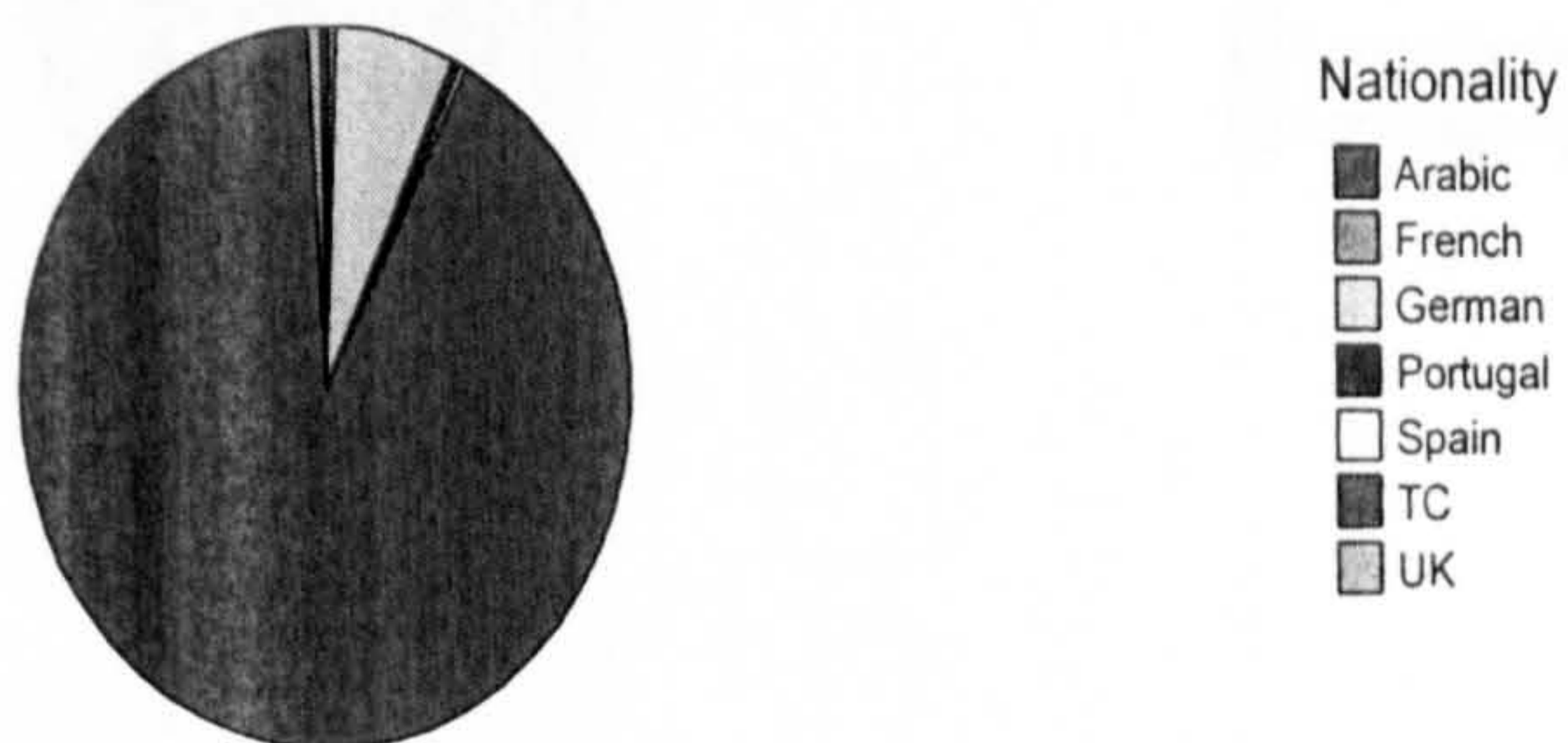
Graph-age



Graph-education

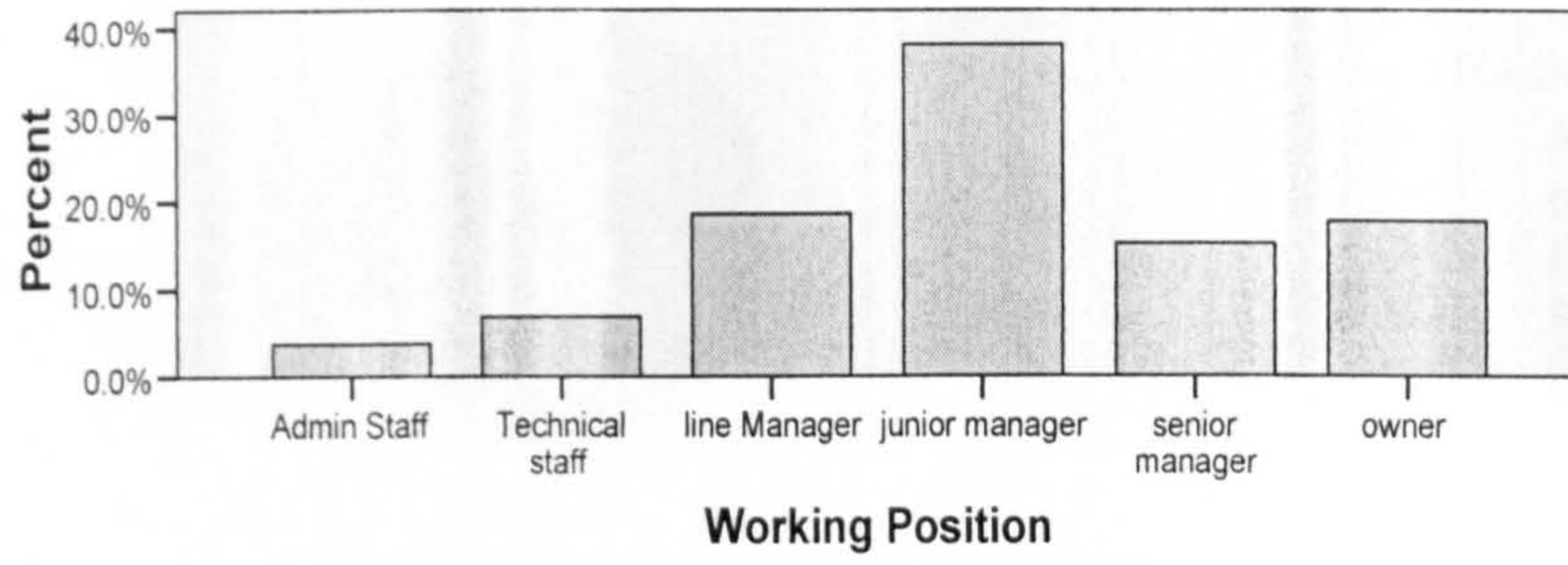


Graph-nationality

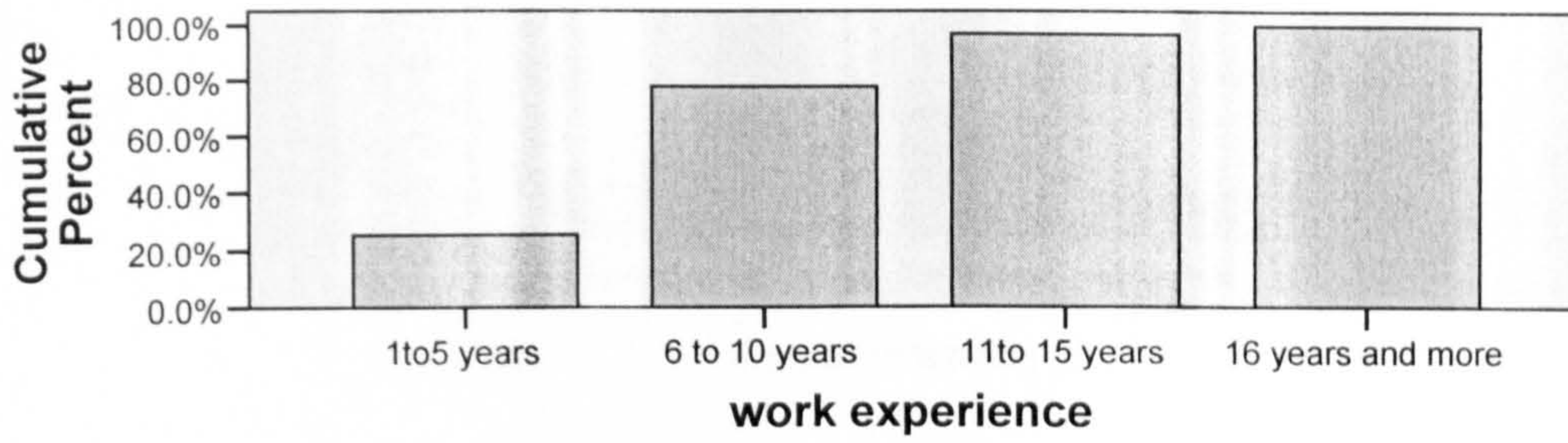


GRAPH
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Graph- working position

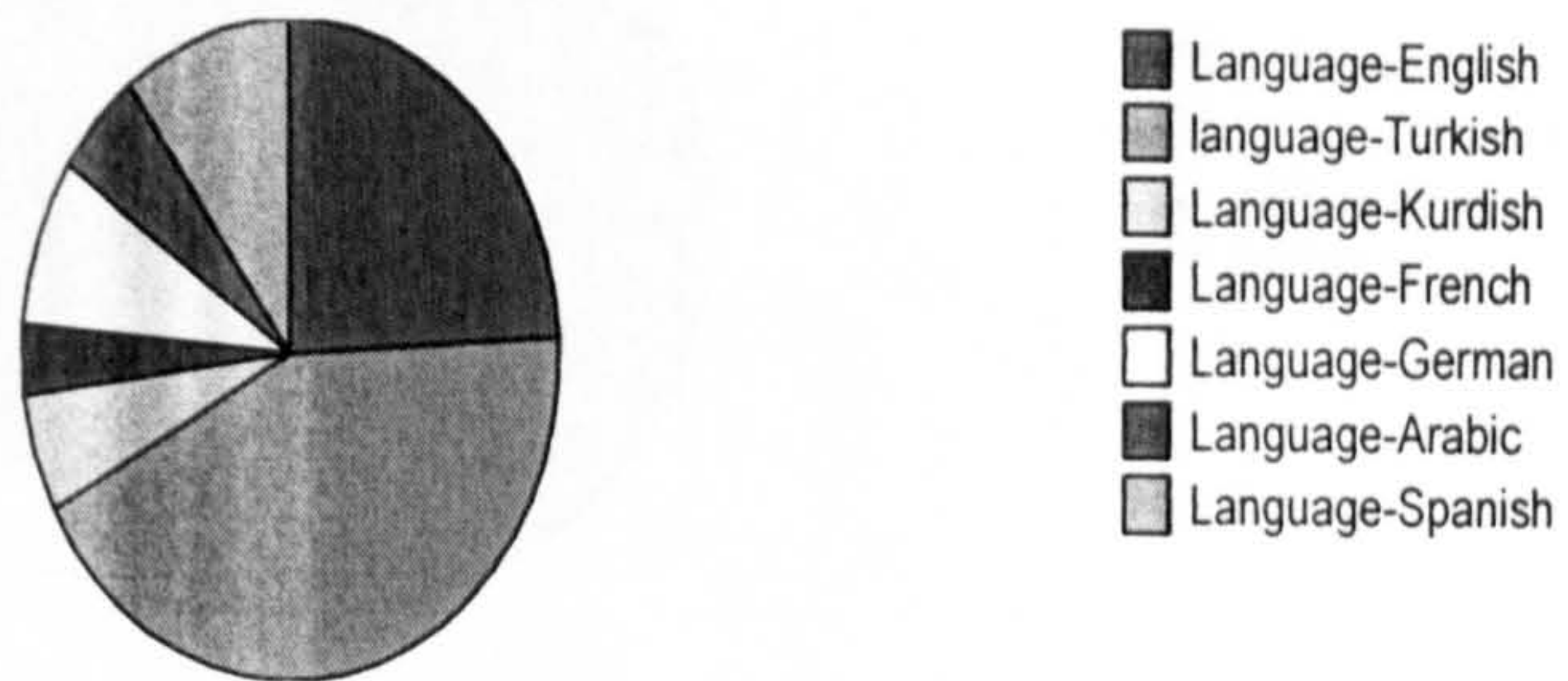


Graph-work experience

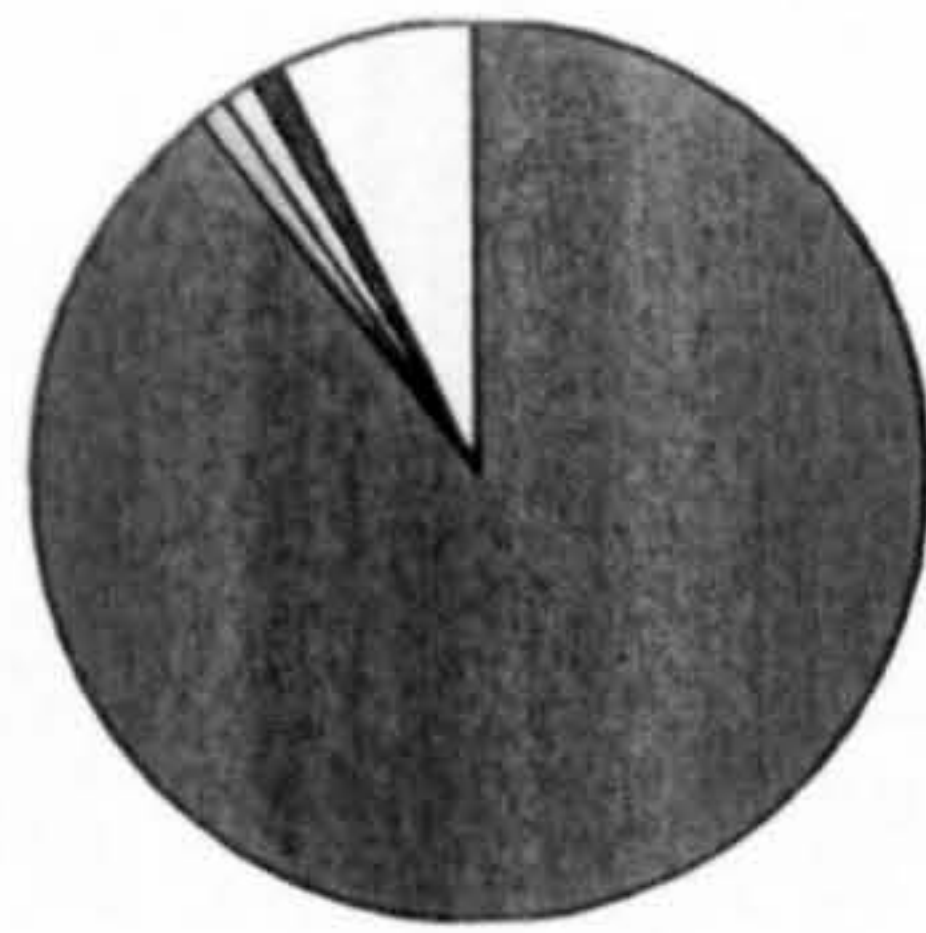


Graph-language

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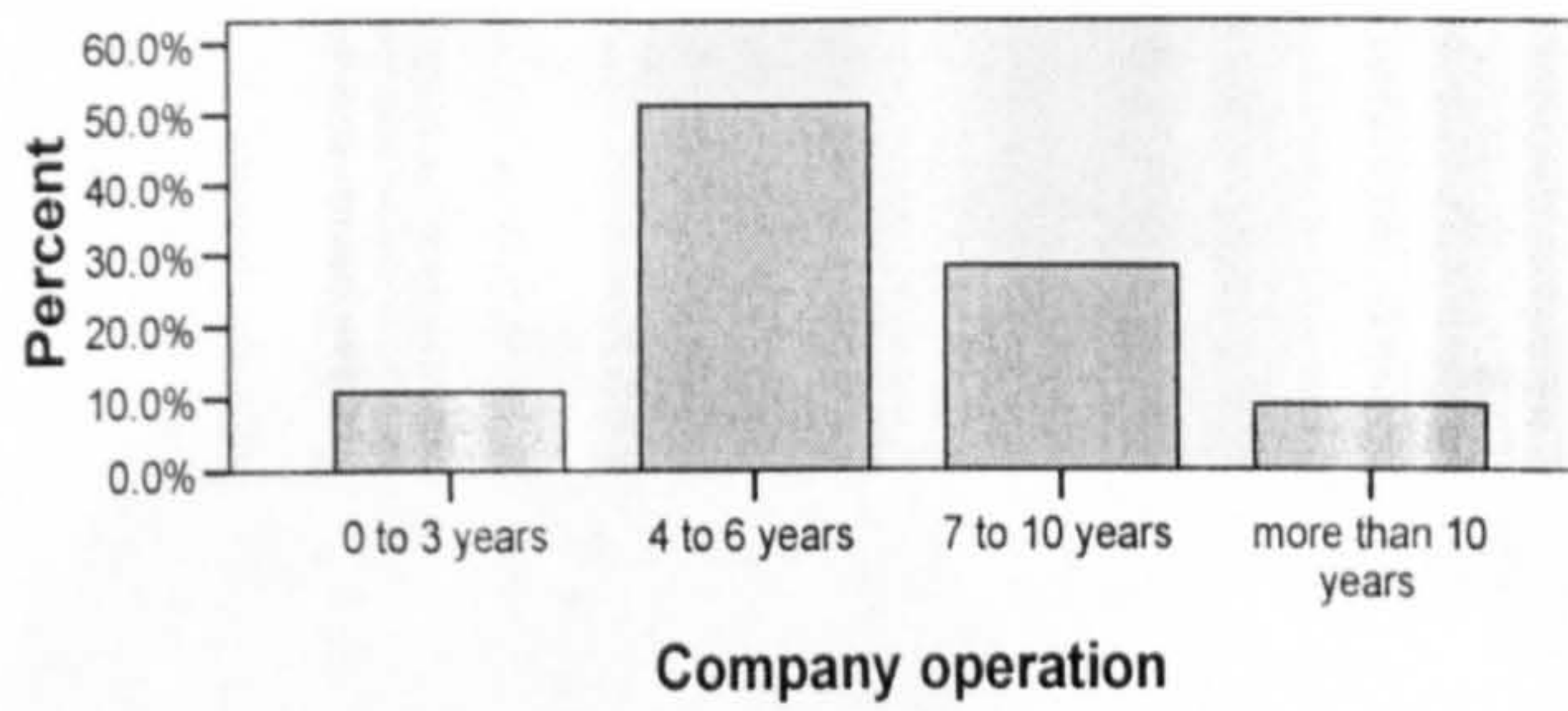
Graph-ethnic



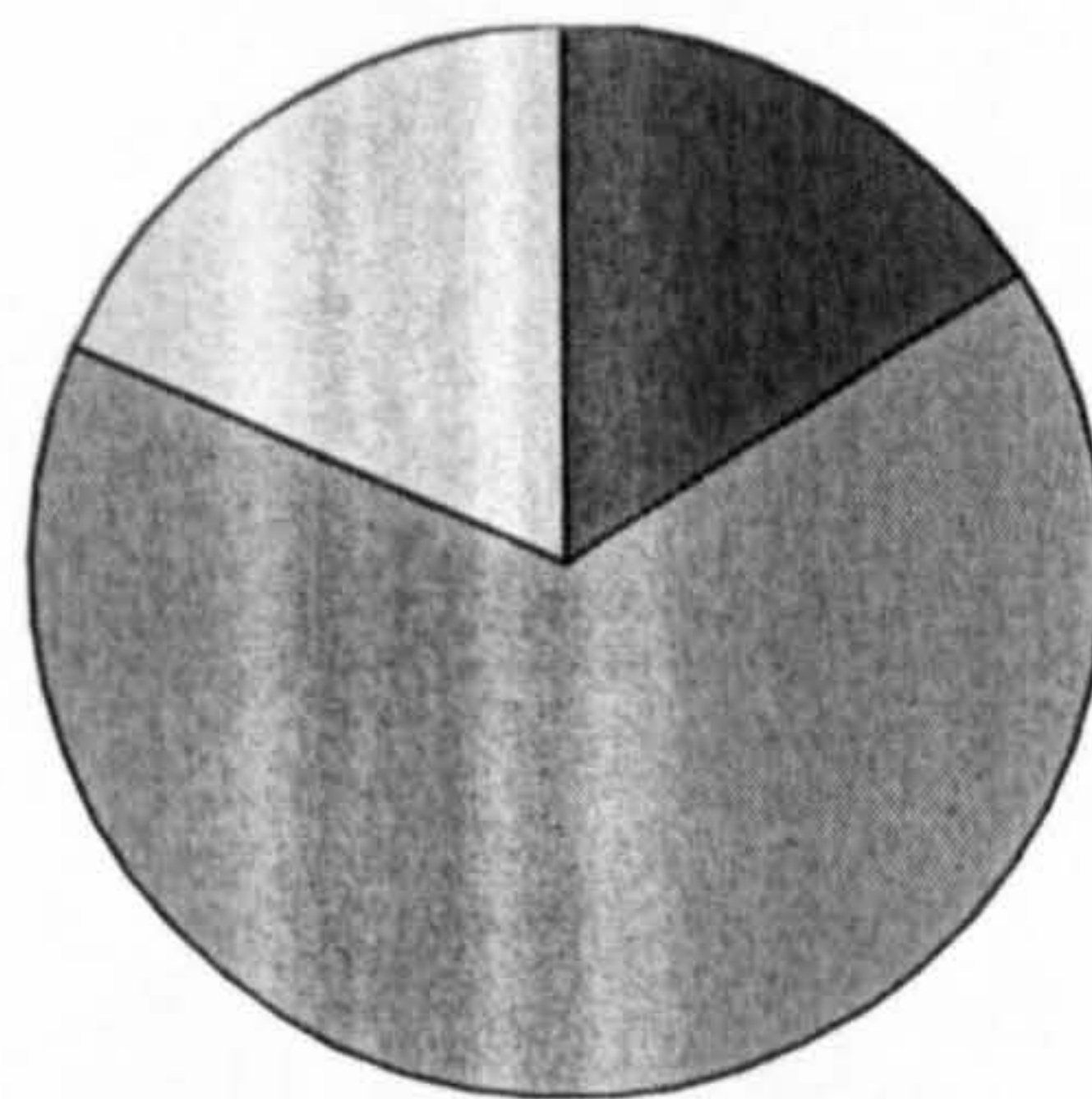
Racial/Ethnic group

- Turk
- Kurt
- Arab
- Arab-Turk
- European

Graph-company operation



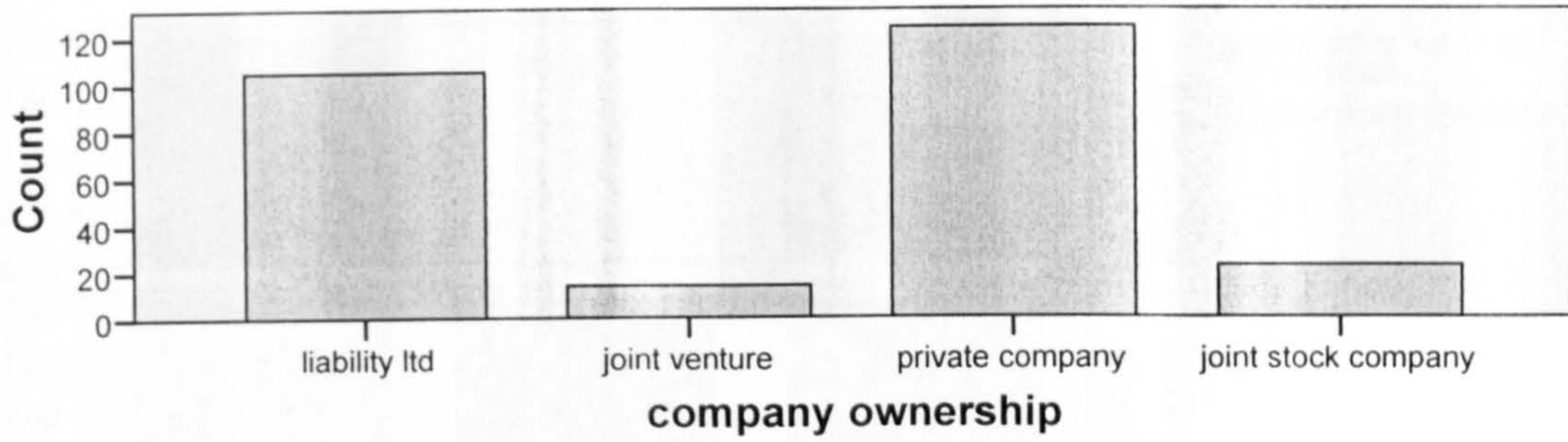
Graph-number of worker



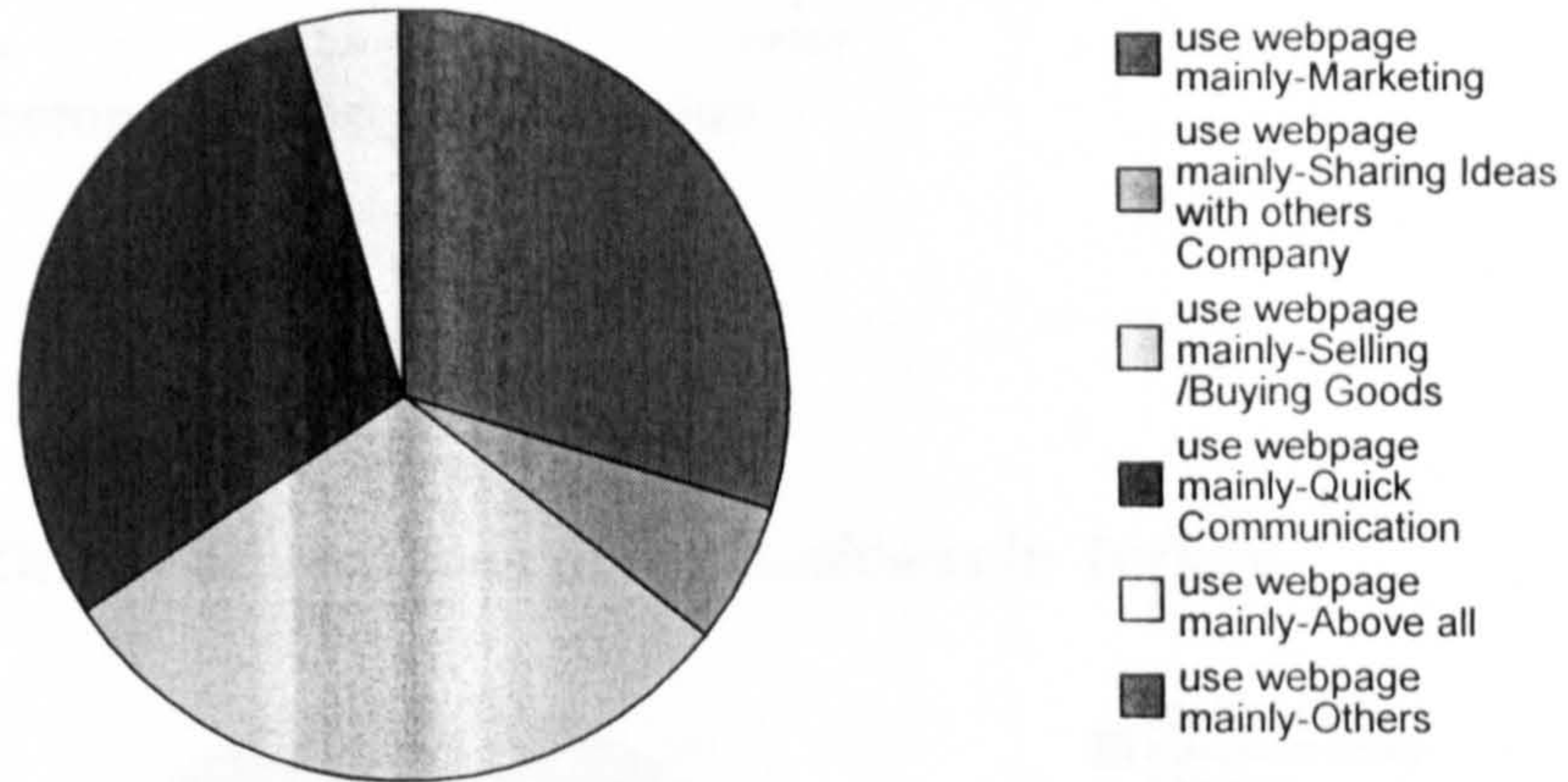
number of worker

- 0-50 persons
- 50 to 100 persons
- 100 to 200 persons
- persons

Graph- company ownership



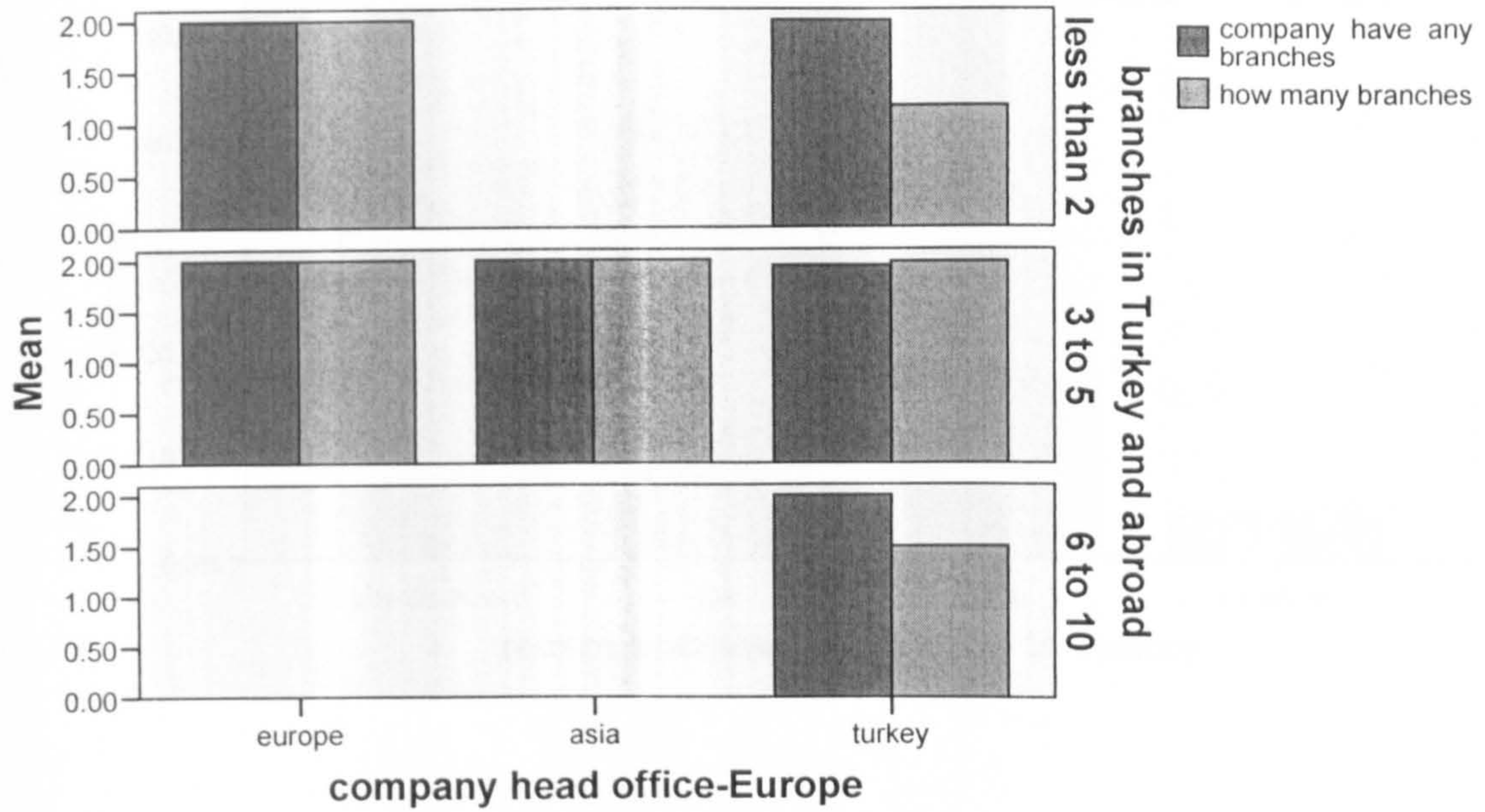
Graph-company webpage



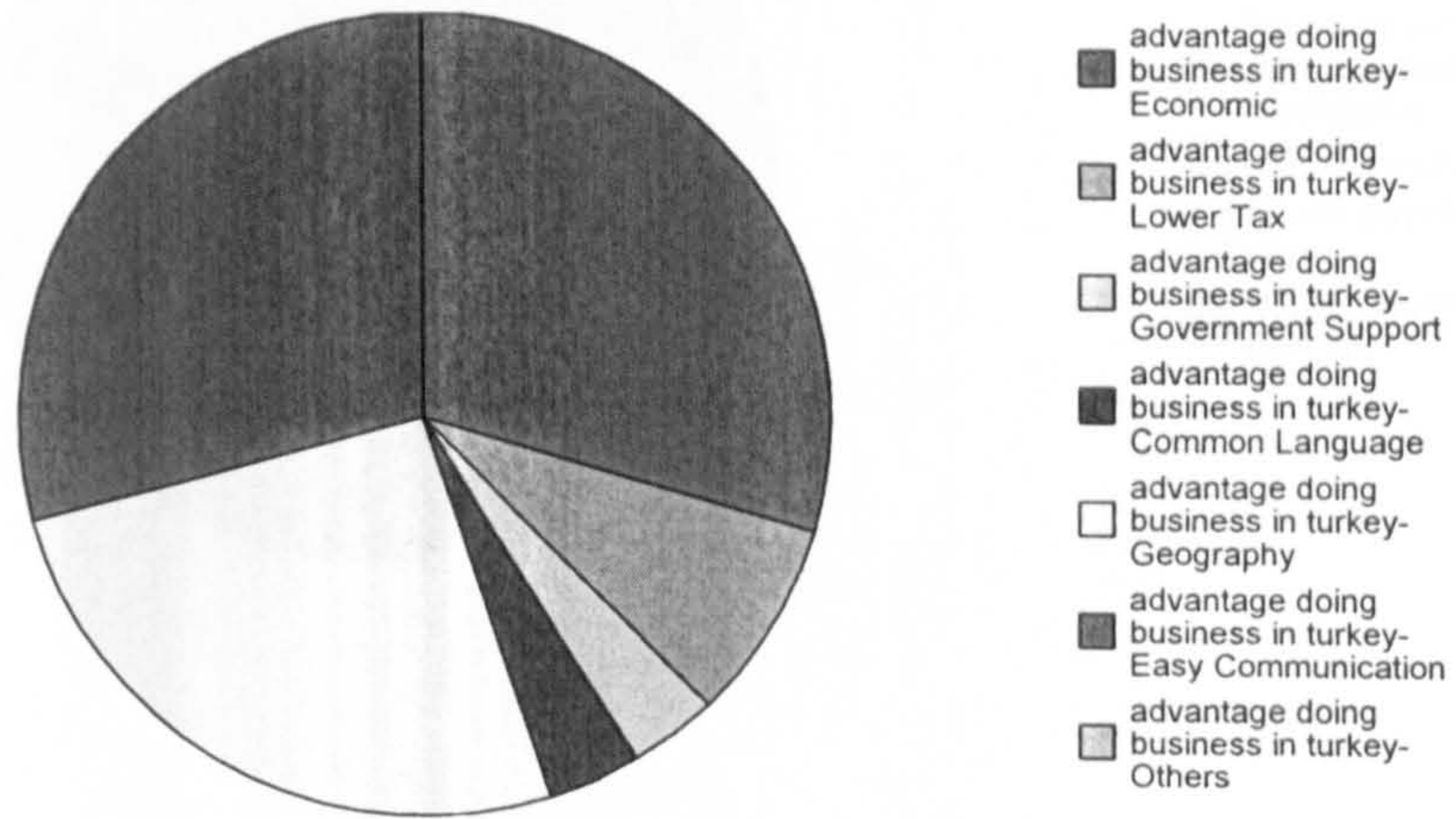
Graph-company identification in Europe and Asia



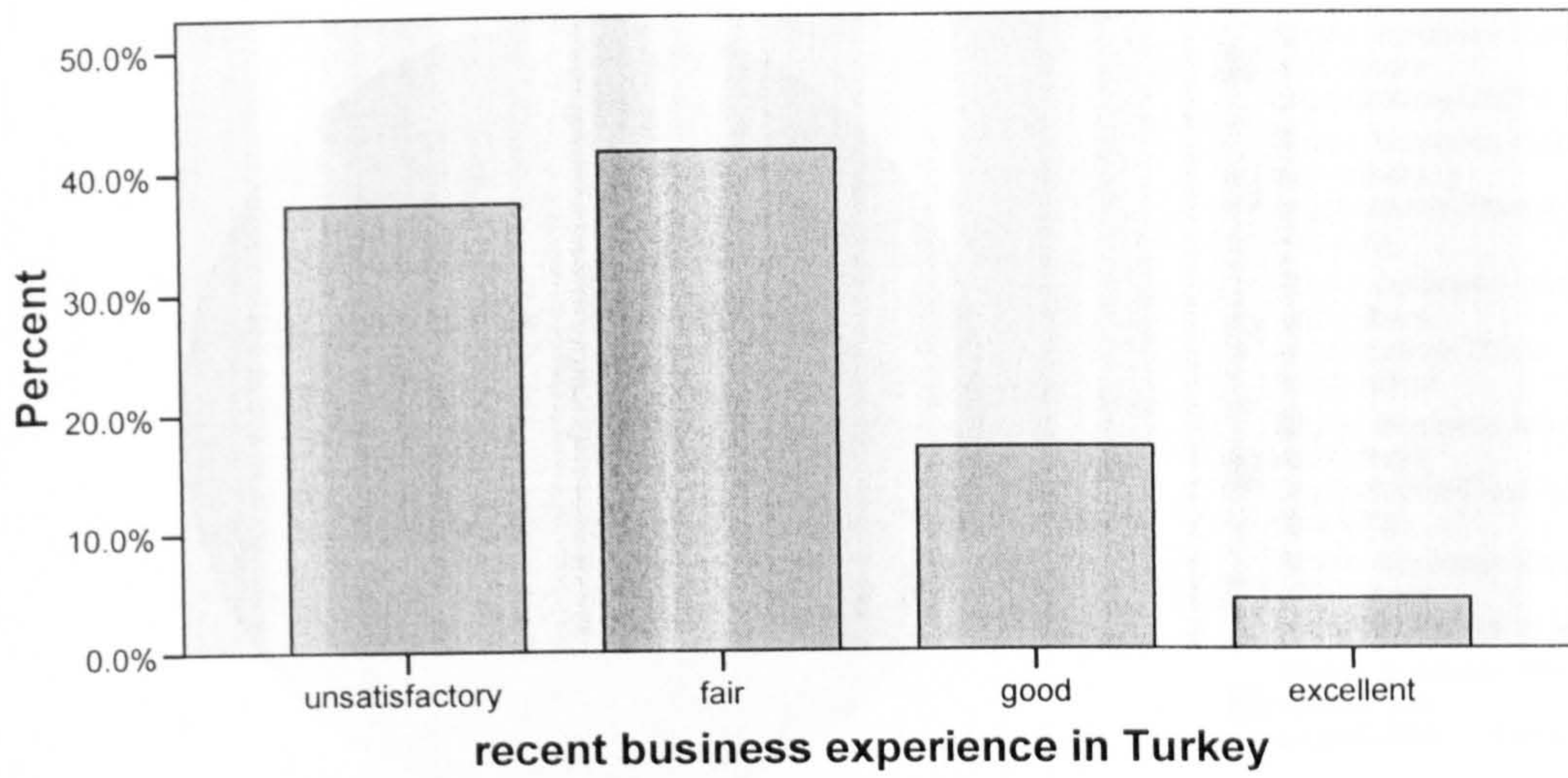
Graph-branch



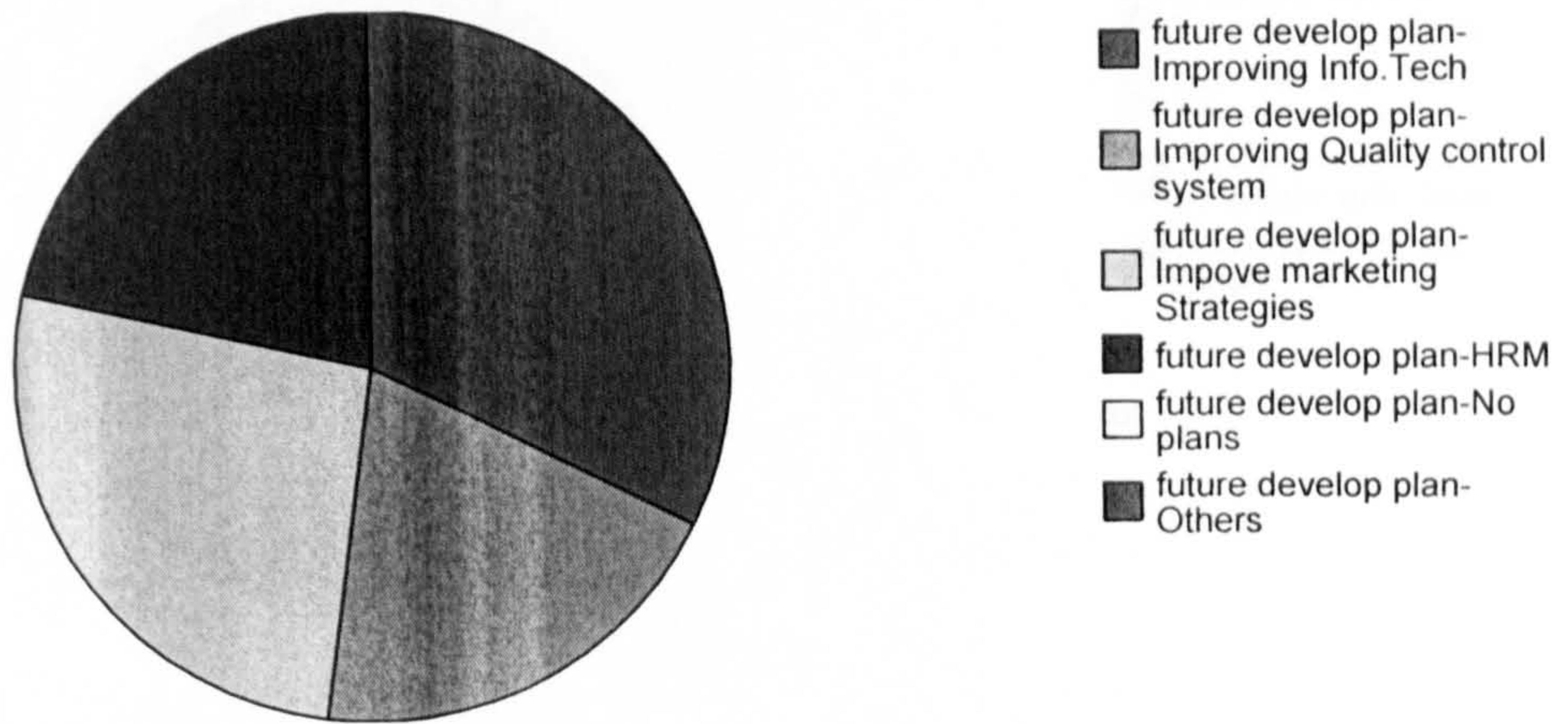
Graph-advantages doing business in Turkey



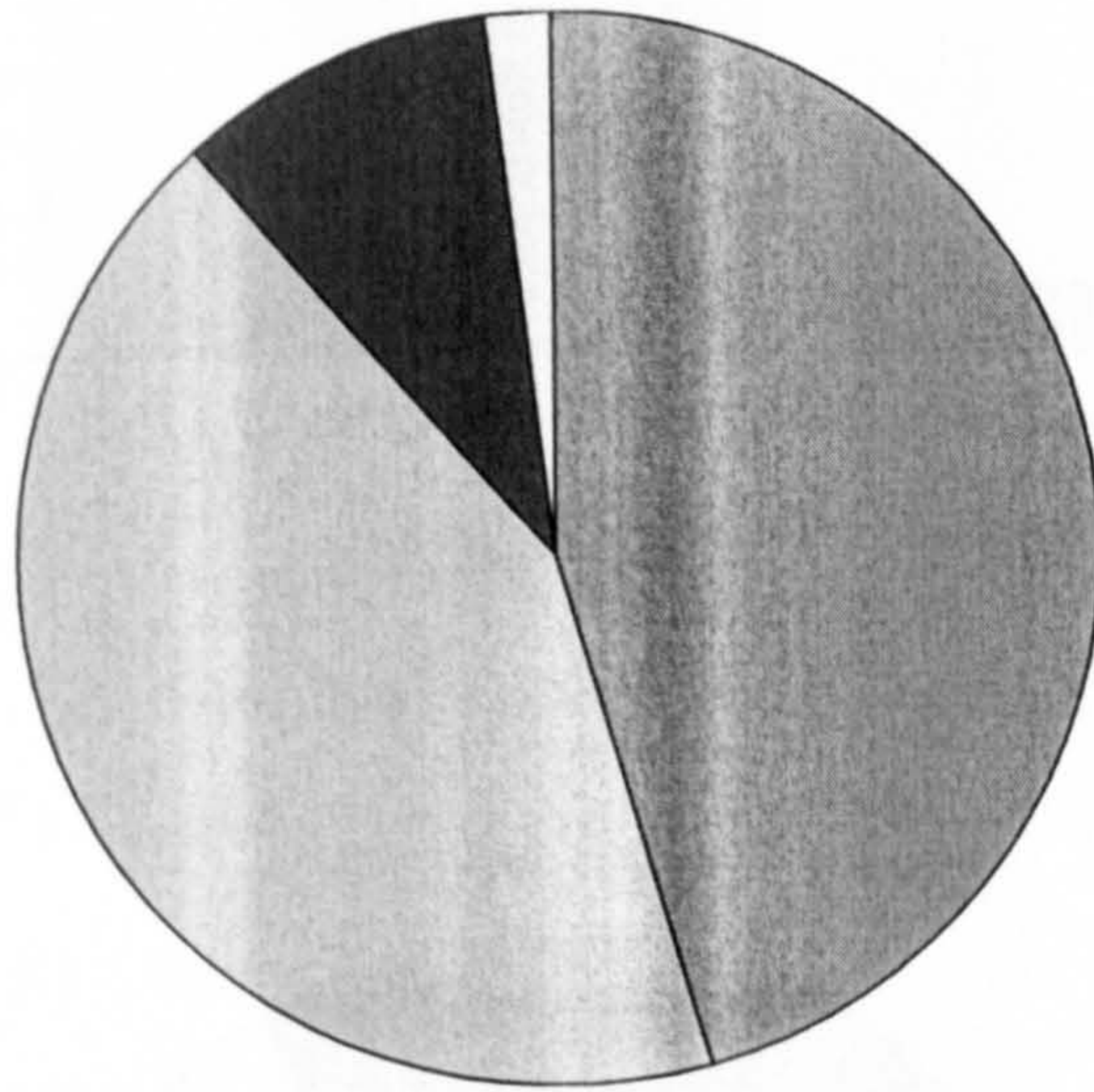
Graph –Business experiences



Graph-Future development plan

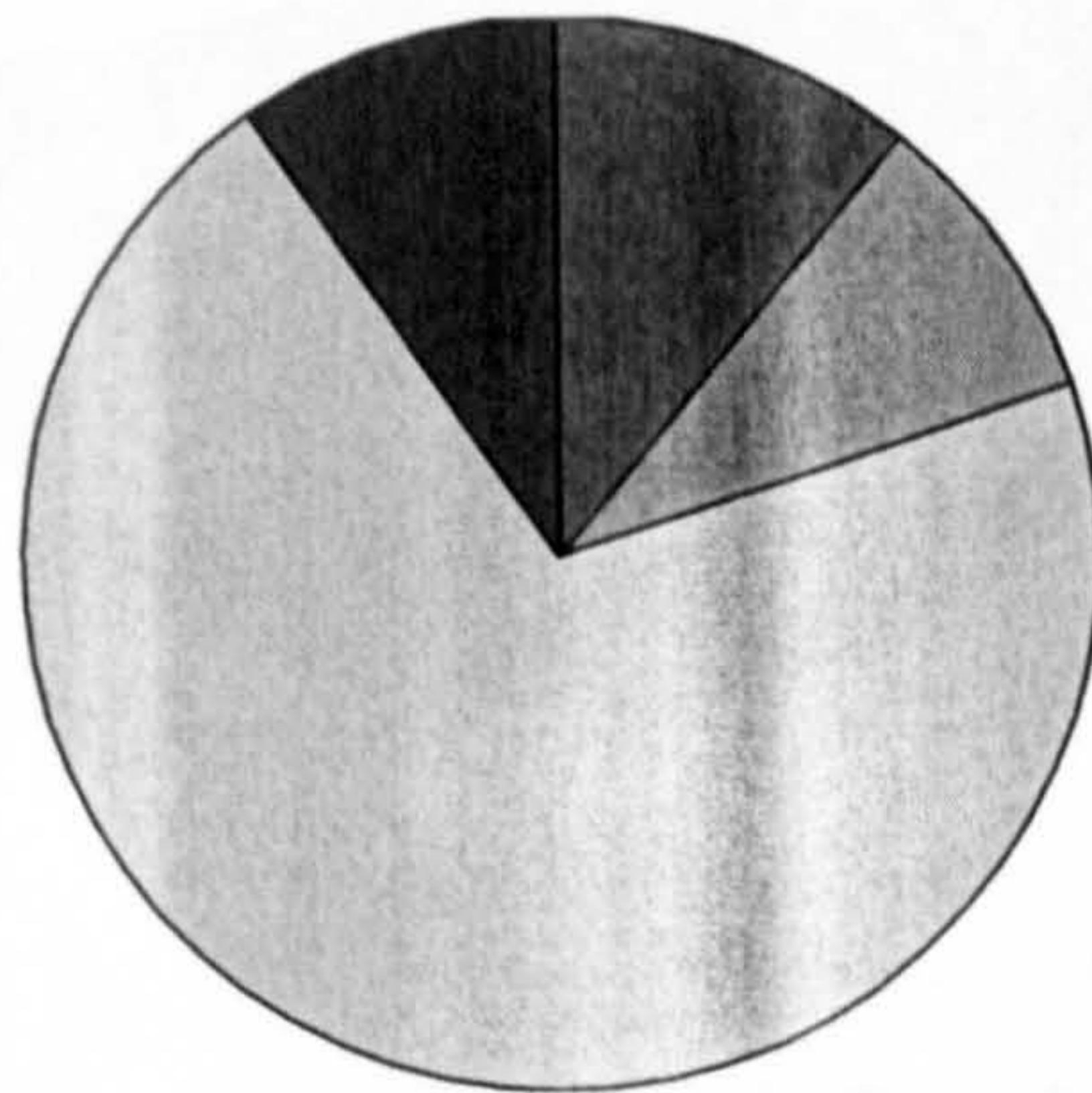


Graph: Share business ideas with other organization



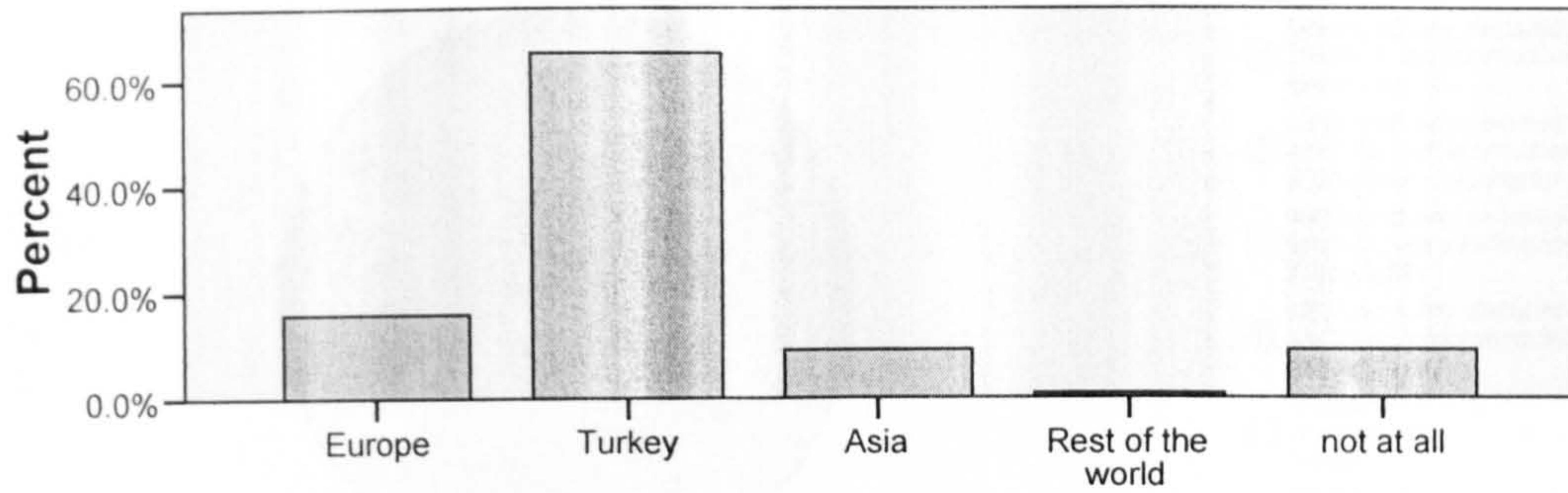
- Share business ideas with others organization-Uni/HE
- Share business ideas with others organization-Private Res.Org
- Share business ideas with others organization-Trade Association
- Share business ideas with others organization-Gov/Pub Res Org
- Share business ideas with others organization-not at all
- Share business ideas with others organization- others

Graph



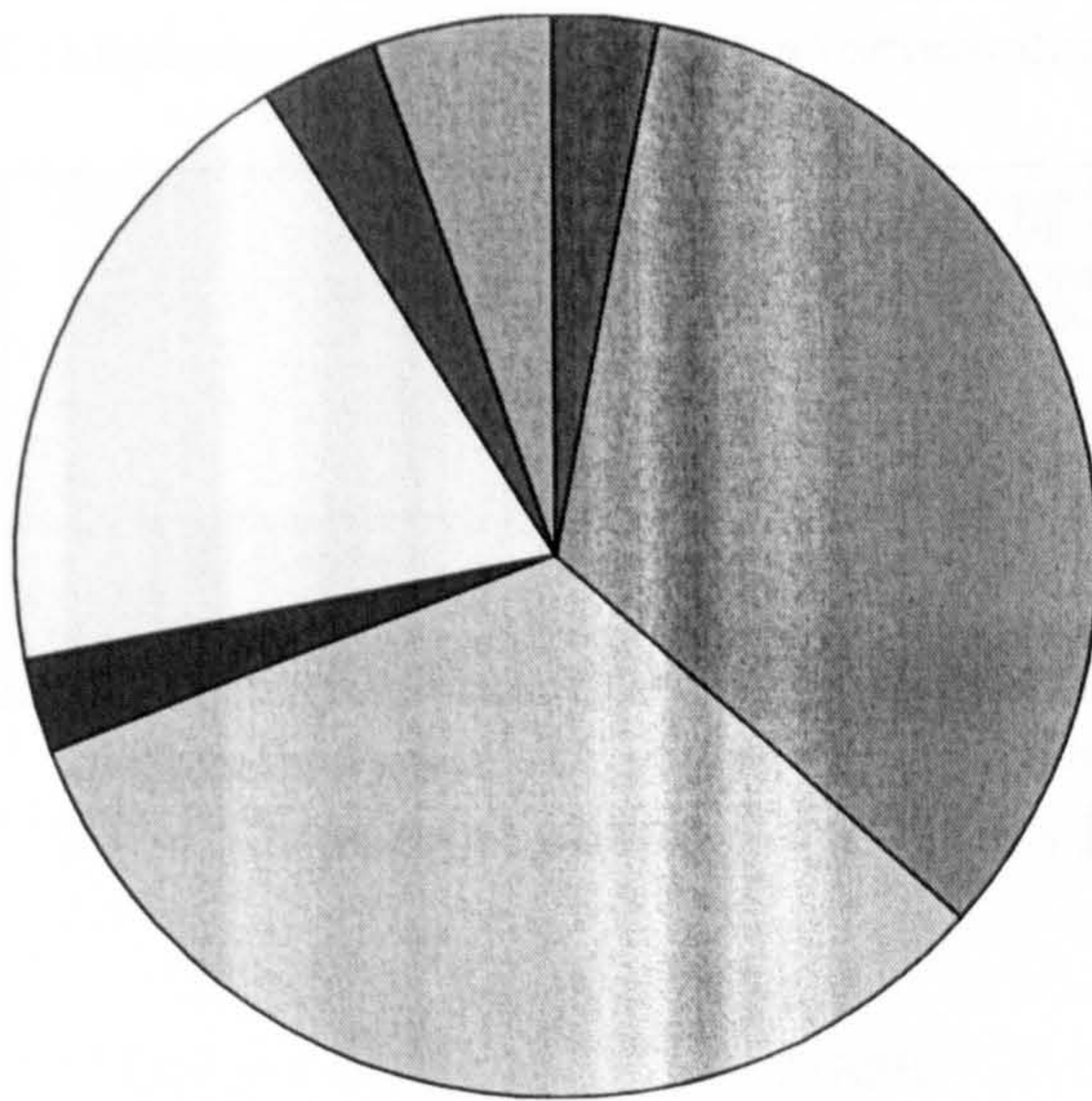
- business share with-Eropeean countries
- business share with-Asian countries
- business share with-European and Asian
- business share with-others

Graph



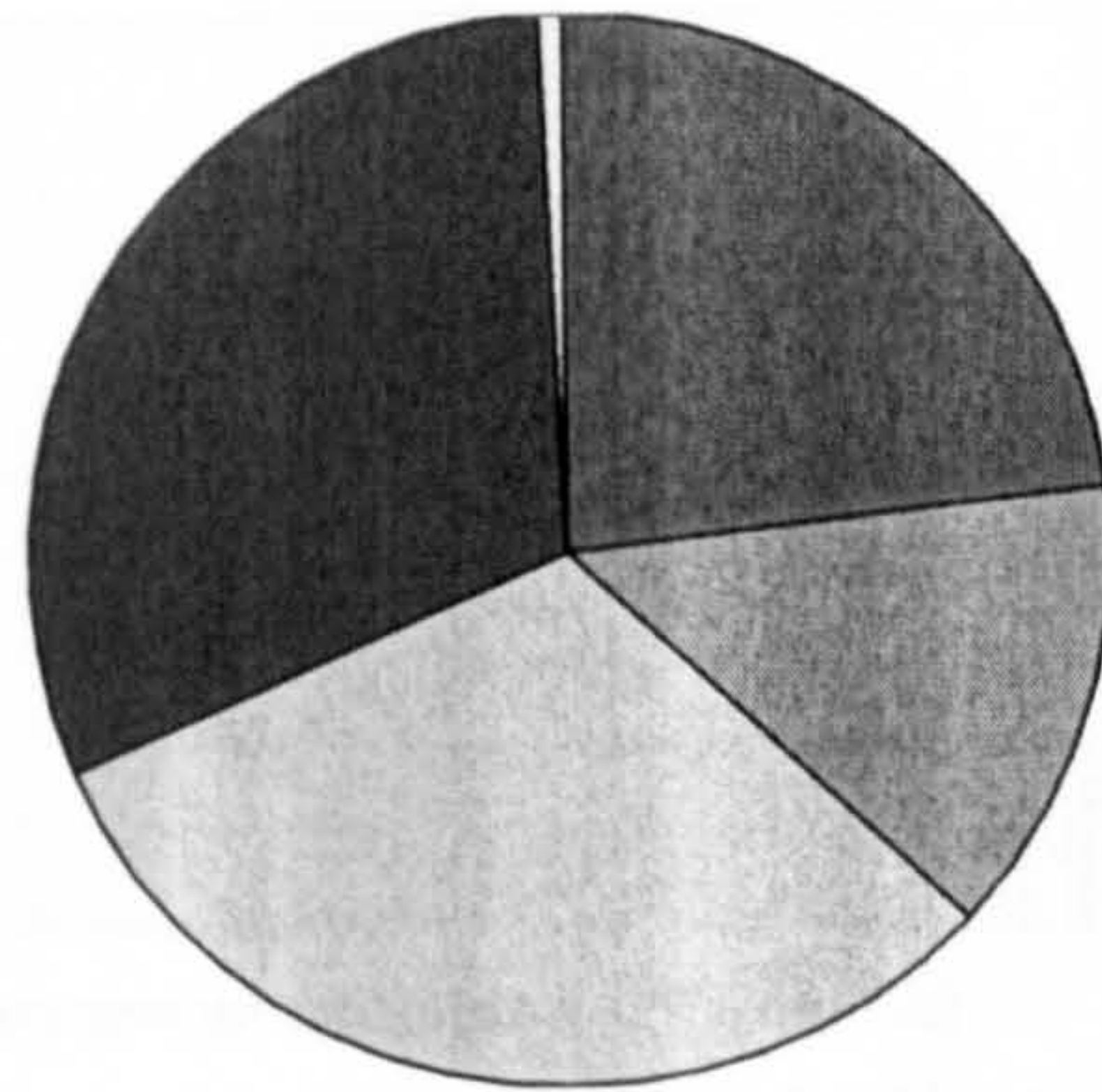
share ideas with based on competitors

Graph



- For information/advice resource first person to contact-Uni/HE
- For information/advice resource first person to contact-Private Res.Org
- For information/advice resource first person to contact-Trade Asso
- For information/advice resource first person to contact-Gov/pub Res Org
- For information/advice resource first person to contact-Chamber of commerce
- For information/advice resource first person to contact-not taking advice
- For information/advice resource first person to contact-Bank
- For information/advice resource first person to contact-Others

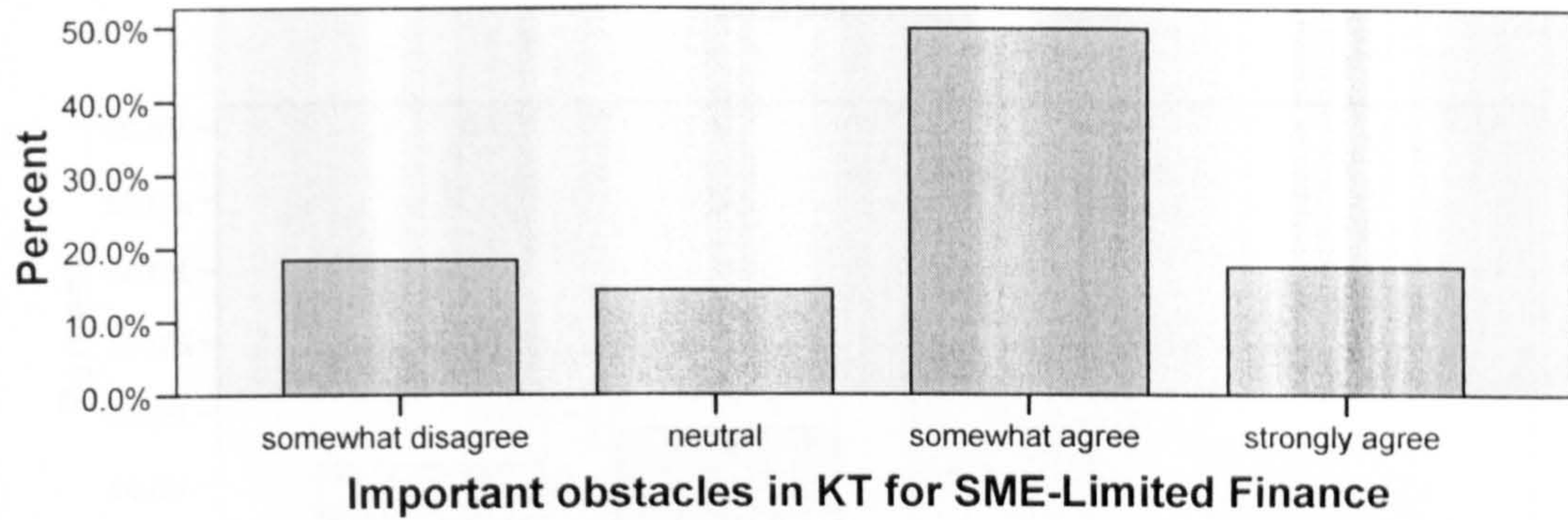
Graph



- deployed any secured method for information/KT- Barcodes
- deployed any secured method for information/KT- Computer Cryptography
- deployed any secured method for information/KT- Copyrights
- deployed any secured method for information/KT- Patents
- deployed any secured method for information/KT- None
- deployed any secured method for information/KT- Not Aware

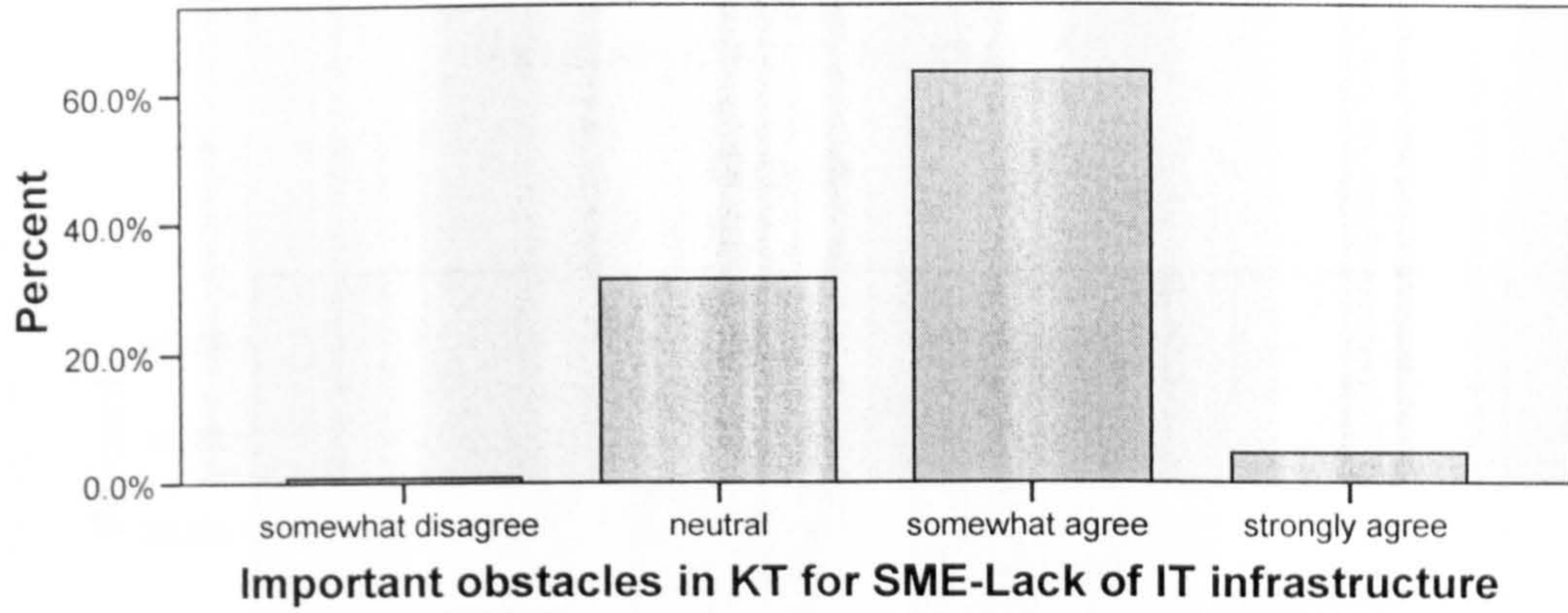
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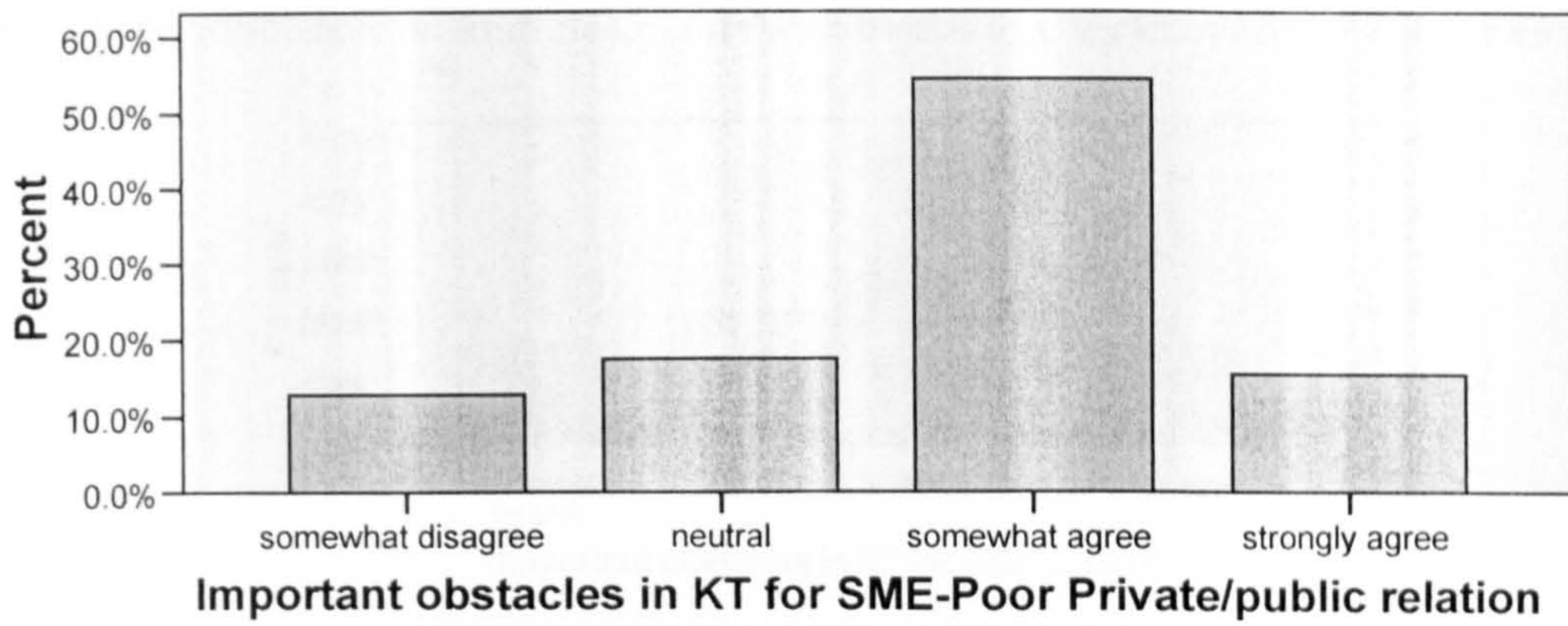
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Graph



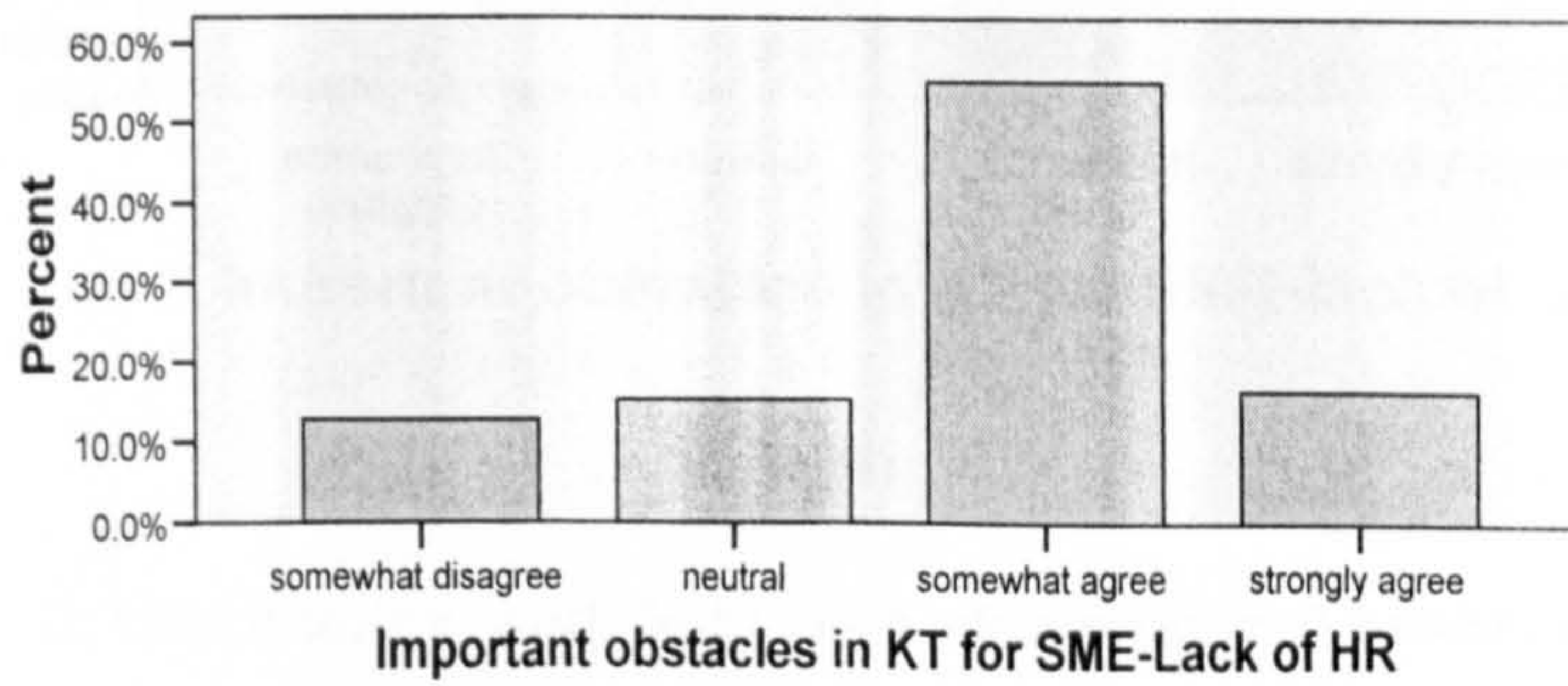
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Graph



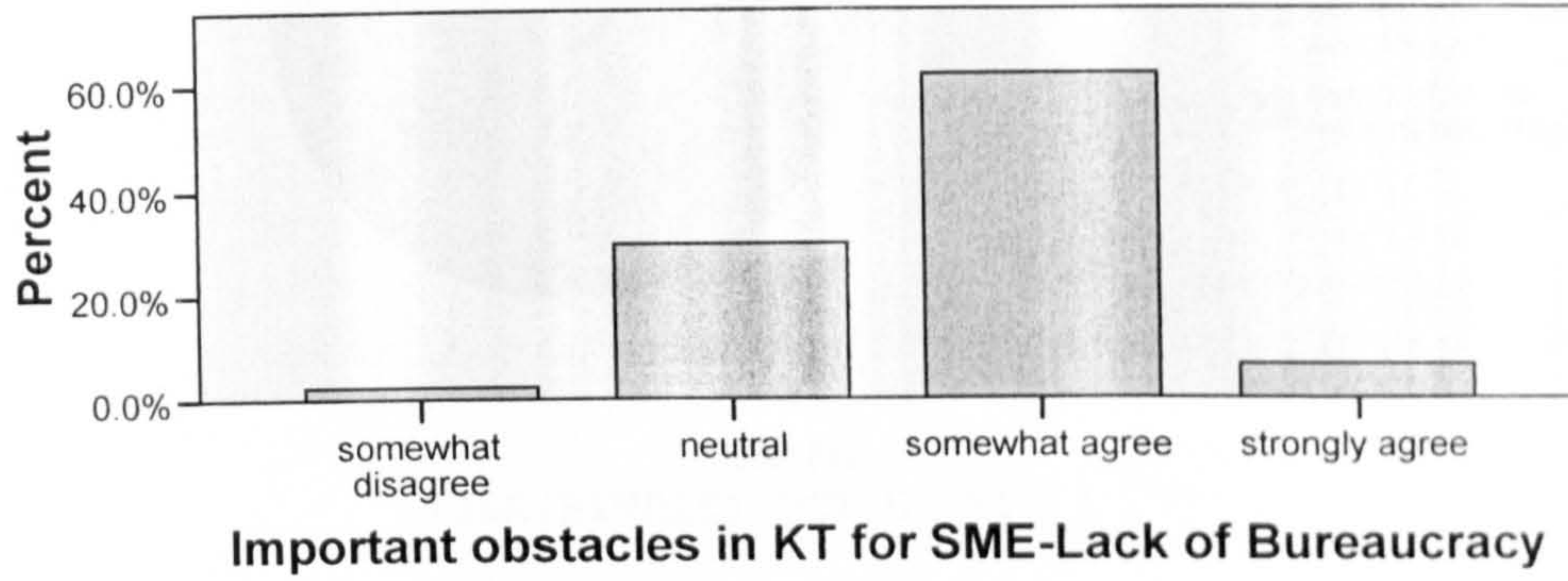
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Graph



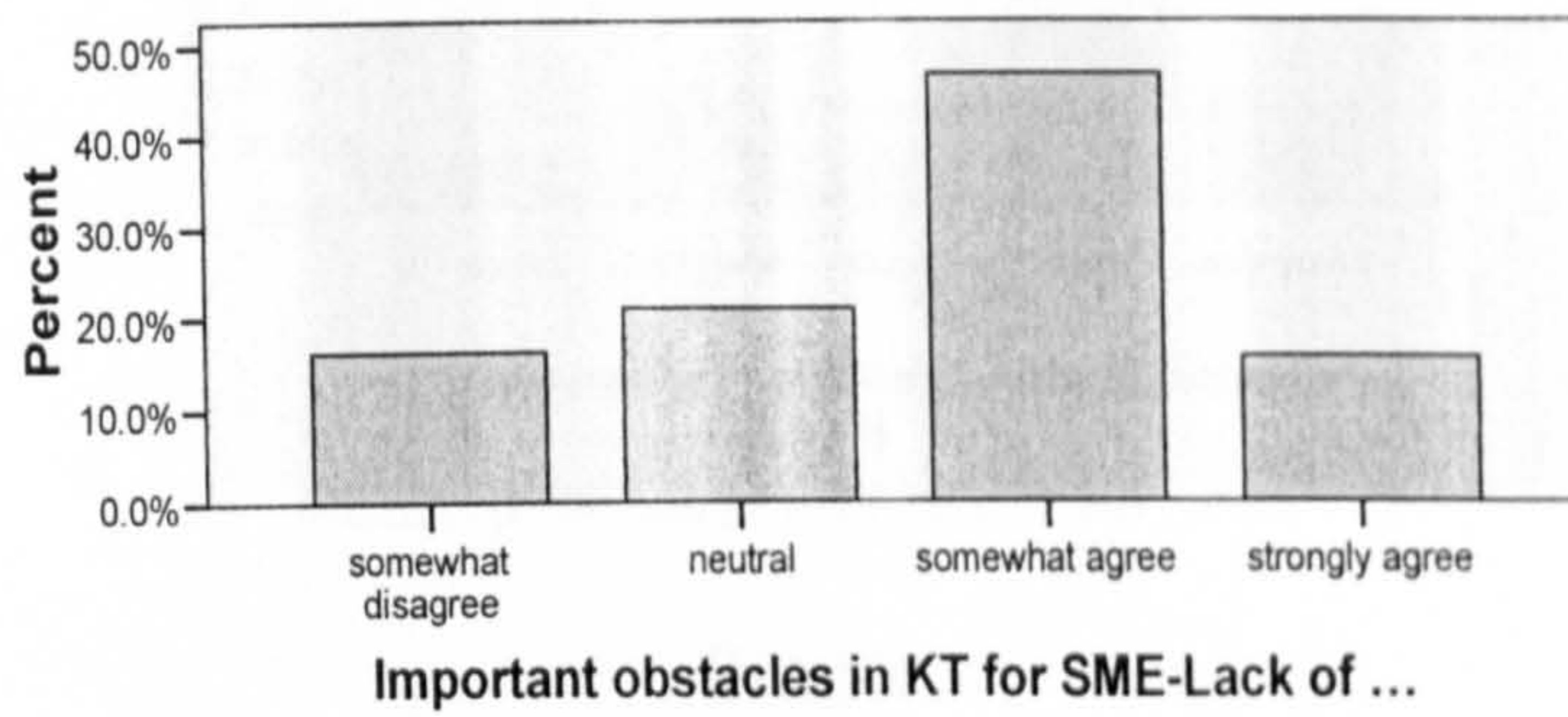
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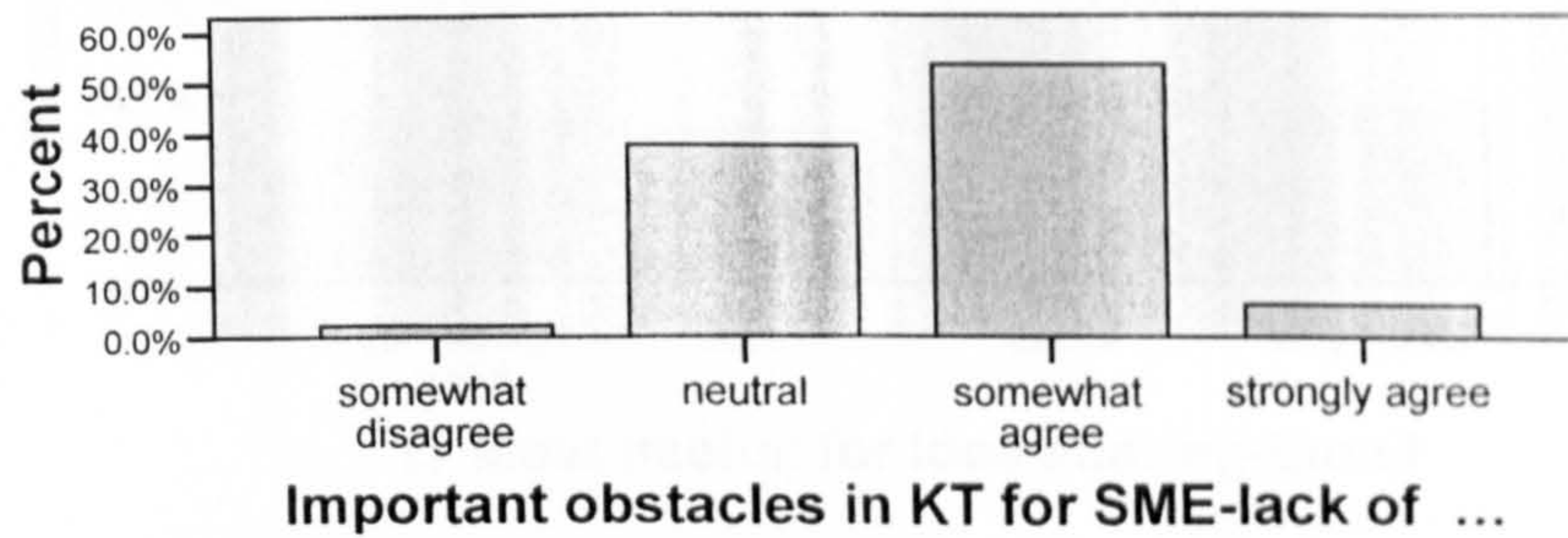
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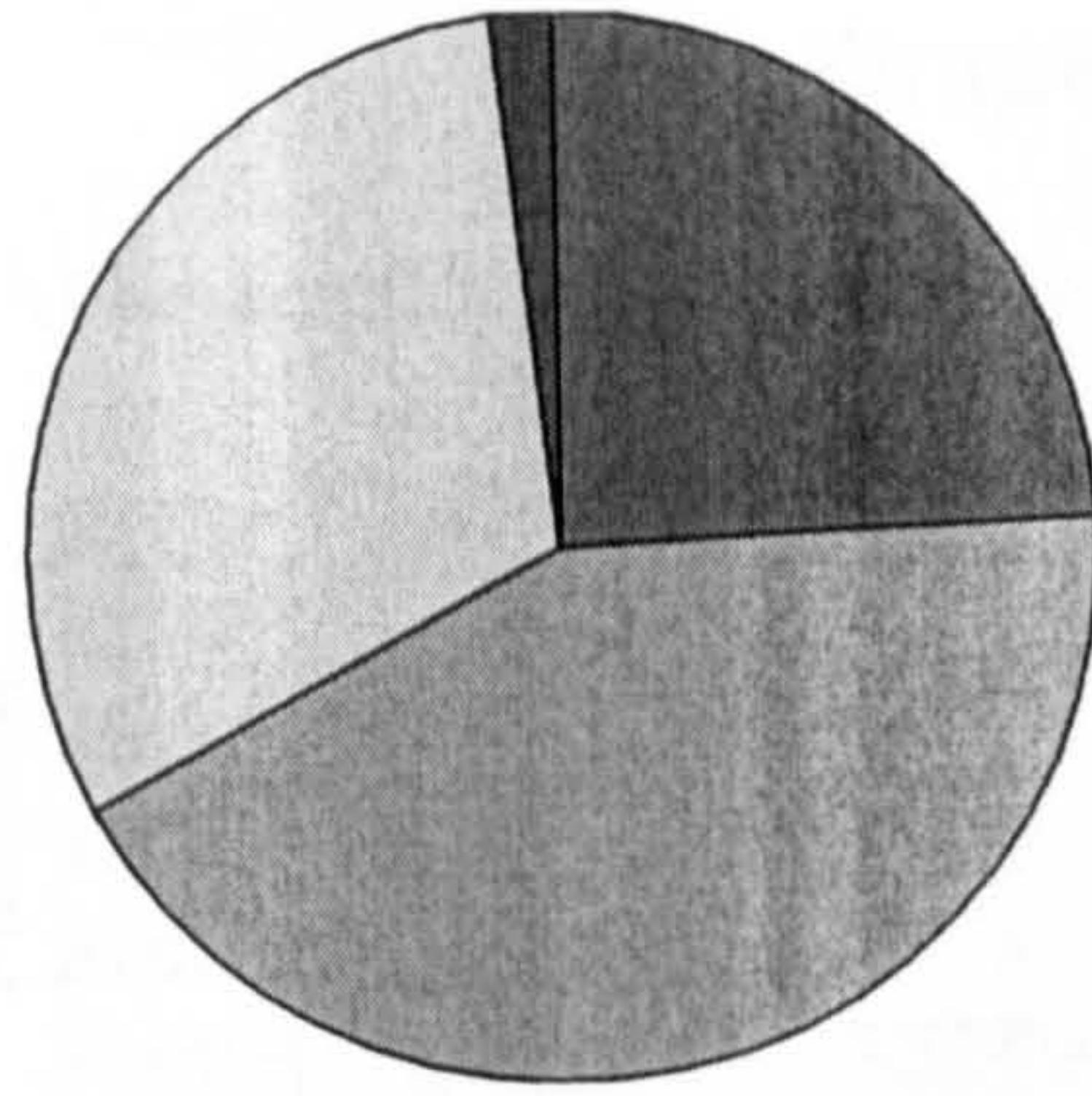
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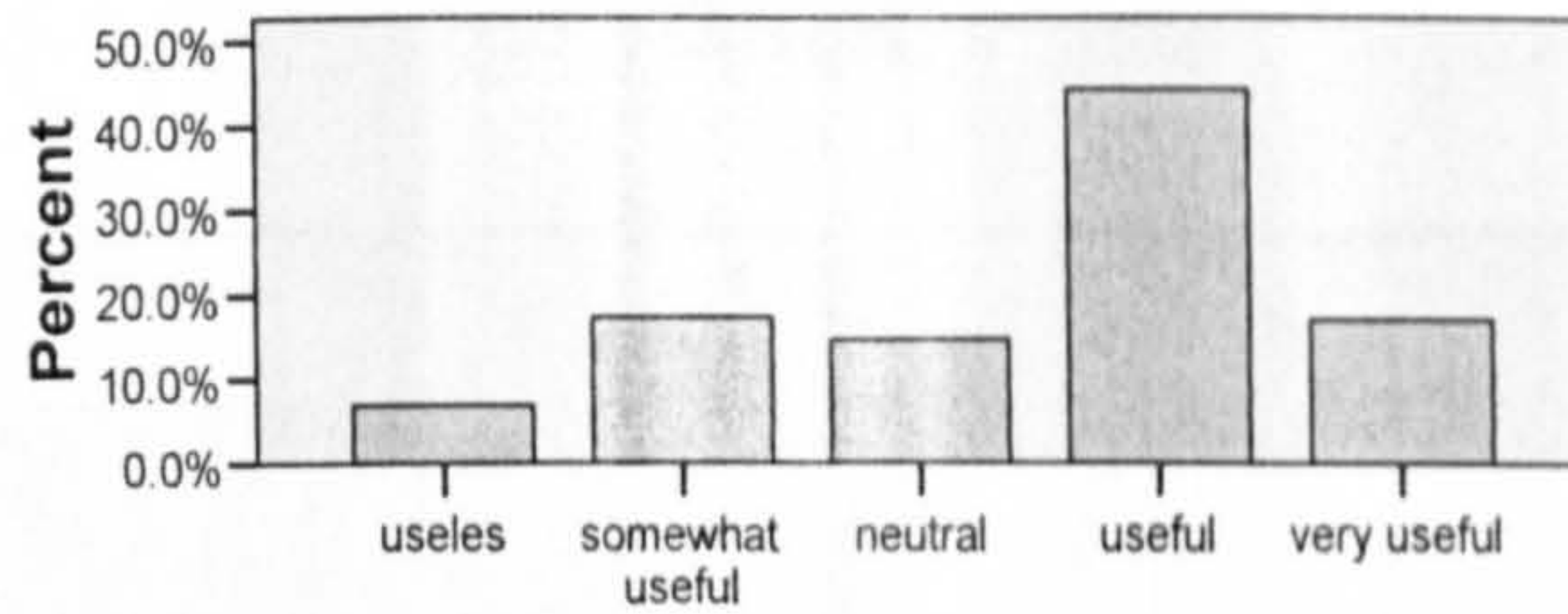


- use method of Information-Computer based applications
- use method of Information-Paper based
- use method of Information-mixed of IT And Papers
- use method of Information-None

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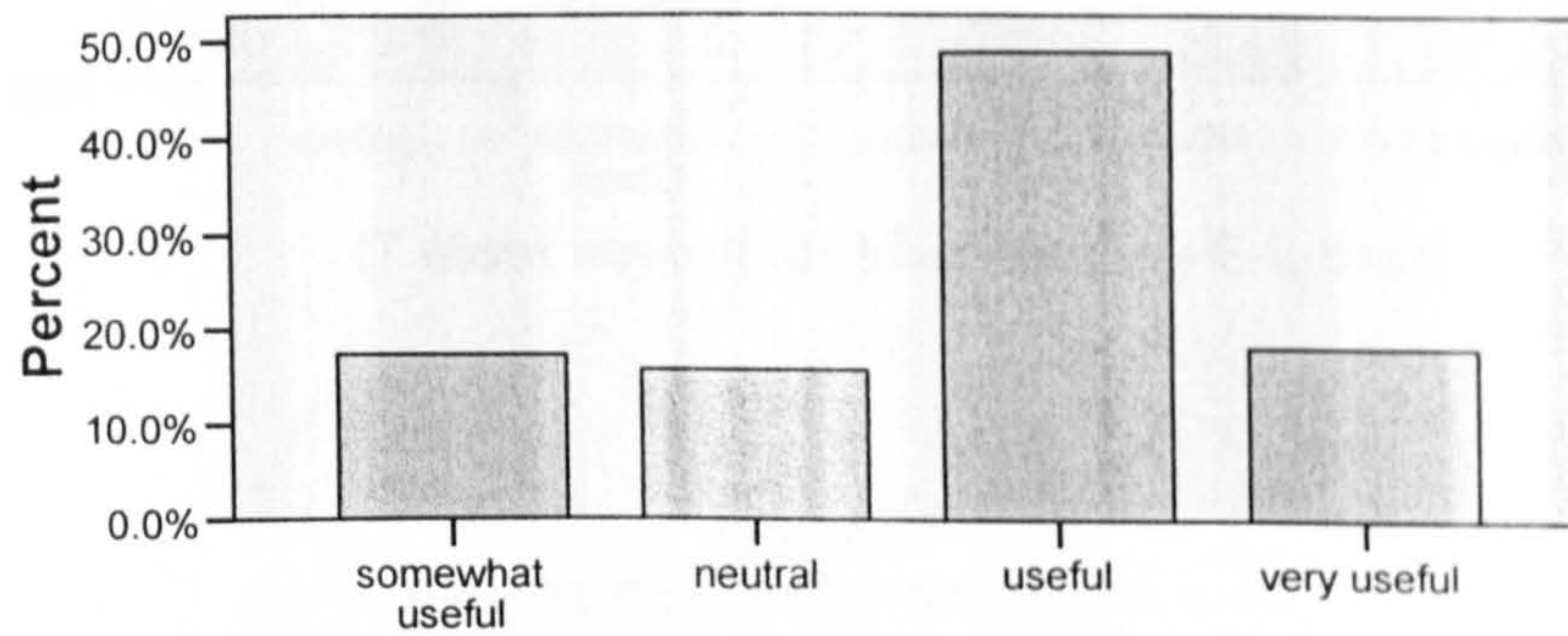
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IT Most usefull for Idea sharing-Company' ...
GRAPH
/BAR(SIMPLE)=PCT BY X53_2 .

Graph

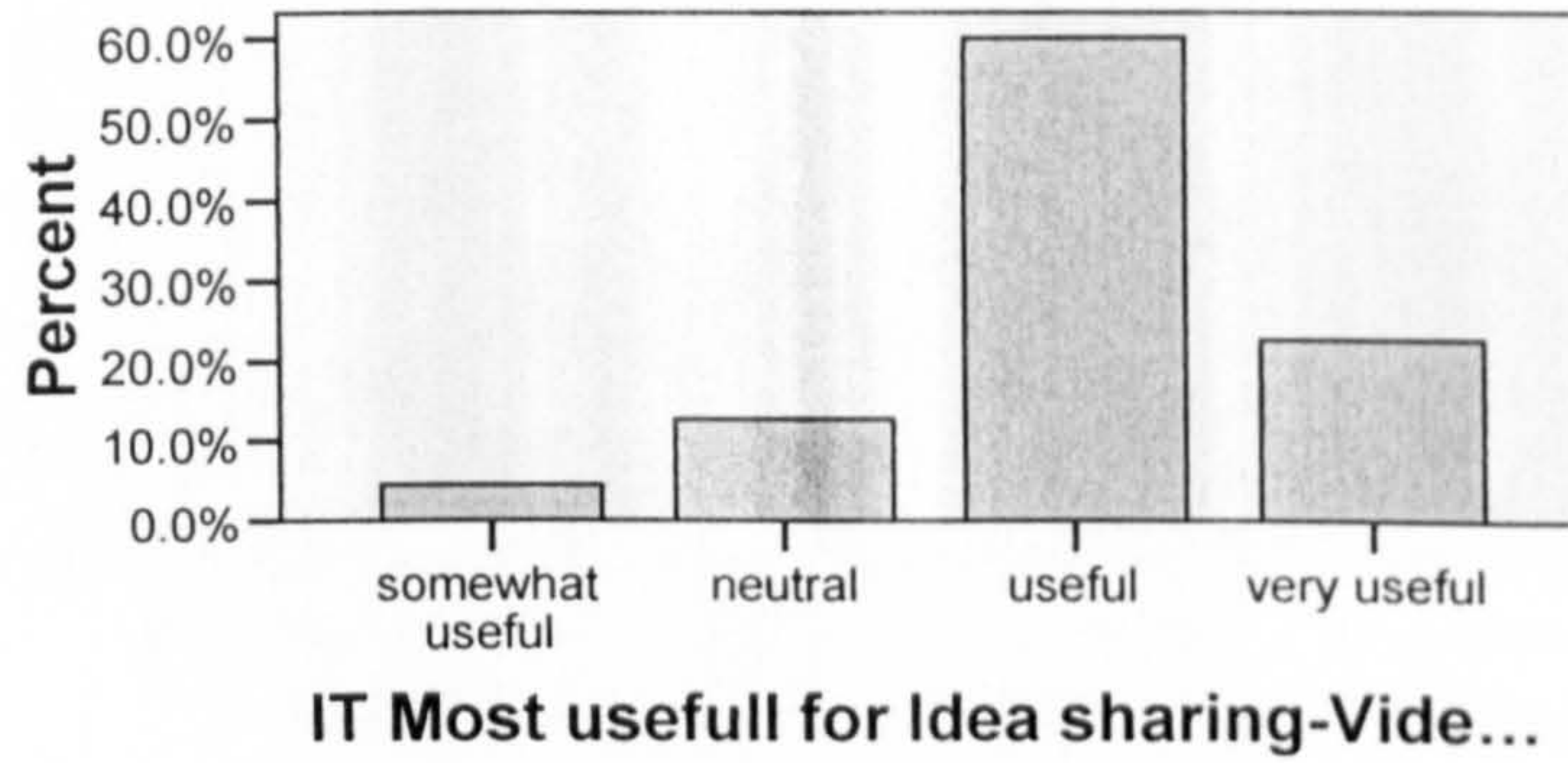


IT Most usefull for Idea sharing-Email

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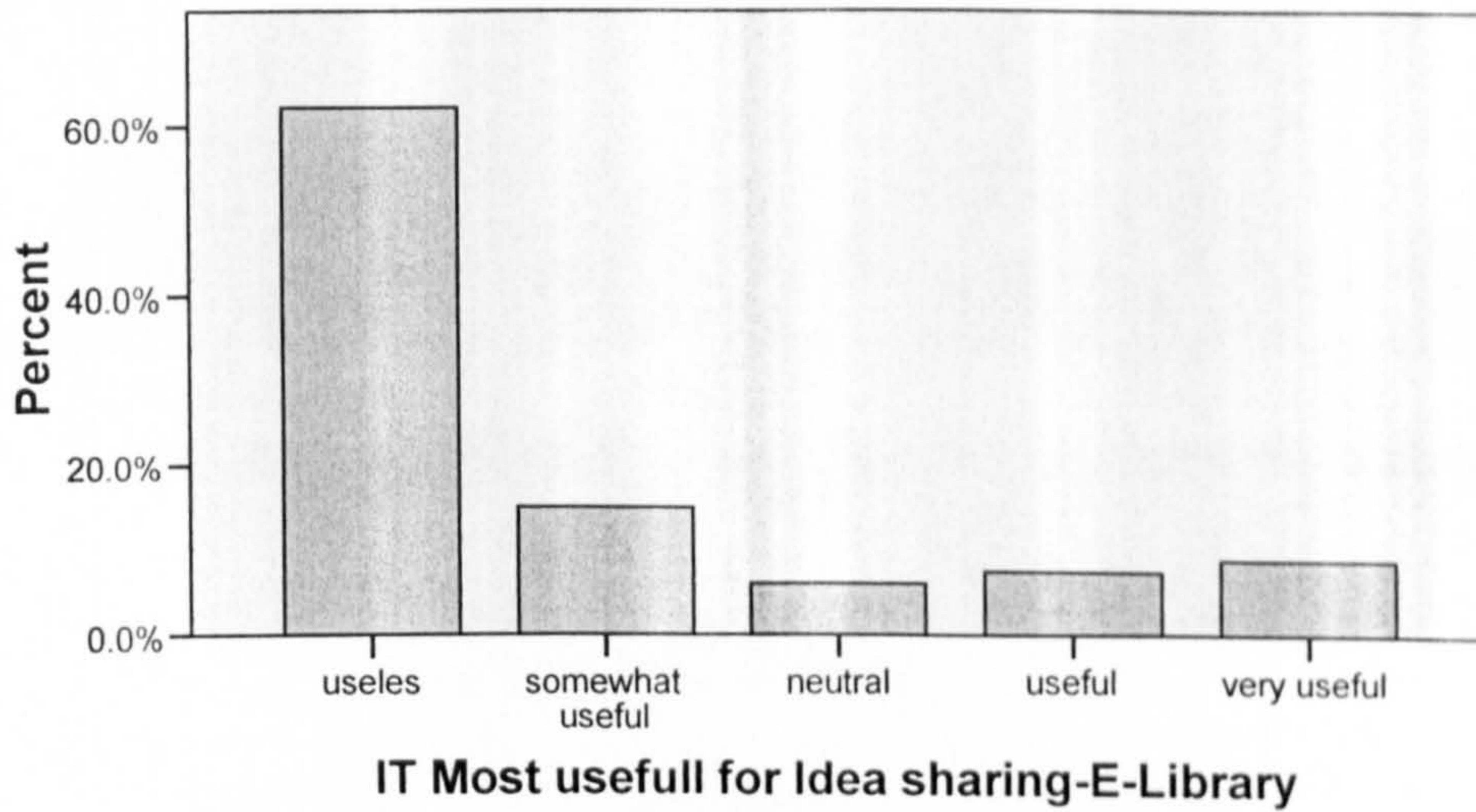
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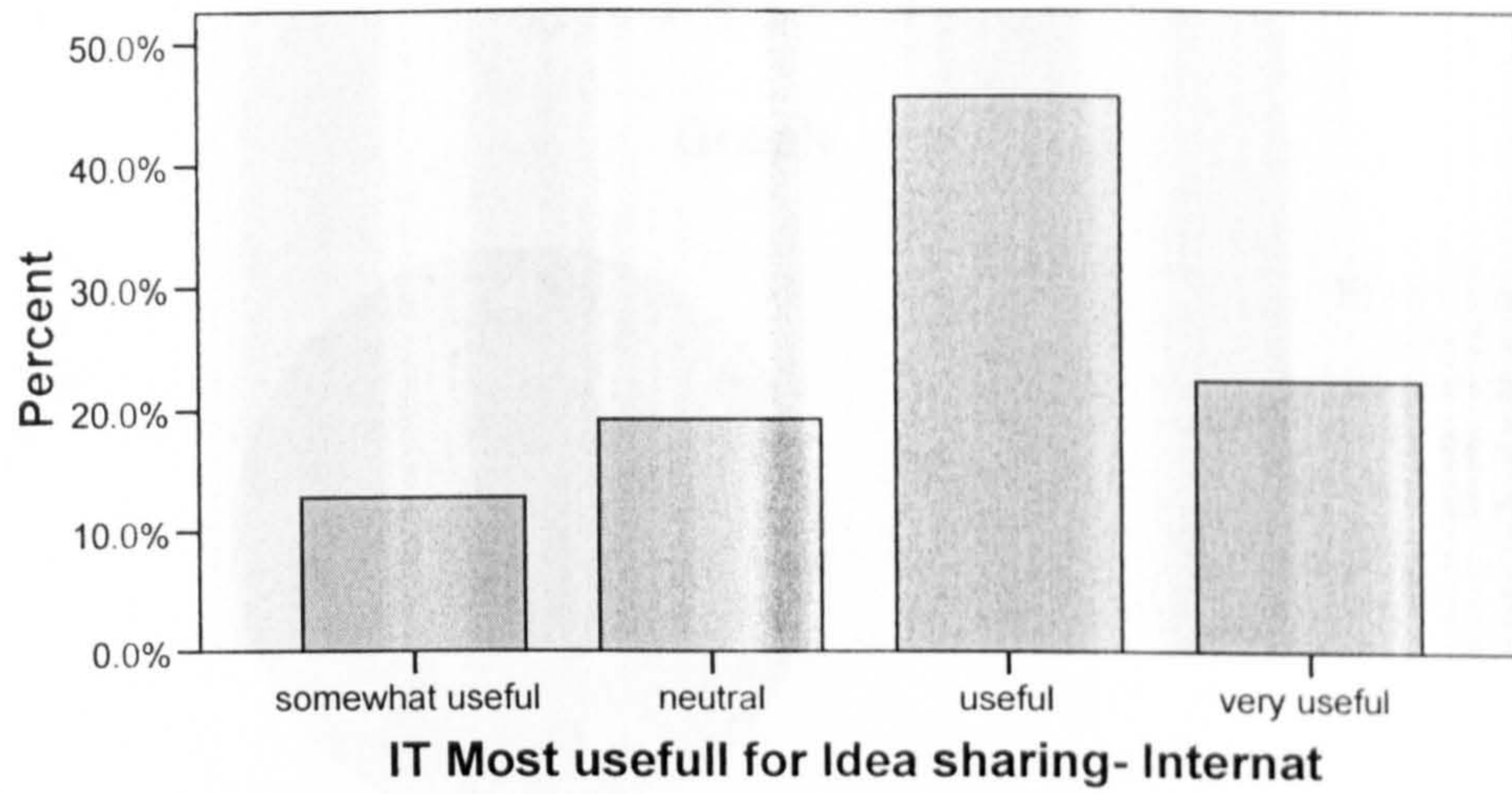
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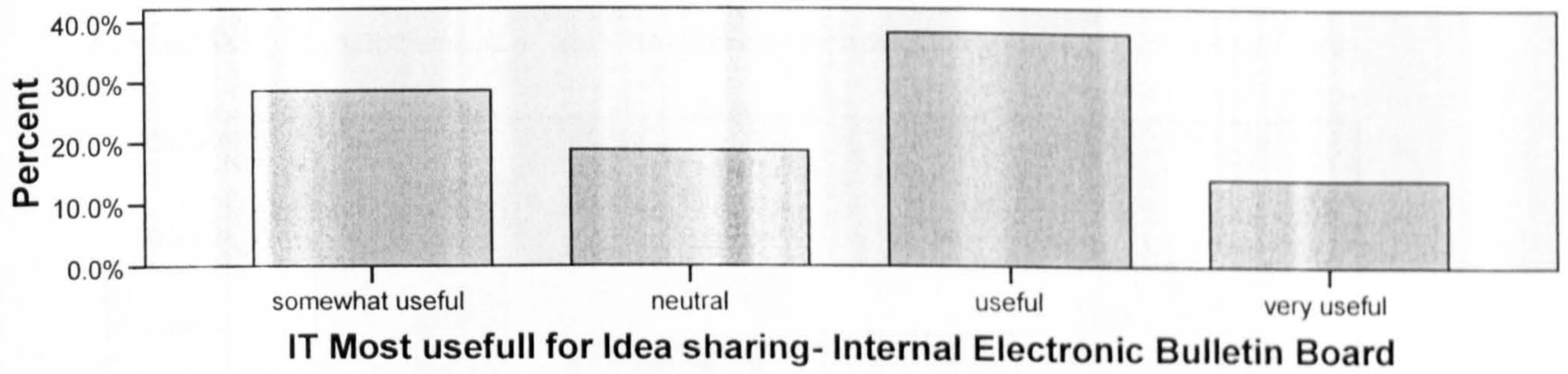
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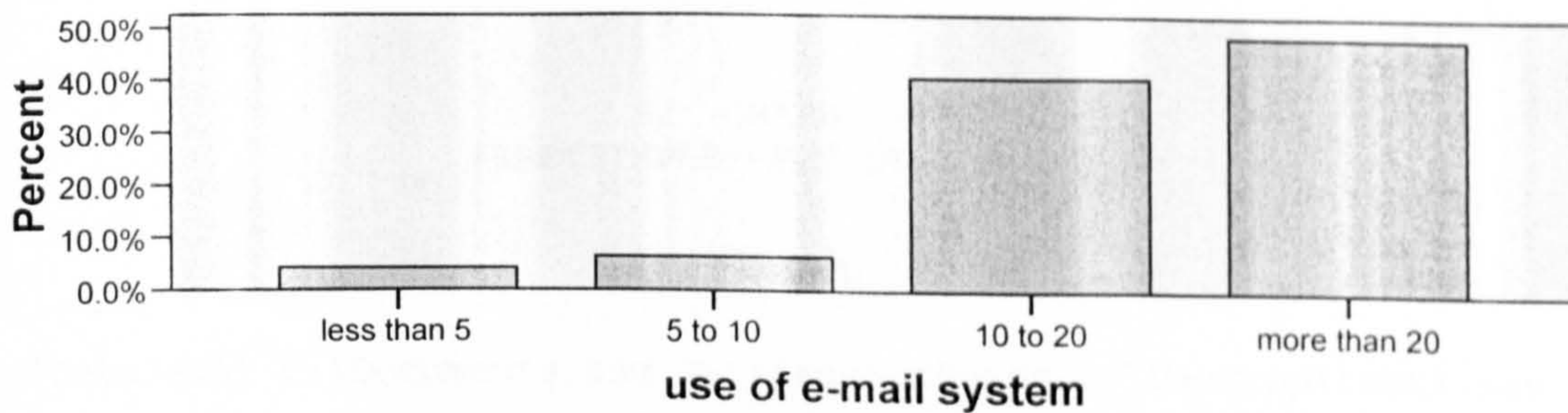
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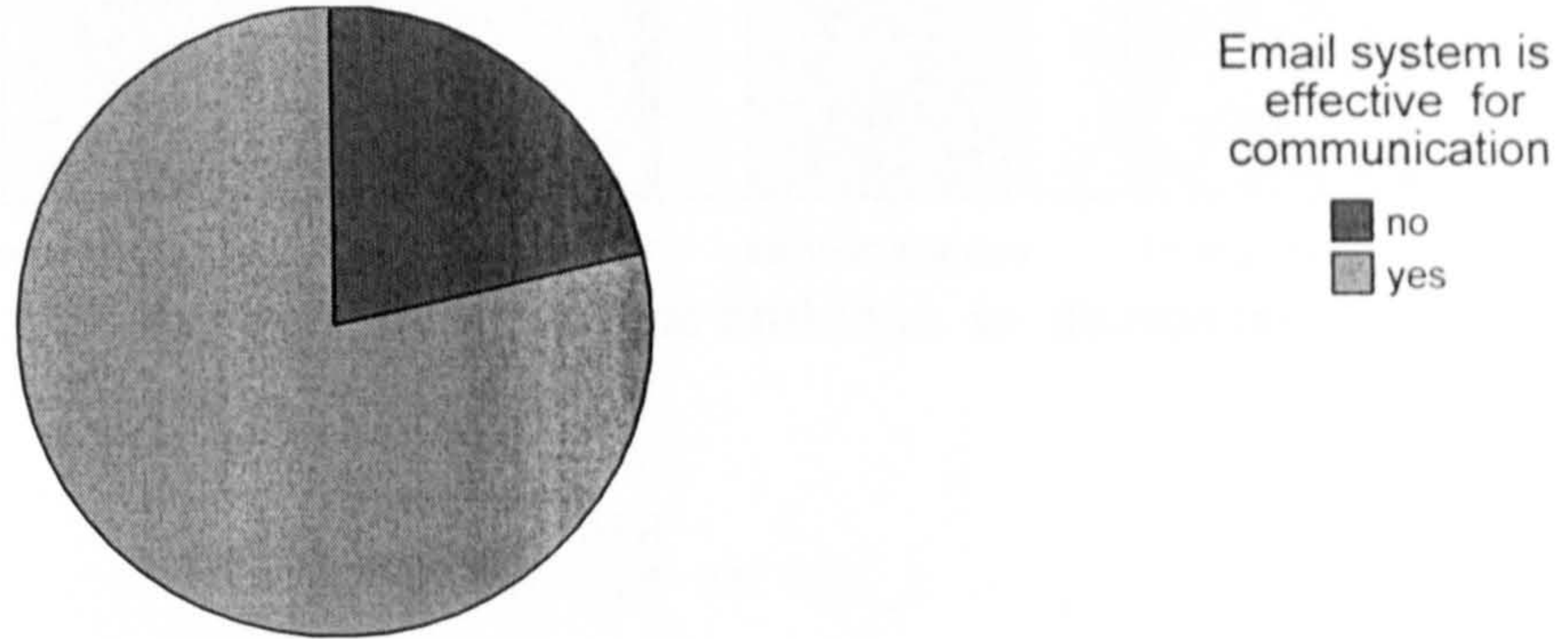
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GRAPH
A142

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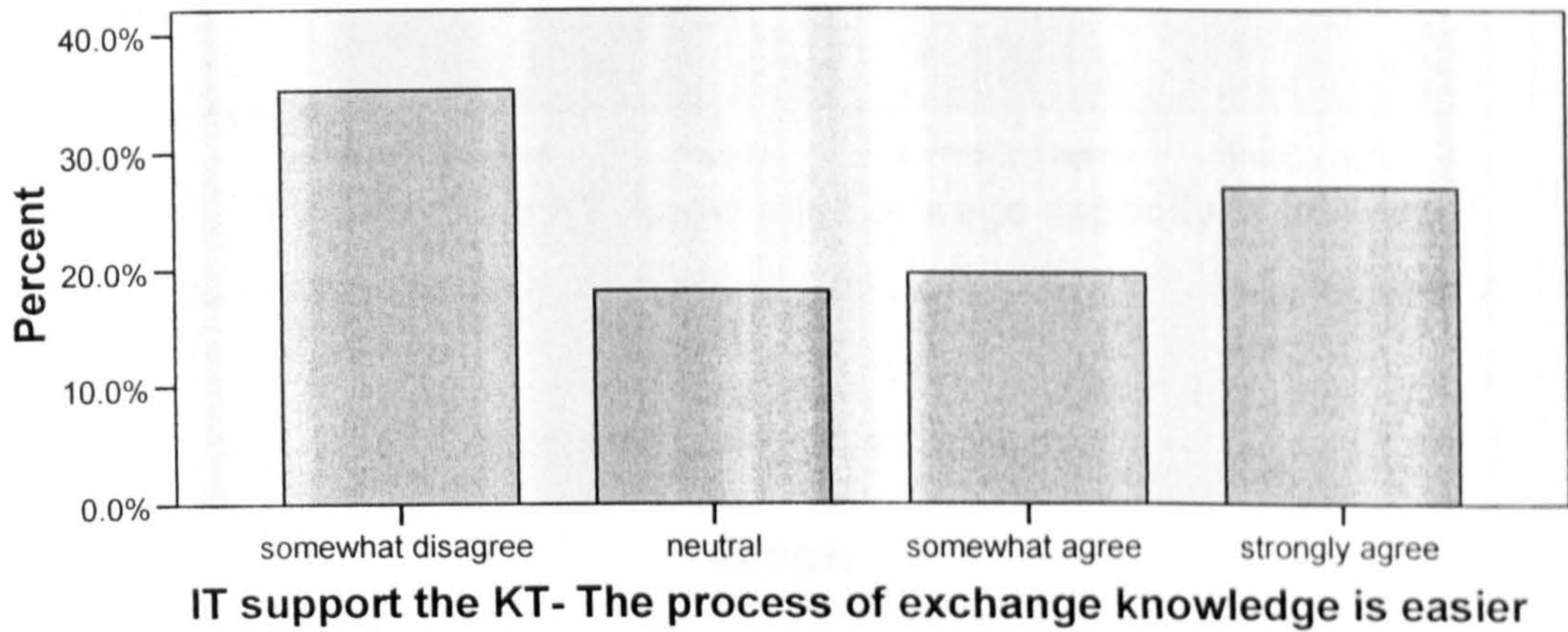
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GRAPH
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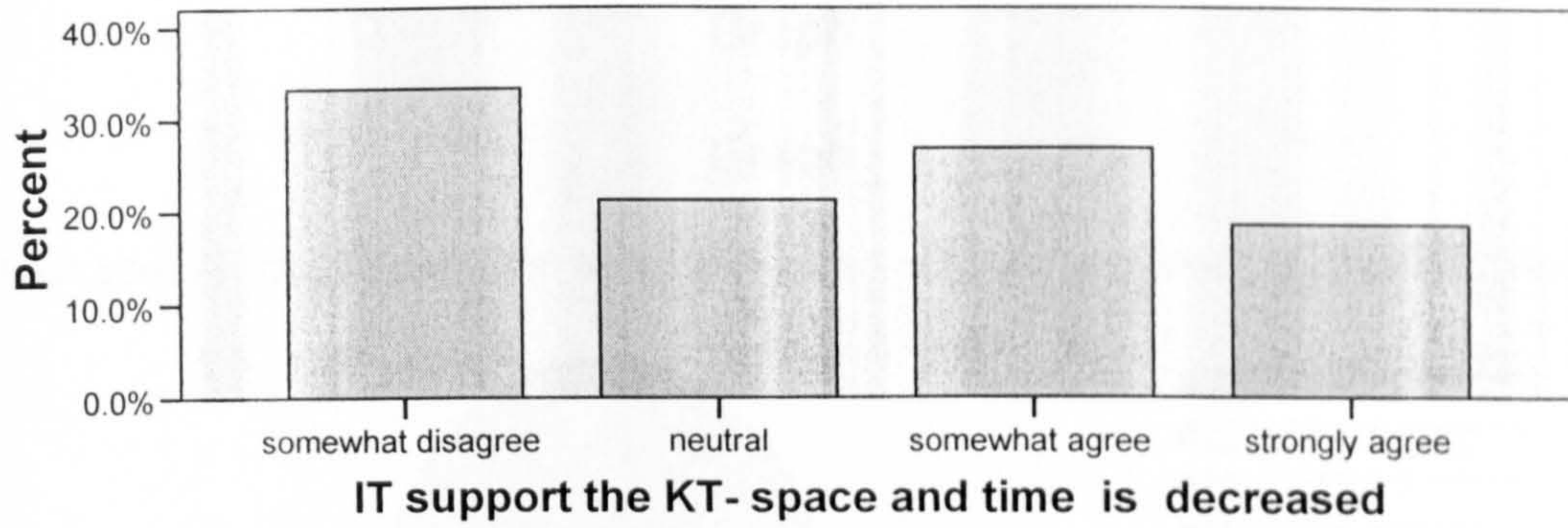
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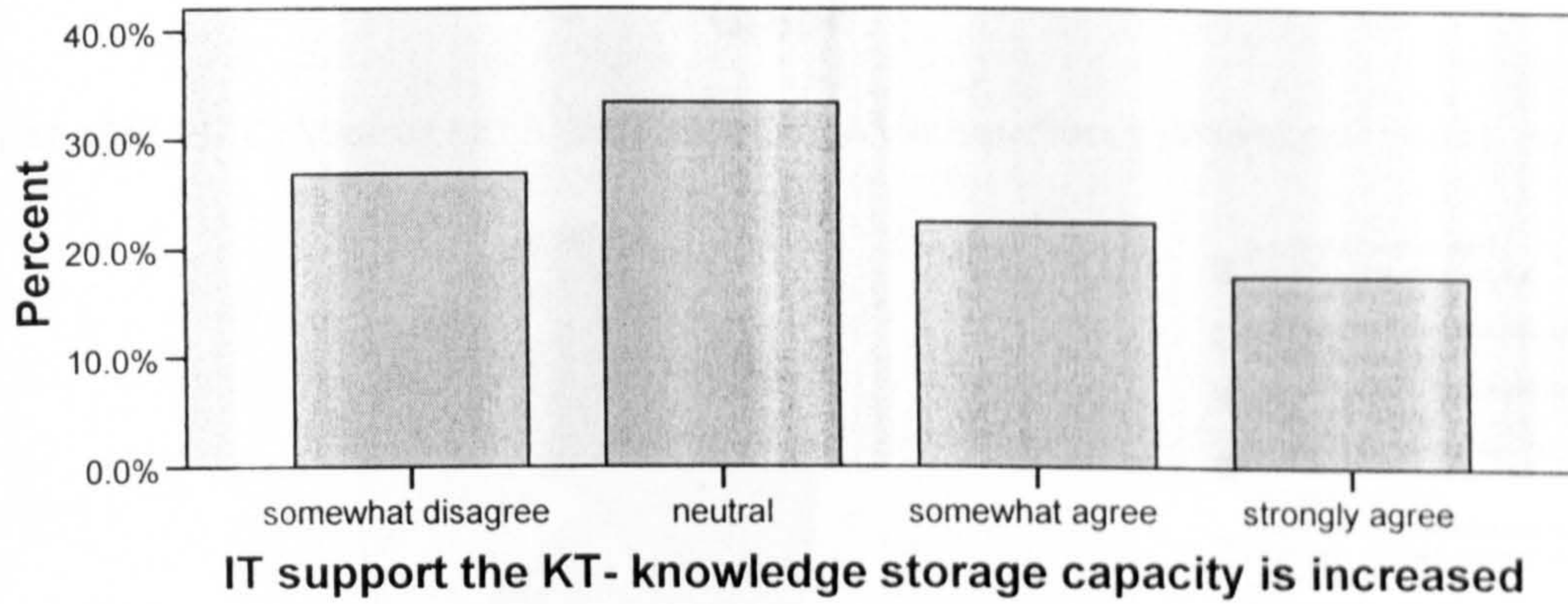
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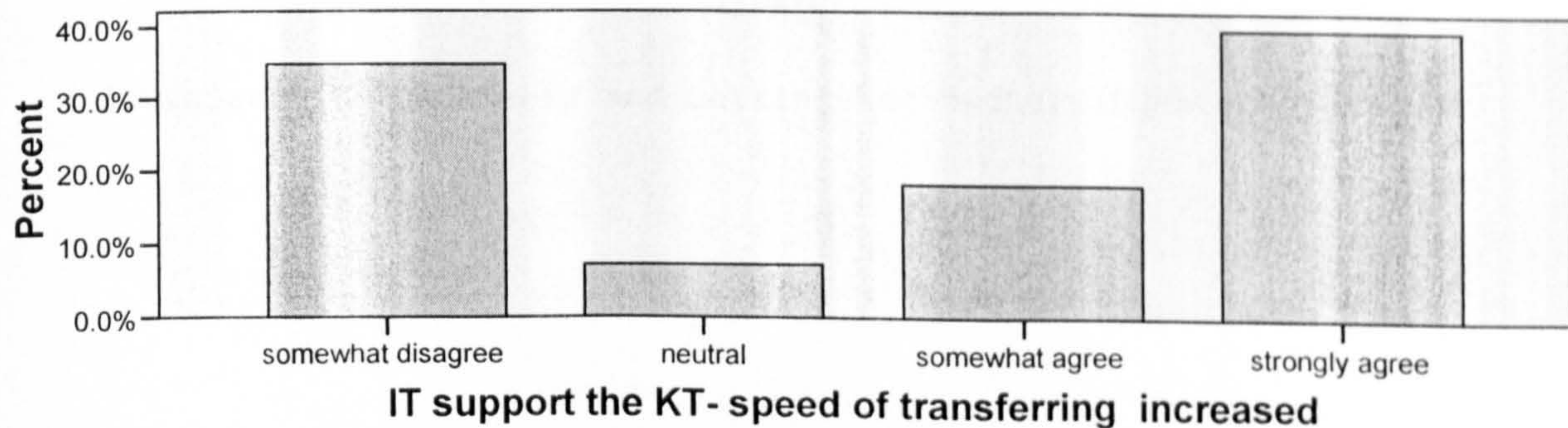
GRAPH
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Graph



GRAPH
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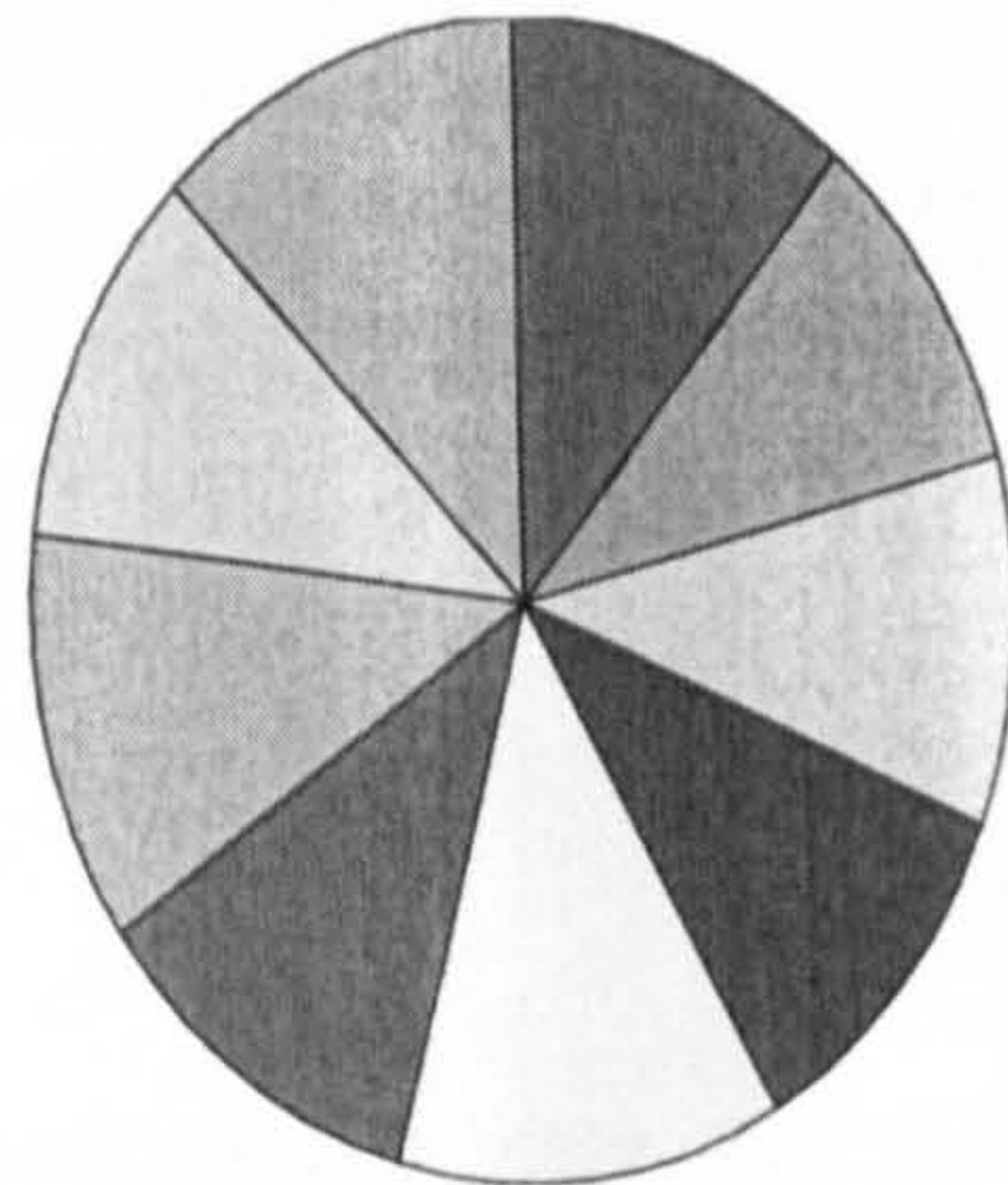
Graph



Graph

Graph

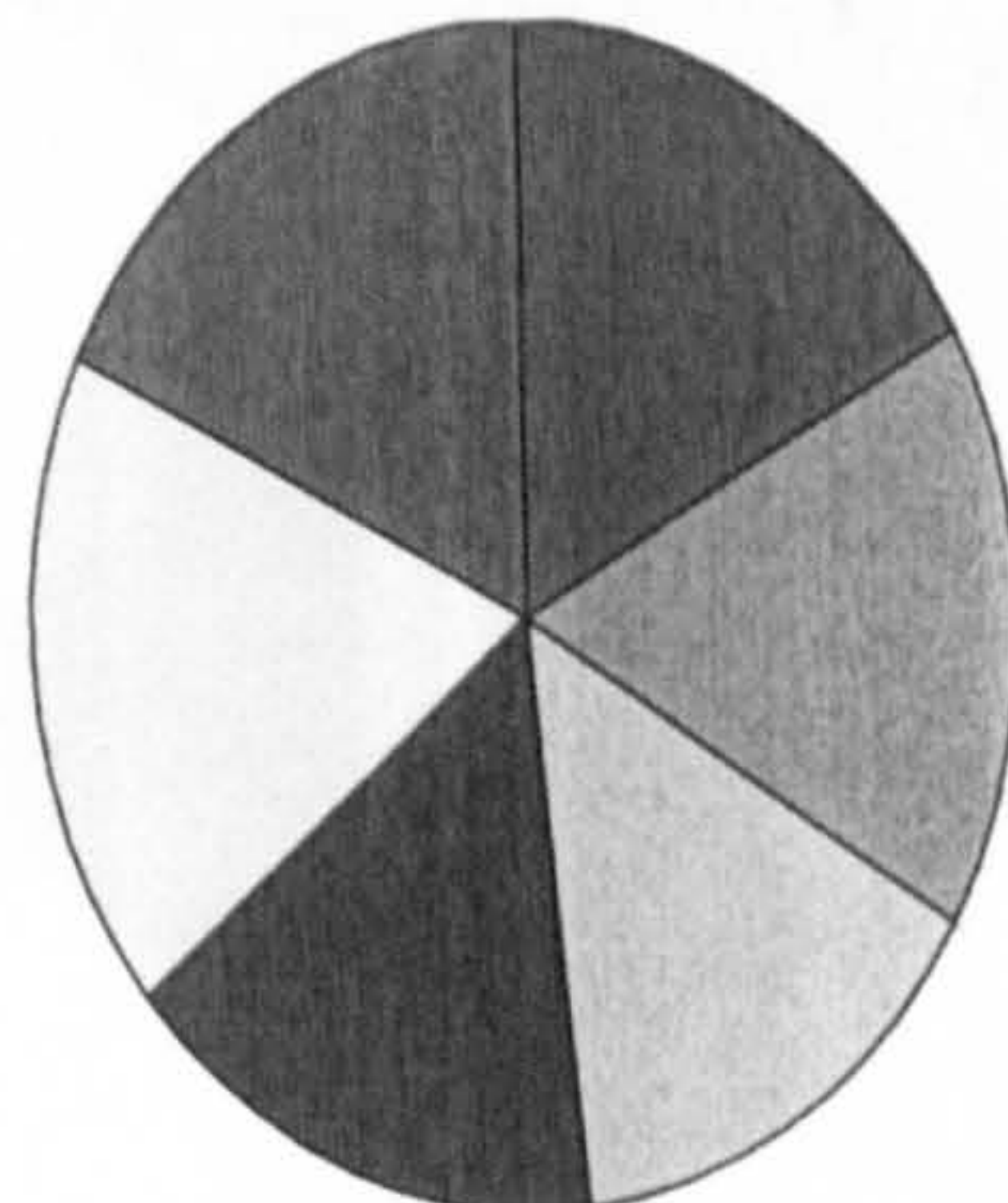
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- Culture and Communication-people work like they are parts of team
- Culture and Communication-people help each others and get strong relation
- Culture and Communication-cooperation among employees
- Culture and Communication-work is organized for goals of company
- Culture and Communication-information widely shared
- Culture and Communication-often socialize outside the office
- Culture and Communication-coordinate projects across diff parts of company
- Culture and Communication-understand and share the same objectives
- Culture and Communication-atmosphere is open and friendly

Graph

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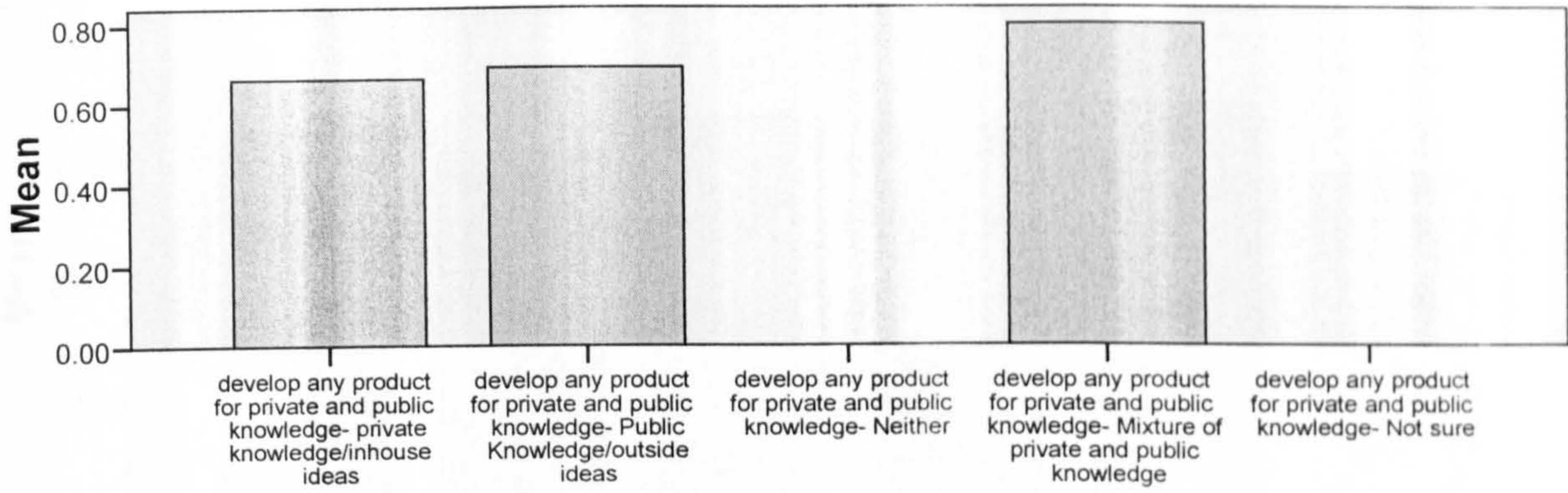
- Culture and Communication-company's aims, objectives and strategies are clear
- Culture and Communication-policies are clear to employees
- Culture and Communication-guidelines are regularly updated
- Culture and Communication-knowledge of new concepts are periodically circulated
- Culture and Communication-data and information circulated both electrical and traditional
- Culture and Communication-discussion forum is organized to encourage knowledge sharing

GRAPH

```
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/MISSING=LISTWISE .
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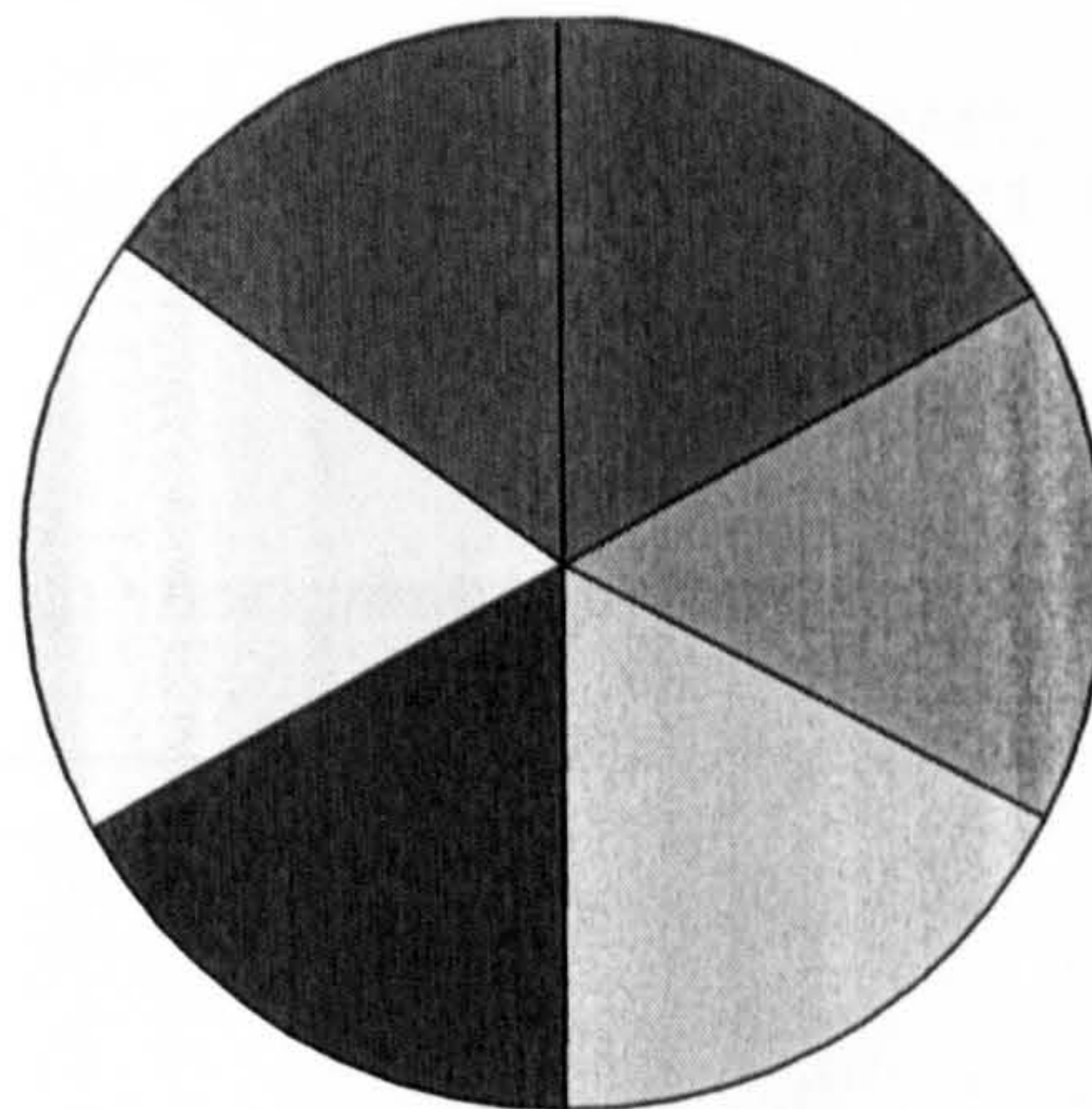
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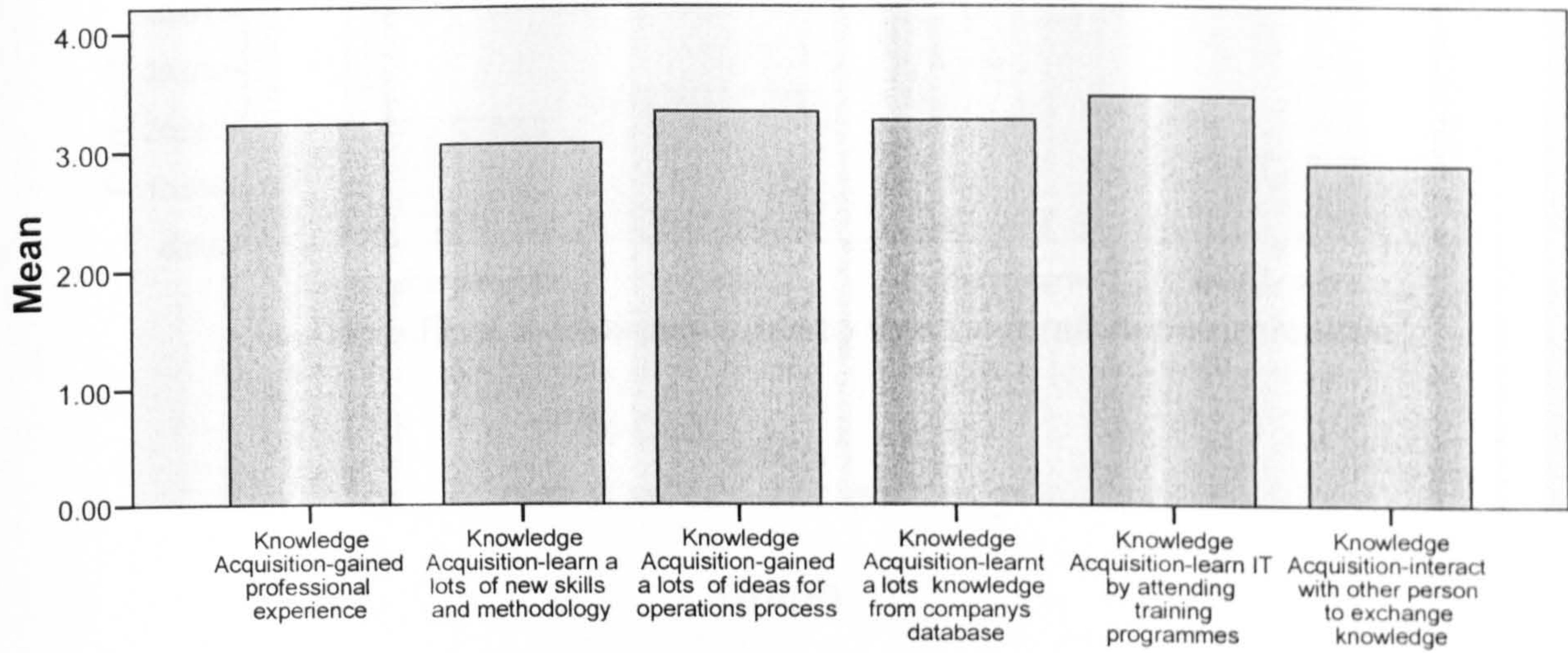
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- Knowledge Acquisition-gained professional experience
- Knowledge Acquisition-learn a lots of new skills and methodology
- Knowledge Acquisition-gained a lots of ideas for operations process
- Knowledge Acquisition-learnt a lots knowledge from companys database
- Knowledge Acquisition-learn IT by attending training programmes
- Knowledge Acquisition-interact with other person to exchange knowledge

Graph

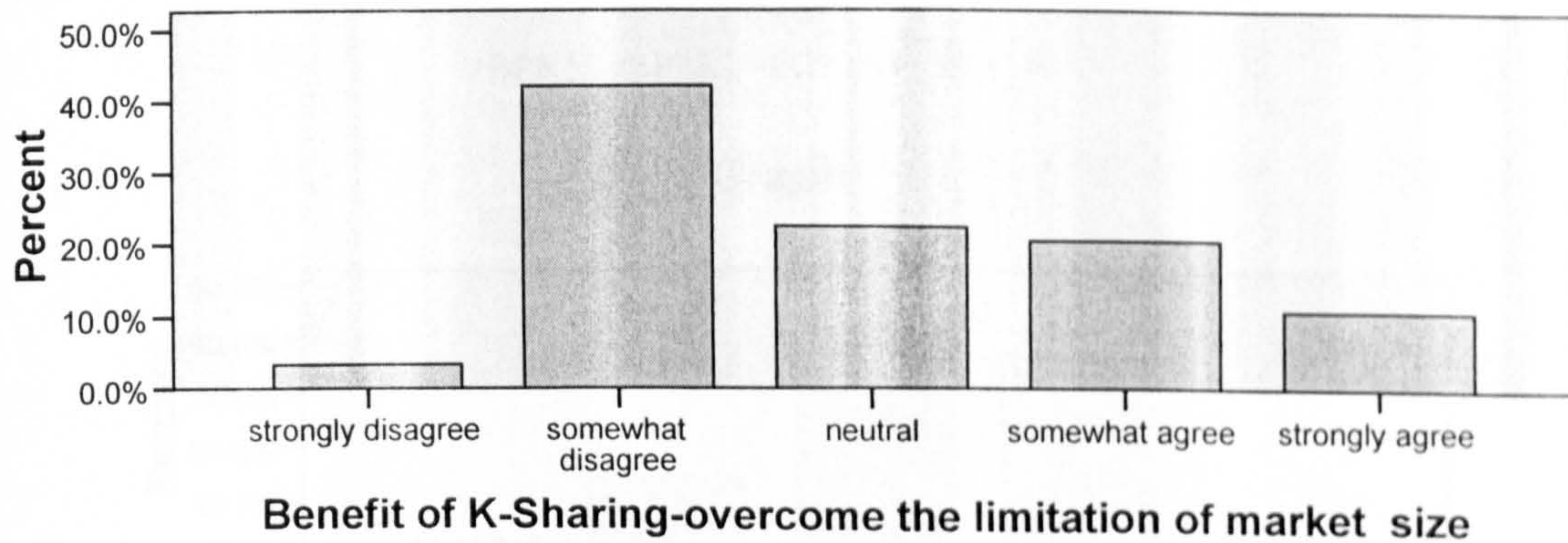
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Graph

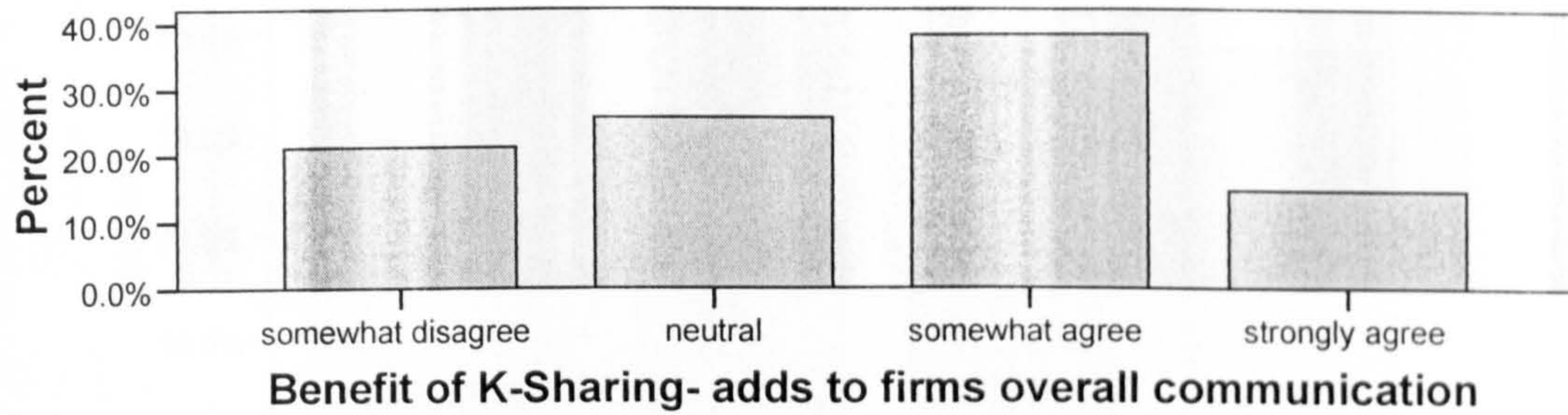
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GRAPH
/BAR(SIMPLE)=PCT BY X73_2 .

Graph

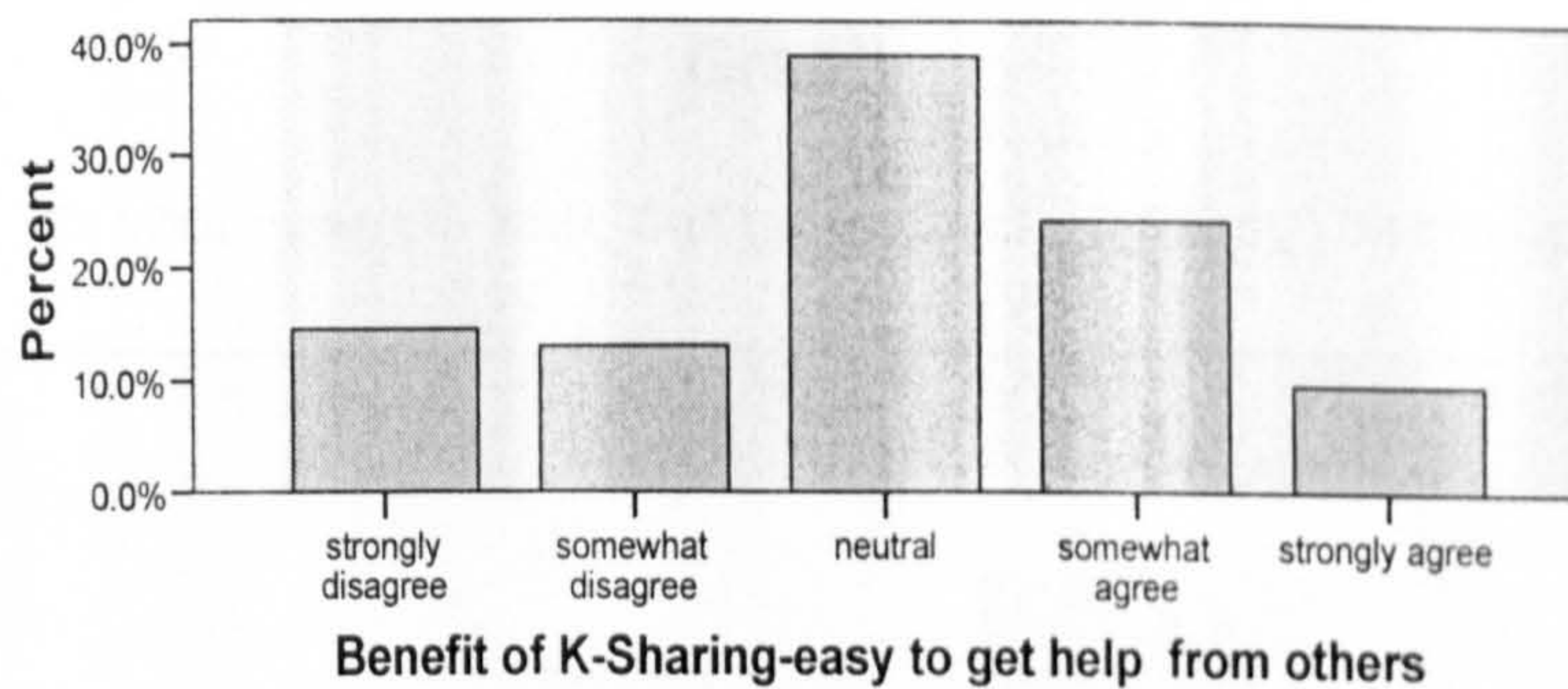
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GRAPH
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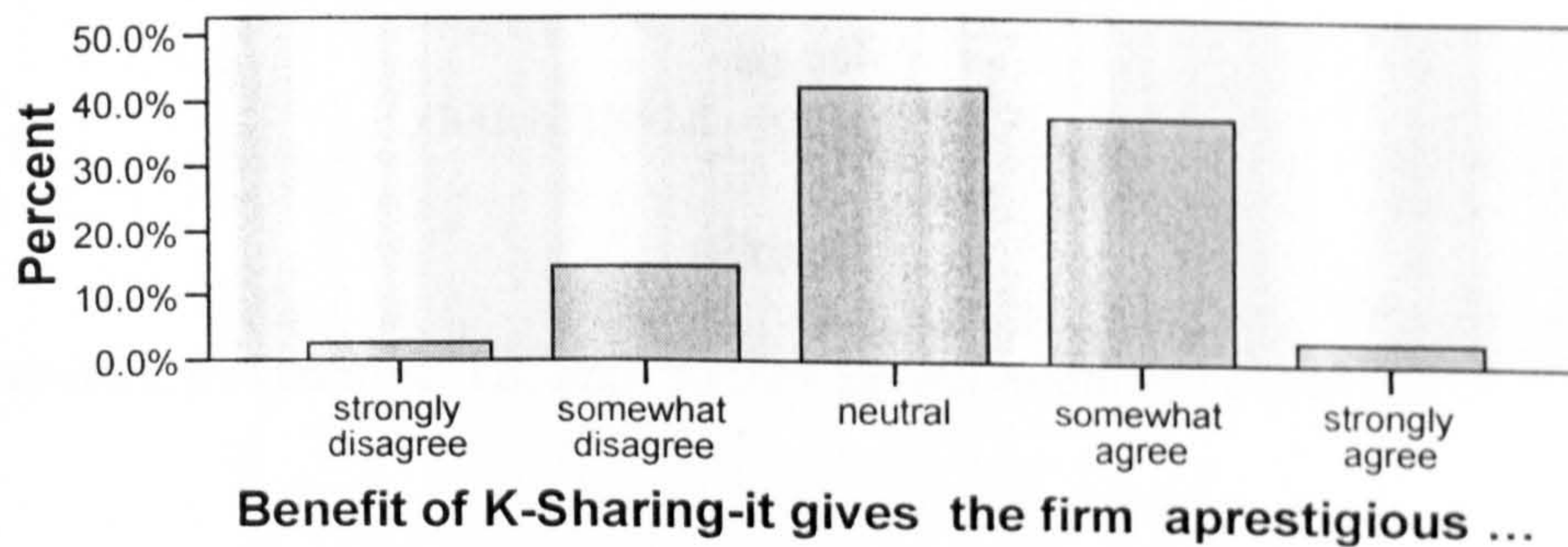
Graph

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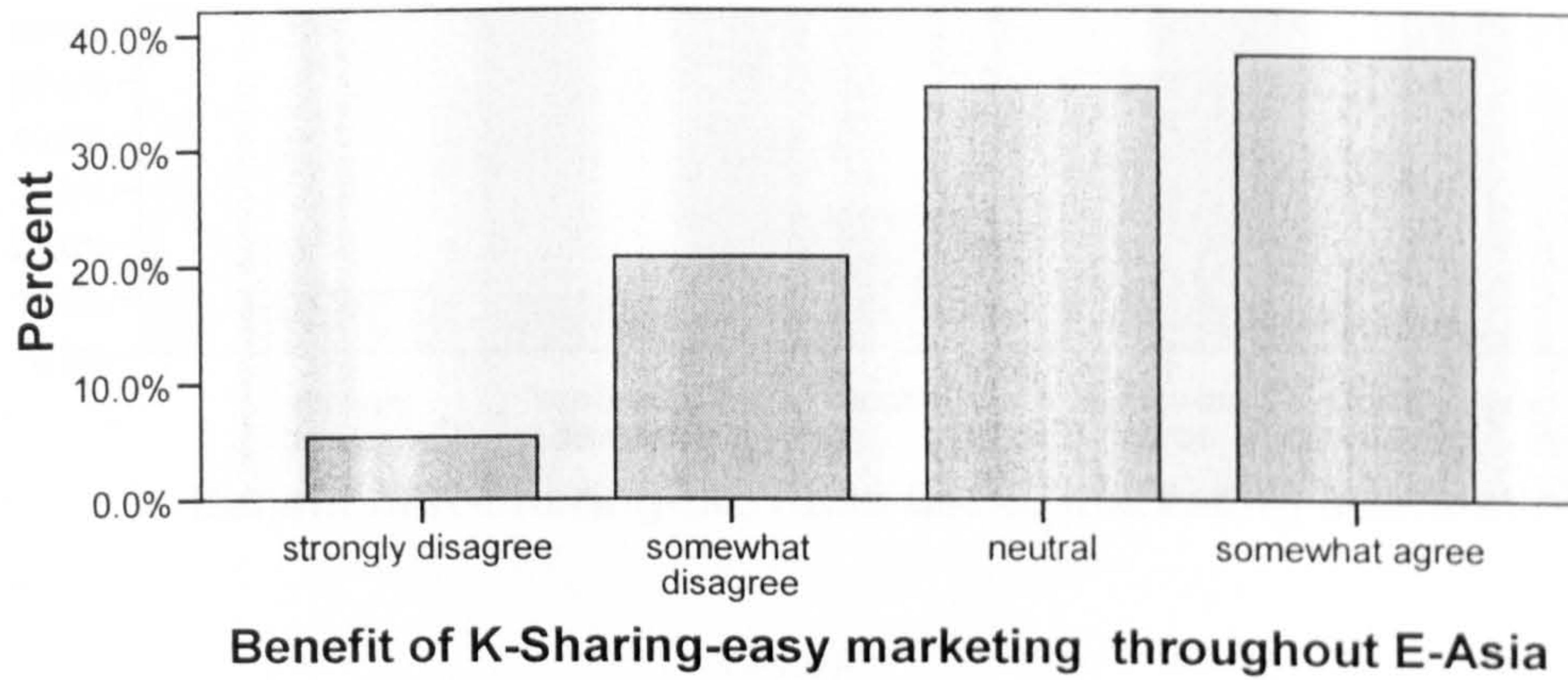
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Graph



GRAPH
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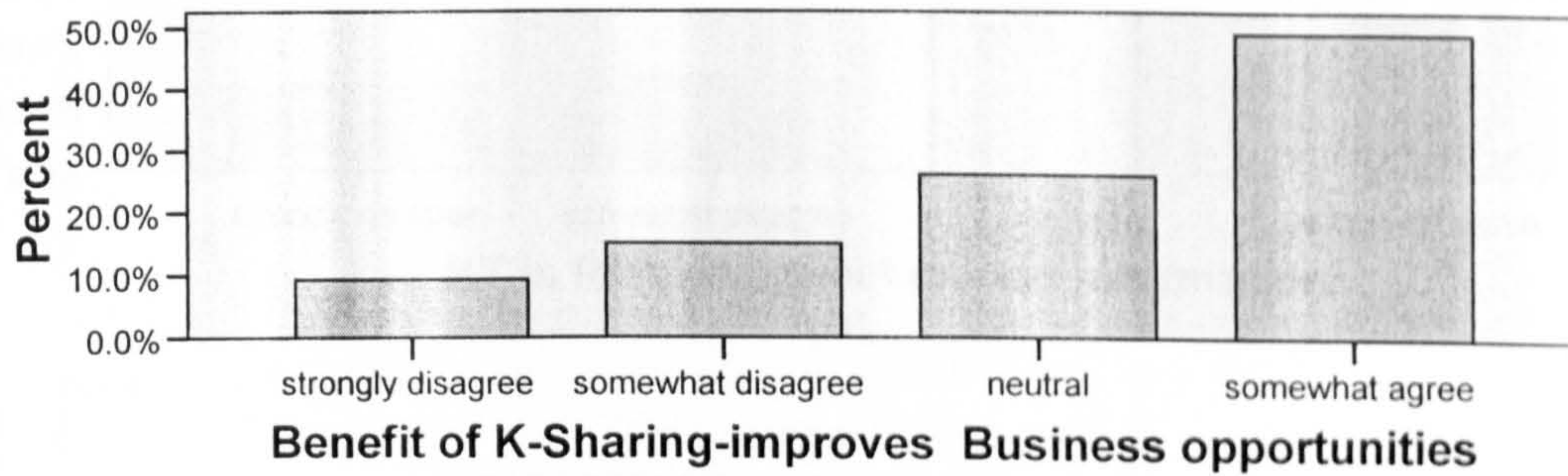
Graph



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GRAPH
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Graph

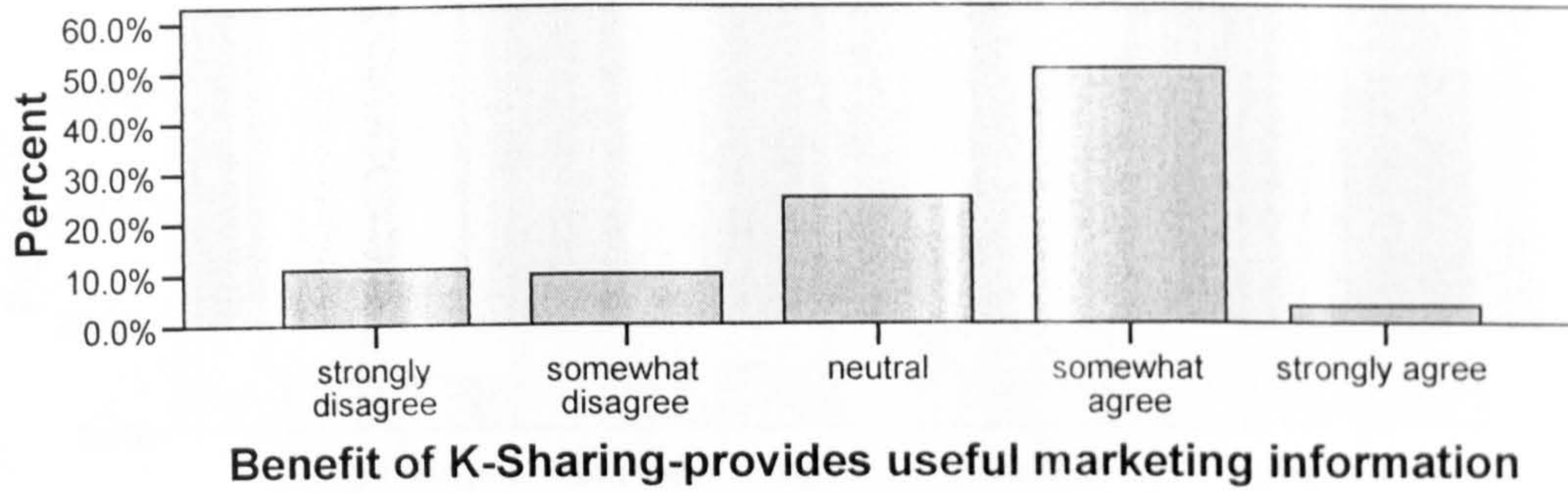
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Graph

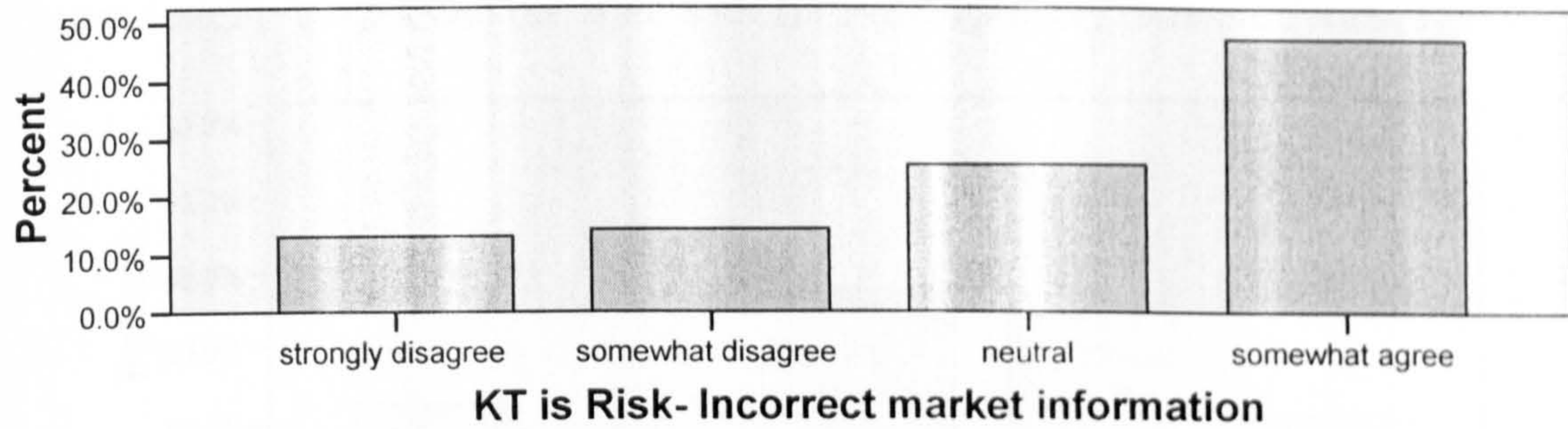
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GRAPH
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Graph

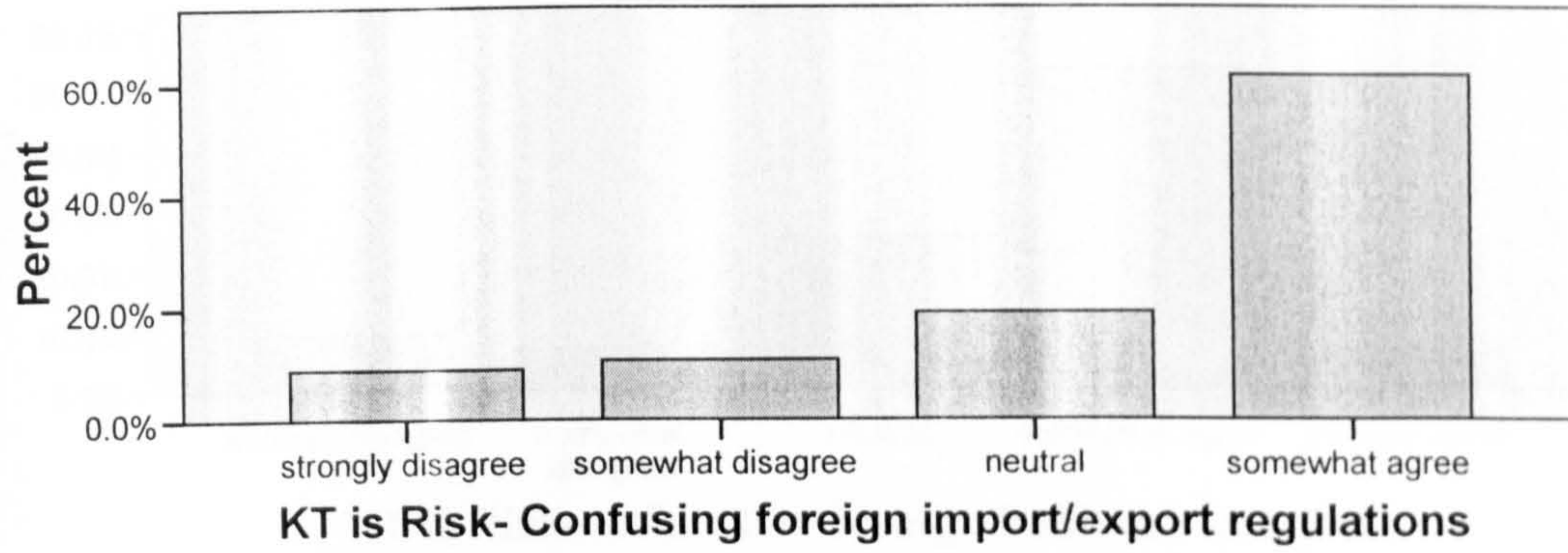
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```
GRAPH
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```

Graph

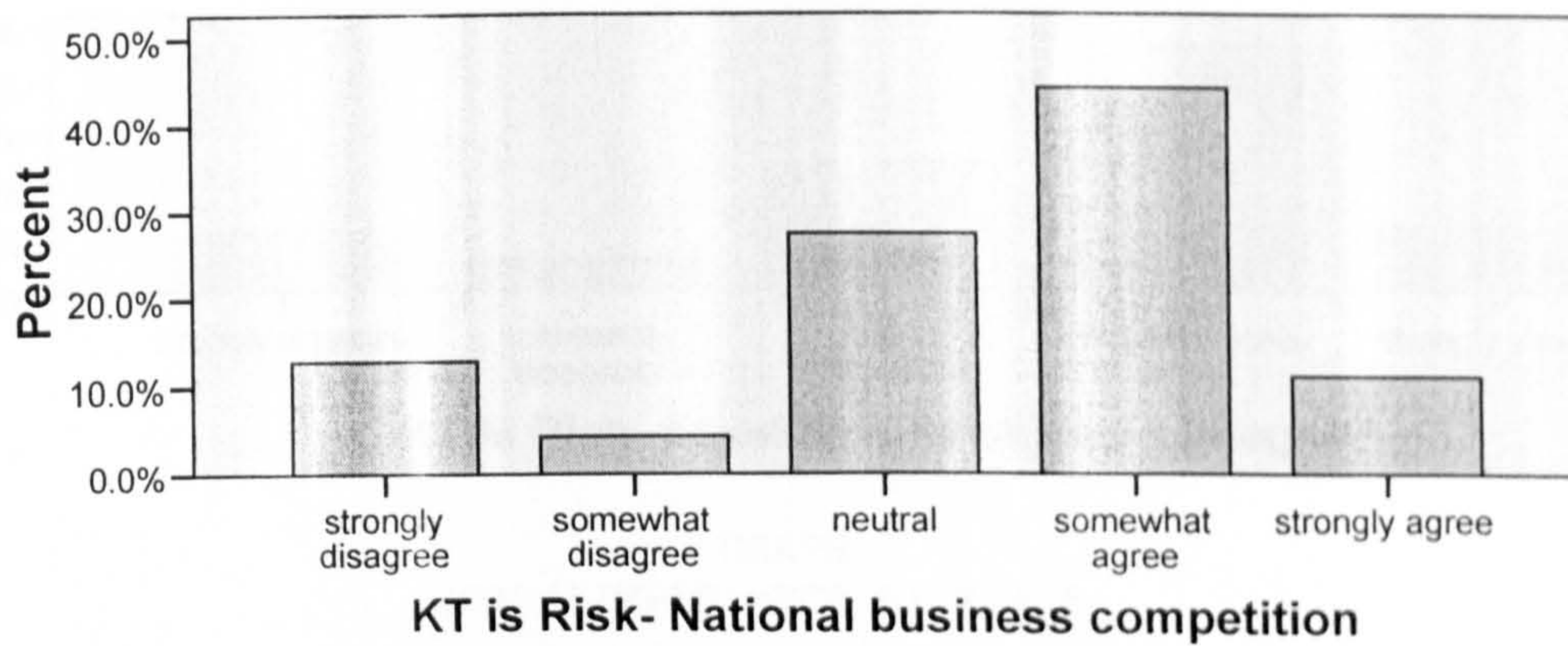
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GRAPH
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Graph

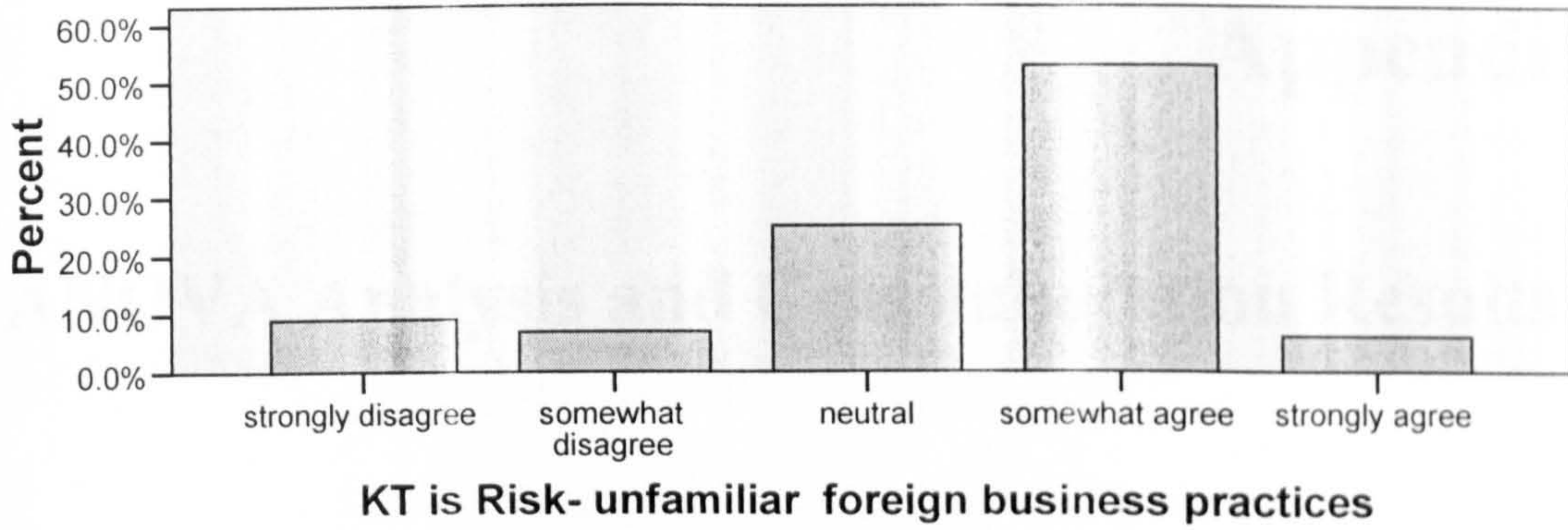
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GRAPH
/BAR(SIMPLE)=PCT BY X74_4 .

Graph

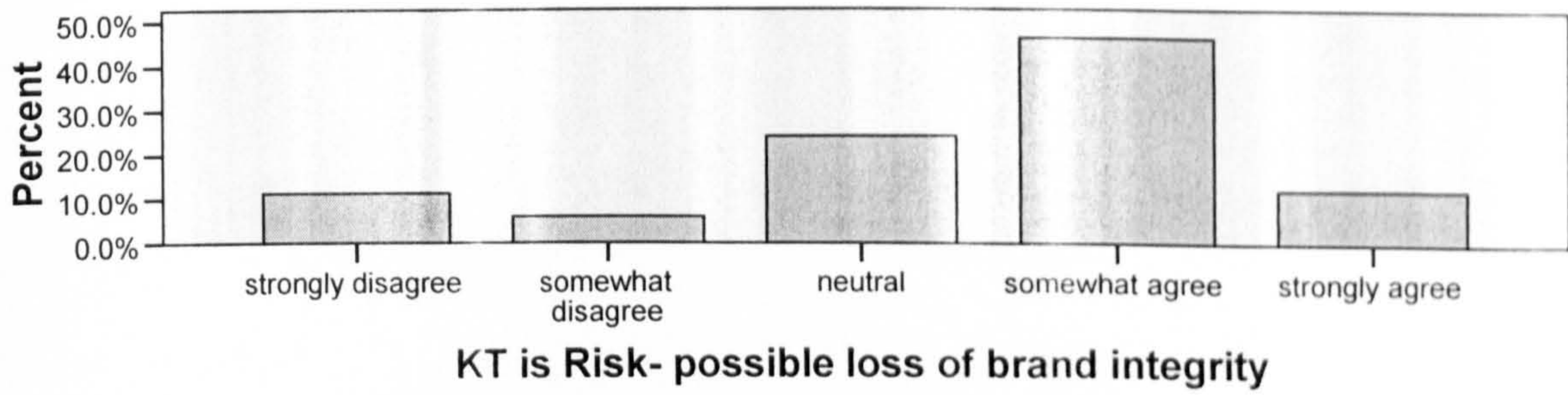
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GRAPH
/BAR(SIMPLE)=PCT BY X74_5 .

Graph

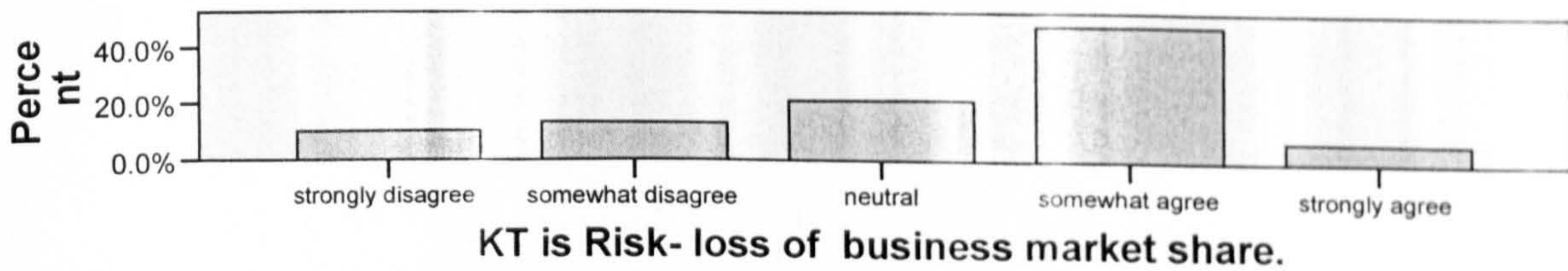
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GRAPH
/BAR(SIMPLE)=PCT BY X74_6 .

Graph

[DataSet1] C:\Documents and Settings\dchowdhury\Desktop\test1.sav



Appendix G

ANOVA Analysis and Crosstabulation Results

ANOVA Descriptives for hypothesis 1

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
		Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound	Upper Bound
share ideas with buyers	2,00	36	2,0000	,0000	,0000	2,0000	2,0000	2,00	2,00
	3,00	91	1,9780	,1474	1,545E-02	1,9473	2,0087	1,00	2,00
	4,00	117	1,9915	9,245E-02	8,547E-03	1,9745	2,0084	1,00	2,00
	5,00	20	1,9500	,2236	5,000E-02	1,8453	2,0547	1,00	2,00
	Total	264	1,9848	,1224	7,532E-03	1,9700	1,9997	1,00	2,00
share ideas with Suppliers	2,00	36	2,0000	,0000	,0000	2,0000	2,0000	2,00	2,00
	3,00	91	1,9780	,1474	1,545E-02	1,9473	2,0087	1,00	2,00
	4,00	117	2,0000	,0000	,0000	2,0000	2,0000	2,00	2,00
	5,00	21	1,9524	,2182	4,762E-02	1,8530	2,0517	1,00	2,00
	Total	265	1,9887	,1060	6,511E-03	1,9759	2,0015	1,00	2,00

ANOVA Descriptives of hypothesis 2

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
		Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound	Upper Bound
obstacles of knowledge transfer	2,00	36	3,8849	,5462	9,103E-02	3,7001	4,0697	2,43	4,57
	3,00	91	3,8854	,4715	4,943E-02	3,7872	3,9836	2,43	4,57
	4,00	117	3,5849	,6184	5,718E-02	3,4716	3,6981	2,43	4,57
	5,00	21	3,1156	,6494	,1417	2,8201	3,4112	2,43	4,14
	Total	265	3,6916	,6040	3,710E-02	3,6186	3,7647	2,43	4,57
Knowledge transfer is risky	2,00	36	3,5370	1,0758	,1793	3,1730	3,9010	2,00	5,00
	3,00	91	2,9231	,9244	9,690E-02	2,7306	3,1156	1,00	4,33
	4,00	117	3,5427	,6869	6,350E-02	3,4170	3,6685	2,00	4,67
	5,00	21	3,9524	,1594	3,478E-02	3,8798	4,0249	3,67	4,33
	Total	265	3,3616	,8757	5,379E-02	3,2557	3,4675	1,00	5,00

Descriptives analysis of ANOVA test of hypothesis 3

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
		Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound	Upper Bound
culture	2,00	36	3,2222	,5404	9,007E-02	3,0394	3,4051	2,00	4,00
	3,00	91	3,2747	1,0442	,1095	3,0573	3,4922	2,00	5,00
	4,00	117	3,4103	,6585	6,088E-02	3,2897	3,5308	3,00	5,00
	5,00	21	4,0952	,3008	6,564E-02	3,9583	4,2322	4,00	5,00
	Total	265	3,3925	,8099	4,975E-02	3,2945	3,4904	2,00	5,00
communication	2,00	36	2,0000	,0000	,0000	2,0000	2,0000	2,00	2,00
	3,00	91	2,6044	,5940	6,227E-02	2,4807	2,7281	2,00	4,00
	4,00	117	4,1197	,4186	3,870E-02	4,0430	4,1963	3,00	5,00
	5,00	21	5,0000	,0000	,0000	5,0000	5,0000	5,00	5,00
	Total	265	3,3811	1,0562	6,488E-02	3,2534	3,5089	2,00	5,00
Benefit of K-Sharing-overcome the limitation of market size	2,00	36	2,22222	,95950	,15992	1,89758	2,54687	1,000	5,000
	3,00	91	2,94505	1,04735	,10979	2,72693	3,16318	2,000	5,000
	4,00	117	3,12821	1,11060	,10267	2,92485	3,33157	2,000	5,000
	5,00	21	3,04762	1,02353	,22335	2,58171	3,51353	2,000	4,000
	Total	265	2,93585	1,09736	,06741	2,80312	3,06858	1,000	5,000
Benefit of K-Sharing-adds to firms overall communication	2,00	36	3,5278	,6088	,1015	3,3218	3,7338	2,00	4,00
	3,00	91	3,3297	1,0441	,1094	3,1122	3,5471	2,00	5,00
	4,00	116	3,5948	,9955	9,243E-02	3,4118	3,7779	2,00	5,00
	5,00	21	3,2381	1,1360	,2479	2,7210	3,7552	2,00	5,00
	Total	264	3,4659	,9860	6,068E-02	3,3464	3,5854	2,00	5,00
Benefit of K-Sharing-easy to get help from others	2,00	34	3,3824	1,0449	,1792	3,0178	3,7469	2,00	5,00
	3,00	91	2,7802	1,1907	,1248	2,5322	3,0282	1,00	5,00
	4,00	116	3,2328	1,0983	,1020	3,0308	3,4347	1,00	5,00
	5,00	21	2,1905	,9284	,2026	1,7679	2,6131	1,00	3,00
	Total	262	3,0115	1,1563	7,144E-02	2,8708	3,1521	1,00	5,00
Benefit of K-Sharing-it gives the firm a prestigious image/ brand name	2,00	36	3,3611	,5929	9,882E-02	3,1605	3,5617	2,00	4,00
	3,00	91	2,8901	,8622	9,038E-02	2,7106	3,0697	1,00	4,00
	4,00	117	3,4274	,8542	7,897E-02	3,2709	3,5838	1,00	5,00
	5,00	21	3,5238	,5118	,1117	3,2909	3,7568	3,00	4,00
	Total	265	3,2415	,8406	5,164E-02	3,1398	3,3432	1,00	5,00
Benefit of K-Sharing-easy marketing throughout E-Asia	2,00	36	3,3333	,8944	,1491	3,0307	3,6360	1,00	4,00
	3,00	89	3,0225	,7830	8,300E-02	2,8575	3,1874	1,00	4,00

	4,00	113	2,9912	,9955	9,365E-02	2,8056	3,1767	1,00	4,00
	5,00	21	3,1905	,7496	,1636	2,8493	3,5317	2,00	4,00
	Total	259	3,0656	,8976	5,578E-02	2,9558	3,1755	1,00	4,00
Benefit of K-Sharing- improves Business opportunities	2,00	35	3,4000	,9139	,1545	3,0860	3,7140	1,00	4,00
	3,00	91	3,1868	,9878	,1036	2,9811	3,3925	1,00	4,00
	4,00	111	2,9820	1,0616	,1008	2,7823	3,1817	1,00	4,00
	5,00	21	3,5238	,6016	,1313	3,2500	3,7976	2,00	4,00
	Total	258	3,1550	,9977	6,211E-02	3,0327	3,2774	1,00	4,00
Benefit of K-Sharing- provides useful marketing information	2,00	36	2,8611	1,2907	,2151	2,4244	3,2978	1,00	4,00
	3,00	89	3,1348	1,0246	,1086	2,9190	3,3507	1,00	4,00
	4,00	117	3,4017	,8814	8,149E-02	3,2403	3,5631	1,00	4,00
	5,00	21	3,6190	1,4310	,3123	2,9677	4,2704	1,00	5,00
	Total	263	3,2548	1,0592	6,531E-02	3,1261	3,3834	1,00	5,00

Crosstabulation result for Company's website

IT Most usefull for Idea sharing-Company's website * how good IT applications used by employees-company's website Crosstabulation

			how good IT applications used by employees-company's website				Total
			somewhat good	neutral	good	very good	
IT Most usefull for Idea sharing-Company's website	useles	Count % within IT Most usefull for Idea sharing-Company's website % within how good IT applications used by employees-company's website	3 23,1% 6,5%	1 7,7% 2,4%	7 53,8% 5,6%	2 15,4% 4,2%	13 100,0% 5,0%
	somewhat usefull	Count % within IT Most usefull for Idea sharing-Company's website % within how good IT applications used by employees-company's website	43 93,5% 93,5%	1 2,2% 2,4%	1 2,2% .8%	1 2,2% 2,1%	46 100,0% 17,7%
	neutral	Count % within IT Most usefull for Idea sharing-Company's website % within how good IT applications used by employees-company's website		39 100,0% 95,1%			39 100,0% 15,0%
	usefull	Count % within IT Most usefull for Idea sharing-Company's website % within how good IT applications used by employees-company's website			117 100,0% 93,6%		117 100,0% 45,0%
	very usefull	Count % within IT Most usefull for Idea sharing-Company's website % within how good IT applications used by employees-company's website				45 100,0% 93,8%	45 100,0% 17,3%
Total		Count % within IT Most usefull for Idea sharing-Company's website % within how good IT applications used by employees-company's website	46 17,7% 100,0%	41 15,8% 100,0%	125 48,1% 100,0%	48 18,5% 100,0%	260 100,0% 100,0%

Crosstabulation result for email

IT Most usefull for Idea sharing-Email * how good IT applications used by employees-Email Crosstabulation

			how good IT applications used by employees-Email				Total
			somewhat good	neutral	good	very good	
IT Most usefull for Idea sharing-Email	somewhat useful	Count % within IT Most usefull for Idea sharing-Email % within how good IT applications used by employees-Email	46 100,0% 62,2%				46 100,0% 17,4%
	neutral	Count % within IT Most usefull for Idea sharing-Email % within how good IT applications used by employees-Email		42 100,0% 100,0%			42 100,0% 15,8%
	useful	Count % within IT Most usefull for Idea sharing-Email % within how good IT applications used by employees-Email	28 21,7% 37,8%		101 78,3% 100,0%		129 100,0% 48,7%
	very useful	Count % within IT Most usefull for Idea sharing-Email % within how good IT applications used by employees-Email				48 100,0% 100,0%	48 100,0% 18,1%
Total		Count % within IT Most usefull for Idea sharing-Email % within how good IT applications used by employees-Email	74 27,9% 100,0%	42 15,8% 100,0%	101 38,1% 100,0%	48 18,1% 100,0%	265 100,0% 100,0%

Crosstabulation result Video conferencing

IT Most usefull for Idea sharing-Video conferencing * how good IT applications used by employees-Video Conferencing
Crosstabulation

			how good IT applications used by employees-Video Conferencing				Total
			not good	somewhat good	neutral	good	
IT Most usefull for Idea sharing-Video conferencing	somewhat useful	Count % within IT Most usefull for Idea sharing-Video conferencing % within how good IT applications used by employees-Video Conferencing	8 66,7% 3,8%	1 8,3% 2,4%		3 25,0% 100,0%	12 100,0% 4,5%
	neutral	Count % within IT Most usefull for Idea sharing-Video conferencing % within how good IT applications used by employees-Video Conferencing	32 94,1% 15,4%	2 5,9% 4,8%			34 100,0% 12,8%
	useful	Count % within IT Most usefull for Idea sharing-Video conferencing % within how good IT applications used by employees-Video Conferencing	135 84,9% 64,9%	23 14,5% 54,8%	1 ,6% 8,3%		159 100,0% 60,0%
	very useful	Count % within IT Most usefull for Idea sharing-Video conferencing % within how good IT applications used by employees-Video Conferencing	33 55,0% 15,9%	16 26,7% 38,1%	11 18,3% 91,7%		60 100,0% 22,6%
Total		Count % within IT Most usefull for Idea sharing-Video conferencing % within how good IT applications used by employees-Video Conferencing	208 78,5% 100,0%	42 15,8% 100,0%	12 4,5% 100,0%	3 1,1% 100,0%	265 100,0% 100,0%

Crosstabulation result for E-library

IT Most usefull for Idea sharing-E-Library * how good IT applications used by employees- E-library Crosstabulation

			how good IT applications used by employees- E-library				Total
			not good	somewhat good	neutral	good	
IT Most usefull for Idea sharing-E-Library	useles	Count	163	2			165
		% within IT Most usefull for Idea sharing-E-Library	98,8%	1,2%			100,0%
		% within how good IT applications used by employees- E-library	78,4%	4,8%			62,3%
	somewhat useful	Count		39	1		40
		% within IT Most usefull for Idea sharing-E-Library		97,5%	2,5%		100,0%
	% within how good IT applications used by employees- E-library		92,9%	8,3%		15,1%	
	neutral	Count	5		11		16
		% within IT Most usefull for Idea sharing-E-Library	31,3%		68,8%		100,0%
		% within how good IT applications used by employees- E-library	2,4%		91,7%		6,0%
	useful	Count	17			3	20
		% within IT Most usefull for Idea sharing-E-Library	85,0%			15,0%	100,0%
		% within how good IT applications used by employees- E-library	8,2%			100,0%	7,5%
	very useful	Count	23	1			24
		% within IT Most usefull for Idea sharing-E-Library	95,8%	4,2%			100,0%
		% within how good IT applications used by employees- E-library	11,1%	2,4%			9,1%
Total		Count	208	42	12	3	265
		% within IT Most usefull for Idea sharing-E-Library	78,5%	15,8%	4,5%	1,1%	100,0%
		% within how good IT applications used by employees- E-library	100,0%	100,0%	100,0%	100,0%	100,0%

Crosstabulation result for internet

IT Most usefull for Idea sharing- Internat * how good IT applications used by employees-Internet Crosstabulation

			how good IT applications used by employees-Internet				Total
			somewhat good	neutral	good	very good	
IT Most usefull for Idea sharing- Internat	somewhat useful	Count	28	3	2	1	34
		% within IT Most usefull for Idea sharing- Internat	82,4%	8,8%	5,9%	2,9%	100,0%
		% within how good IT applications used by employees-Internet	22,2%	7,5%	3,5%	2,4%	12,8%
	neutral	Count	27	15	5	4	51
		% within IT Most usefull for Idea sharing- Internat	52,9%	29,4%	9,8%	7,8%	100,0%
		% within how good IT applications used by employees-Internet	21,4%	37,5%	8,8%	9,5%	19,2%
	useful	Count	57	18	32	14	121
		% within IT Most usefull for Idea sharing- Internat	47,1%	14,9%	26,4%	11,6%	100,0%
		% within how good IT applications used by employees-Internet	45,2%	45,0%	56,1%	33,3%	45,7%
	very useful	Count	14	4	18	23	59
		% within IT Most usefull for Idea sharing- Internat	23,7%	6,8%	30,5%	39,0%	100,0%
		% within how good IT applications used by employees-Internet	11,1%	10,0%	31,6%	54,8%	22,3%
Total	Count	126	40	57	42	265	
	% within IT Most usefull for Idea sharing- Internat	47,5%	15,1%	21,5%	15,8%	100,0%	
	% within how good IT applications used by employees-Internet	100,0%	100,0%	100,0%	100,0%	100,0%	

Crosstabulation result for Internet electronics BB

T Most usefull for Idea sharing- Internal Electronic Bulletin Board * how good IT applications used by employees-Internal Electronic bulletin board. Crosstabulation

			how good IT applications used by employees-Internal Electronic bulletin board.				Total
			somewhat good	neutral	good	very good	
IT Most usefull for Idea sharing- Internal Electronic Bulletin Board	somewhat useful	Count % within IT Most usefull for Idea sharing- Internal Electronic Bulletin Board % within how good IT applications used by employees-Internal Electronic bulletin board.	60 78,9% 65,9%	1 1,3% 2,0%	13 17,1% 12,0%	2 2,6% 11,8%	76 100,0% 28,7%
	neutral	Count % within IT Most usefull for Idea sharing- Internal Electronic Bulletin Board % within how good IT applications used by employees-Internal Electronic bulletin board.	3 6,0% 3,3%	33 66,0% 67,3%	14 28,0% 13,0%		50 100,0% 18,9%
	useful	Count % within IT Most usefull for Idea sharing- Internal Electronic Bulletin Board % within how good IT applications used by employees-Internal Electronic bulletin board.	10 9,9% 11,0%	11 10,9% 22,4%	80 79,2% 74,1%		101 100,0% 38,1%
	very useful	Count % within IT Most usefull for Idea sharing- Internal Electronic Bulletin Board % within how good IT applications used by employees-Internal Electronic bulletin board.	18 47,4% 19,8%	4 10,5% 8,2%	1 2,6% ,9%	15 39,5% 88,2%	38 100,0% 14,3%
Total	Count % within IT Most usefull for Idea sharing- Internal Electronic Bulletin Board % within how good IT applications used by employees-Internal Electronic bulletin board.	91 34,3% 100,0%	49 18,5% 100,0%	108 40,8% 100,0%	17 6,4% 100,0%	255 100,0% 100,0%	

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