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NON-FINANCIAL FACTOR FOR MAKE-OR-BUY DECISION IN SME

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***Abstract*--Make-or-Buy decision is a choice between making or manufacturing in-house or outsourcing activities or product to ensure a smooth operation of any factory or company. There are several factors involved in making such decision. The factors are financial and non-financial factors. Most companies use financial factor as their main reason to decide whether to make-or buy. However non-financial factors also sometimes are used in making make-or buy decision. Therefore the objective of this research is to determine the most significant non-financial factor influencing make-or-buy decision in Malaysian SME. In order to achieve the objective, a quantitative approach using survey method is employed to determine which non-financial factors play the dominant role in making a decision to make-or-buy in manufacturing operations. The finding shows that capacity factor is the major non-financial factor for SME to decide whether to make-or buy. It is also discovered that process control is the most significant factor if the manufacturers decided to manufacture or making in-house while capacity is the most significant factor if the manufacturer decided to buy or outsource. This research provides an understanding of SME make-or-buy decision concept where it can be concluded that manufacturing capacity play a major role for SME in deciding whether to manufacturer in house or to buy or outsource externally.**

Keywords : ***Non-Financial factor, Make-or-buy, SME***

1.0 INTRODUCTION

Make-or-buy decision is about the choice of whether to carry out a particular process or activity within a business or to buy it from a supplier [1]. There are several factors involved such as financial and non-financial factor. Financial factors are cost to produce the product such as material, equipment, facilities and salary plus all the indirect cost such as training cost, management cost and ongoing maintenance [2]. There are only few companies that took a strategic view of their make-or-buy decisions, with many companies deciding to buy rather than make based on a short-term reason of cost reduction and capacity [3][4]. This make-or-buy decision will affect the overall performance of a manufacturing company thus have determined the effects on its future survival [1].

1.1 Research background

This research was done to determine what are the non-financial factors that influence the make-or-buy decision and what are the factors significant for both in-house making and buying decision. Make-or-buy decision has shifted from the level of reactive clerical function to the center of business strategy [1]. It shows that the consideration in this decision is becoming more and more important. Financial factors have always been the main reason for make-or-buy decision because the company always seeks ways to minimize cost and maximize profit [2]. A company should not only take the cost as a consideration in determining make-or-buy decision, but also need to acknowledge the non-cost factor as well such as quality, capacity and etc. [1]. The respondent in this research was the SME's in manufacturing industry. U.S. manufacturing foreign outsourcing activity increased more rapidly in the latter part of the 1990s through 2002 from12.4% to 22.1 and manufacturing firms subcontracted or outsource at least part of the component to outside [5]. The trend shows that the manufacturing industry will experience increasing levels of outsource due to the same factors influencing most other industries

1.2 Problem statement

The increase existence of firms that utilize the concept of lean manufacturing has prompted an increase in outsourcing and this has initiated the manufacturers to purchase or buy subassemblies rather than piece parts, and are outsourcing activities ranging from logistics to administrative services [6]. Most of the consideration whether to make-or-buy came from financial factor, however a company also needs to consider non-cost factor such as the quality and suppliers' ability to support

their decision [2]. This shows that most companies considered financial factor when deciding to make-or-buy decision. But, is there any non-financial factors were considered during the decision making?

1.3 Research questions

- Which non-financial factor is the most significant influencing make-or-buy decision?
- Which factor is more significant for making?
- Which factor is more significant for buying?

1.4 Objectives

- To determine the most significant non-financial factor influencing make-or-buy decision
- To determine the most significant factor for making
- To determine the most significant factor for buying

1.5 Scope of the study

Research area will be the SMEs in manufacturing industry in Batu Pahat, Johor. The issue related in this study is business aspects (make-or-buy decision)

1.6 Study justification

This research will help the SMEs in understanding the make-or-buy decision concept even further and provide them more information to consider before making the decision. It will give them more option and choices thus making them more careful in making decisions.

2.0 LITERATURE REVIEW

2.1 Introduction

This section explains about the previous research related to non-financial factor and make-or buy decision. A subject that will discuss in this section is to clarify the theory about non-financial factor, make-or-buy decision, factor influencing make-or-buy decision and other theory related to this research.

2.2 Make-or-buy decision concept

Make or buy decision is about the choice of whether to carry out a particular process or activity within own business or to buy it from a supplier and it can take many forms:

1) Choice about making a particular small part of complex larger product,
2) Choices about which particular manufacturing processes to have in the company and
3) Choices about system and subsystem manufacture. [7]

It also involves determining whether it's more cost-effective for the organization to make or buy the product or services of the project and usually it happens back on the initiating stage of the project [2].

2.3 Factors affecting make-or-buy decision

There are two matters regarding make-or-buy-decision which is cost related and non-cost related. Cost related includes all cost to produce product such as material, equipment, facilities and salary plus all the indirect cost such as training cost, management cost and ongoing maintenance. Non-cost related includes the capacity, quality, supplier relations and things like process control and trade secrets [2].

Make-or-buy decision involves both quantitative and qualitative factors. Quantitative factor deals with everything related to cost while quantitative factor includes product quality and the necessity for long-run business relationship with the supplier [8].

2.4 Non-Financial Factor

The decision to make or buy simply not always related to cost, other issues such as the company's reputation or production capacity might also be included in the mix. They also provide some of the non-cost related factor often been considered:

1) Ensuring supply which related to the reliability of the supplier and the quality of its offering;
2) Production capacity which related to subcontracting some of the operation if there are increases in demand and the company does not have sufficient capacity to do it itself;
3) Competitive advantages which related to secret the company try to keep to block other company from gaining information about the item [9].

There are several non-cost related includes the capacity, quality, supplier relations and things like process control and trade secrets that companies can consider before making the decision either to make or buy [2].

2.4.1 Capacity

Capacity can be viewed as a measurement of the value-creating ability of a machine or system. It is important to consider theoretical or practical capacity when making strategic and operational decisions [10]. Capacity Management is defined as the function of planning, establishing, measuring, monitoring, and adjusting levels of capacity so that sufficient capacity is available to permit execution of the manufacturing schedules [11]. In practice, many operations managers rely on rules of thumb to manage capacity, as a structured unified analytical approach is often lacking.

2.4.2 Quality

Quality is defined as something that can be determined by comparing a set of inherent characteristics with a set of requirements [2] . If those inherent characteristics meet all requirements, high or excellent quality is achieved. In short, the quality of something depends on a set of inherent characteristics and a set of requirements and how well the former complies with the latter.

2.4.3 Supplier Relation

Supplier relations is the process of engaging in activities of setting up, developing, stabilizing and dissolving relationship with in-suppliers as well as the observation of out-suppliers to create and enhance value within a relationship. The supplier must be monitored, measured and kept on their toes in order to continuously live up to the buying company's need. If the competitive advantage of the company depends on its network of suppliers, then it is crucial for the company to be able to influence their customers [12].

2.4.4 Process Control

Process control can either be the combination of people, equipment, materials, measurement, methods, environment that together produce output. The process control not only implies to product produced but also two intermediate outputs that describe how the process operating such as cycle time, temperature and pressure [13]

2.4.5 Trade Secret

A trade secret is defined as an intellectual property, but it's defined more by the how the information has both economic value and can be maintained confidential. Therefore, a trade secret can be chemical formula, a formulation of specific ingredients, a computer program, a chemical manufacturing process, and the best conditions in which to run a chemical manufacturing process, customer lists, business plans, technical data, or pricing information [14].

3.0 METHODOLOGY

3.1 Introduction

In this section discussed the methods used to obtain required information from the respondents. It also explained how the data and information were analyzed in order to answer the research question which thus aims to achieve the research objectives

3.2 Research design

This research method for this research is quantitative research. A quantitative research method is used because its results are conclusive in its purpose, how common it is and attempts to generalize the result to the general population.
The data collection method involves selecting respondents answering questionnaires. There are two types of method by which data can be collected, which is through interview and survey. Due to the time constraint of this research, questionnaires will be administered to be able to cover a significant amount of respondents.

3.3 Population and Sampling

The population of this study is the SMEs of manufacturing industry in Batu Pahat, Johor. The sample must have sufficient size to warrant statistical analysis [15]. The sampling population represents manufacturing SME's in Batu Pahat area. The population for this research was taken from the SME Corp's directory of companies in the manufacturing sector. There is a total of 130 companies in Batu Pahat, Johor and the sample that will be researching on is 97 respondents. The appropriate person to get the required information from should ideally have knowledge about make-or-buy decision. Respondents of this research will be mainly the general manager and top managers of the firm from sales, production, operation or planning department

3.4 Data collection

Questionnaires are used to collect data for this research. Questionnaires are efficient in terms of being able to gather large amounts of data at reasonably low cost and effort compare to other methods like observation [16].

3.5 Research Instrument

Questionnaires were distributed to respondents to obtain data which is needed for analysis and to achieve the research objective. The questionnaire contains three sections: Section A and Section B and Section C:

Table 3.1: Questionnaire Section

Section A	General Information/Demografic
Section B	Non-Financial factor influencing Make-or-buy decision

A five-point Likert scale is used to assess the items in the questionnaire.

3.6 Data analysis

To analyze the data, *Statistical Package For Social Science* (SPSS) software was used. Statistics has two major components: Descriptive Statistics and Inferential Statistics. Descriptive statistics is the discipline of quantitatively describing the main features of a collection of data. Part A was analyzed using the percentage method while part B was analyzed by using min score method

3.7 Reliability Test

Table 3.2 Alpha Cronbach Result

Alpha Cronbach Score	Number of respondents
0.745	10

Based on the reliability test done to 10 respondents in Kluang area, the alpha Cronbach score is at an acceptable level which is 0.745. This shows that the questionnaire drafted is valid.

4.0 RESULT

4.1 Introduction

Data that were collected through questionnaires were processed and analyzed using Statistical Package for Social Science (SPSS). The number of respondents involved is a total of 51 companies in the manufacturing industry of SME's in Batu Pahat.

4.2 Reliability Test of The Actual Study

Table 4.1 Alpha Cronbach result

Alpha Cronbach Score	Number of Respondent
0.744	51

Based on the table 4.1, the score for the actual study reliability test is 0.744 which is acceptable. This shows that the distributed questionnaire is valid and acceptable.

4.3 Return Rate

The respondents were mainly general managers of the companies; however, some of the respondents were managers of production and operation, environmental management and the human resource department. The total population of manufacturing companies in Batu Pahat that has been identified is 130. According to Krejcie and Morgan's table, the sample size for this study should be 97 [17]. Out of the 100 questionnaires that were distributed, 51 of them were returned successfully. This gives the response rate of 51% as can be seen in Table 4.2.

Table 4.2 Return Rate

Population	Sample Size	Questionnaires Distributed	Returned questionnaires	Percentage (%)
130	97	100	51	51

4.4 Data Analysis

This section analyzes the data obtained from the respondent. It covers part A which is Demographic and part B which is Non-Financial Factor.

4.4.1 Demographic (Part A)

This section analyzes the demographic data of the respondent.

Table 4.3 Demographic

Demographic	Classification	Frequency	%
Gender	Male	38	74.5
	Female	13	25.5
Education Level	SPM	5	9.8
	STPM	0	0
	Diploma	9	17.6
	Degree	37	72.5
	Master	0	0
	PhD	0	0

Number of Workers	Less than 5 Between 5 to 50 Between 51 to 150 More than 150	0 51 0 0	0 100 0 0
Company Establishment	Less than 5 years Between 5 to 10 years More than 11 years	36 15 0	70.6 29.4 0

Table 4.3 explain the demographic summary of the respondent.

4.4.2 Non-Financial Factor (Part B)

Mean score and standard deviation analysis are done to determine the frequency of answers given by the respondents based on the factor which would influence the decision of SME's make-or-buy strategy.

In order to fully appreciate the ranking of factors elements by respondents, the central tendency and spread of individual element should be reviewed. Table 4.3display the range to measure the level of central tendency [19].

Table 4.3: Central Tendency Level Measurement

Central of Tendecy	Mean Range
High	3.67-5.00
Medium	2.33-3.66
Low	1.00-2.32

(Sources: Sekaran, 2003)

4.4.2.1 Capacity

Table 4.4 shows the capacity factor have a medium central tendency level with a total average of mean 3.49. The highest central tendency level is that the respondent will not outsource even when the demand is higher than production capacity with mean of 4.65. The lowest mean for this factor is 1.96 where the respondent will not outsource even when the production capacity has reached its limit. As a whole, capacity has medium encouragement towards make-or-buy decision

Table 4.4 Capacity Factor

No	CAPACITY	Mean	Standard Deviation
1	The production capacity has reach its limits, so I outsource	3.75	1.262
2	Although the production capacity has reach its limits, I will not outsource	1.96	0.916
3	The demand is higher than production capacity, so I outsource	3.61	1.168
4	**Even when the demand is higher than production capacity, I will not outsource**	**4.65**	**0.483**
Total average Mean Score		**3.49**	**0.957**

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4.4.2.2 Quality

Table 4.5 Quality Factor

No	Quality	Mean	Standard Deviation
1	The supplier cannot comply with company's quality standard of the product/component, so I will not outsource	4.00	0.566
2	I will outsource if the supplier can produce high quality product/component	2.37	0.488
3	The supplier produces low quality product/component, but I still outsource	2.88	1.160
4	I will not outsource even the supplier can produce high quality product/component	1.69	0.469
5	**The supplier produces low quality product/component, so I will not outsource**	**4.04**	**0.599**
Total Average Mean Score		**2.99**	**0.6564**

Based on table 4.5, the highest mean for quality factor is 4.04 where the respondent will not outsource because the supplier produces low quality product/component. The lowest mean is 1.69 where the respondent will not outsource even the supplier can produce high quality product/component. Total average mean for quality factor is 2.99. As a whole, quality has a medium encouragement tendency towards make-or-buy decision.

4.4.2.3 Supplier Relation

Table 4.6 Supplier relation Factor

No	Suppliers Relation	Mean	Standard Deviation
1	Outsourcing is not the way to strengthen my relationship with my supplier	2.04	0.599
2	I will not outsource even my relationship with the supplier is good	3.67	0.864
3	**To strengthen my relationship with the supplier, I outsource to them**	**3.86**	**0.348**
4	My relationship with the supplier is good so I outsource	2.55	0.986
Total Average Mean Score		**3.03**	**0.699**

Table 4.6 above shows the highest mean for supplier relation with 3.86 where the respondent will outsource to strengthen their relationship with the supplier. The lowest mean is 2.04 where the respondent thinks outsourcing is not the way to strengthen their relationship with their supplier. Total average mean for supplier relation is 3.03. As a whole, the supplier relation factor has a medium encouragement tendency towards make-or-buy decision.

4.4.2.4 Process Control

Table 4.7 Process Control Factor

No	Process Control	Mean	Standard Deviation
1	I will not outsource if the supplier cannot comply with the company's product/component process control.	3.37	1.058
2	The supplier cannot comply with some of the company's process control, but I still outsource	2.31	1.068
3	The supplier rarely makes mistakes on the product/component, so I outsource	2.51	1.102
4	**I will not outsource if the supplier makes mistakes with the product/component**	**4.00**	**0.980**
Total Average Mean Score		**3.05**	**1.052**

According to the table 4.7 above, the highest mean for process control factor is 4.00 where the respondent will outsource if the supplier rarely makes mistakes on the product/component. The lowest mean is 2.31 where the respondent will outsource even if the supplier cannot comply with some of the company's process control. The total average mean is 3.05. As a whole, the process control factor has a medium encouragement tendency towards make-or-buy decision.

4.4.2.5 Trade Secret

Table 4.8 Trade Secret Factor

No	Trade Secret	Mean	Standard Deviation
1	My product/component has some sensitive information but I still outsource	3.18	1.126
2	**To avoid leakage about product/component information, I will not outsource**	**4.04**	**0.599**
3	My product/component has no sensitive information, so I will outsource	3.16	1.007
4	The manufacturing process is the company's secret, so I will not outsource	1.96	0.599
5	The risk of product/component information leakage might be happening but I still outsource	2.90	1.153
Total Average Mean Score		**3.05**	**0.8968**

Based on the table 4.13 above, the highest mean for the trade secret factor is 4.04 where the respondent will not outsource to avoid any information leakage about the product/component. The lowest mean is 1.96 where the respondent will not outsource because the manufacturing process is the company's secret. The total average mean is 3.05. As a whole, the trade secret factor has a medium encouragement tendency towards make-or-buy decision.

4.4.3 Summary of Non-Financial factors

Table 4.9 Summary

Item	Variables	Mean	Standard Deviation
F1	**Capacity**	**3.49**	**0.957**
F2	Quality	2.99	0.656
F3	Suppliers relation	3.03	0.699
F4	Process Control	3.05	1.052
F5	Trade Secret	3.05	0.8968

Based on table 4.9, the highest mean is the capacity factor with mean 3.49 and standard deviation 0.957. It shows that capacity is the most significant factor to consider influencing make-or-buy decision for SME. It has a medium tendency level toward make-or-buy decision.

4.5 Factors significant to make and buy

This section analyzed the data for the most significant factor for making and buying

4.5.1 Factors Significant For Making

No	Capacity	Mean	Standard Deviation
1	Although the production capacity has reach its limits, I will not outsource	1.96	0.916
2	Even when demand is higher than production capacity, I will not outsource	4.65	0.483
Total average mean score		3.31	0.699

No	Quality	Mean	Standard Deviation
1	The supplier cannot comply with company's quality standard of the product/component, so I will not outsource	4.00	0.566
2	I will not outsource even the supplier can produce high quality product/component	1.69	0.469
3	The supplier produces low quality product/component, so I will not outsource	4.04	0.599
Total average mean score		3.24	

No	Suppliers Relation	Mean	Standard Deviation
1	Outsourcing is not the way to strengthen my relationship with my supplier	2.04	0.599
2	I will not outsource even my relationship with the supplier is good	3.67	0.864
Total average mean score		2.86	0.732

No	Process Control	Mean	Standard Deviation
1	I will not outsource if the supplier cannot comply with the company's product/component process control	3.37	1.058
2	I will not outsource if the supplier makes mistake with the product/component	4.00	0.980
Total average mean score		3.69	1.019

No	Trade Secret	Mean	Standard Deviation
1	To avoid leakage about product/component information, I will not outsource	4.04	0.599
2	The manufacturing process is the company's secret, so I will not outsource	1.96	0.599
Total average mean score		3.00	0.599

Table 4.10 Summary of Making

Factors	Mean	Standard deviation

Capacity	3.31	0.699
Quality	3.24	0.545
Supplier relation	2.86	0.732
Process Control	**3.69**	**1.019**
Trade Secret	3.00	0.599

Based on table 4.10, the highest mean for making a decision is a process control with 3.69 while the lowest mean is a supplier relation with 2.86.

4.5.2 Factors Significant For Buying

No	Capacity	Mean	Standard Deviation
1	The production capacity has reach its limits, so I outsource	3.75	1.262
2	The demand is higher than production capacity, so I outsource	3.61	1.168
Total average mean score		3.68	1.215

No	Quality	Mean	Standard Deviation
1	I will outsource if the supplier can produce high quality product/component	2.37	0.488
2	The supplier produces a low quality product but I still outsource	2.88	1.160
Total average mean score		2.62	0.824

No	Suppliers Relation	Mean	Standard Deviation
1	To strengthen my relationship with the supplier, I outsource to them	3.86	0.348
2	My relationship with the supplier is good so I outsource	2.55	0.986
Total average mean score		3.21	0.685

No	Process Control	Mean	Standard Deviation
1	The supplier cannot comply with some of the company's process control, but I still outsource	2.31	1.068
2	The supplier rarely makes mistakes on the product/component, so I outsource	2.51	1.102
Total average mean score		2.41	1.085

No	Trade Secret	Mean	Standard Deviation
1	My product/component has some sensitive information but I still outsource	3.18	1.126
2	My product/component has no sensitive information, so I will outsource	3.16	1.007
3	The risk of product/component information leakage might be happening but I still outsource	2.90	1.153
Total average mean score		3.08	1.095

Table 4.11 Summary for Buying

Factors	Mean	Standard Deviation
Capacity	**3.68**	**1.215**
Quality	2.62	0.824
Supplier relation	3.21	0.685
Process Control	2.41	1.085
Trade Secret	3.08	1.095

Based on table 4.11, the highest mean for buying decision is capacity with 3.69 while the lowest mean is a process control with 2.41.

4.5.3 Summary of making and buying

Table 4.12 Summary of factors significant for making and buying

Factors	Decision	Mean	Standard deviation
Capacity	Make	3.31	0.699
	Buy	**3.68**	**1.215**
Quality	Make	3.24	0.545
	Buy	2.62	0.824
Supplier Relation	Make	2.86	0.732
	Buy	3.21	0.685
Process Control	**Make**	**3.69**	**1.019**
	Buy	2.41	1.085
Trade Secret	Make	3.00	0.599
	Buy	3.08	1.095

Based on table 4.12, the highest mean for buying is the capacity factor of 3.68. The highest mean for making a decision is a process control with 3.69 and standard deviation 1.019. Both

factors have a high tendency level toward making and buying.

4.6 Conclusion

Based from the analysis, it is identified that the significant factor influencing make-or-buy decision is Capacity which has the highest mean with 3.49 and standard deviation 0.957. It is also identified that the significant factor in making decisions that are process control with mean 3.69, which is the highest and standard deviation of 1.019. For buying decision, the most significant factor is Capacity with mean 3.68 and standard deviation of 1.215.

5.0 DISCUSSION

The objective of this research is to identify which non- financial factor is most significant influencing the make-or-buy decision and which factor is most significant to decide either to make and buy. The non-financial factor that has been identified is capacity, quality, suppliers' relation, process control and trade secret. Based on the findings of the research, the factor that has the highest tendency to influence the make-or- buy decision is capacity. The factor that influences the making decision is a process control while the factor that influences buying decision is capacity.

5.1 The Most Significant Factor Influencing Make-Or-Buy Decision

Based on the research conducted, the most significant nonfinancial factor is the capacity with mean 3.49 and standard deviation 0.957. Respondents feel that capacity is their main concern as they need to keep up with the current demand from customers. This is to avoid the chances of them missing out costumers due to late and slow production.

Capacity is a key issue in determining the lead time from customer order to delivery. By having a good capacity management, they can reduce costumers' waiting time and avoid idle capacity [18]. The respondent's decision of not to outsource even when the demand is higher than production capacity shows that they are very confident with their capacity management and capacity planning.

Even without a good capacity management, respondents feel that they can counter the increasing demand by outsourcing to the other party or suppliers. This is to make sure that they can deliver the product to their customer at the given time. A failure to deliver on time could cost the company as they might lose the faith and trust from their customers.

5.2 The Most Significant Factor Influencing Make A Decision

Based on the research conducted, the researcher found out that the most significant non-financial factor influencing make a decision is a process control with a mean of 3.69 and standard deviation of 1.019. The respondents emphasized towards their product/component process control as it will differentiate the outcome or output if it does not follow the instruction correctly. The four elements of process control are essential in determining a strict level of product standard.

The four elements of process control consist of a process which is the combination of people, equipment, materials, measurements, methods and environment that together produce output [2]. The process control system is useful if it contributes to improved overall performance of the process.
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5.3 The Most Significant Factor Influencing Buying Decision

Based on the research conducted, the researcher found out that the most significant non-financial factor influencing make a decision is capacity with a mean of 3.68 and standard deviation of 1.215. To keep up with the increasing demand from the costumers, respondents have to outsource some of its product/component to another party or supplier so that they can shorten waiting time and deliver the product on time.

Respondents' choice of outsourcing when the production capacity has reached its limit shows that they have a poor capacity management implemented in their company. Respondents should plan, establish, measure, monitor, and adjust levels of capacity so that sufficient capacity is available to permit execution of the manufacturing schedules [11].

The inability of the production team to increase output has caused the top management to take action by outsourcing the product/component to another party.

5.4 Recommendation

5.4.1 Recommendation for SME manager

It is recommended that SME managers take note of non-financial factors so that it can help them make the right decision of make-or-buy in ensuring a more comprehensive decision were made and not only rely on cost-related factors only.. There are many options out there which managers can consider when considering make-or-buy decision. By providing the understanding and the importance of both financial and non-financial factor, it can help the managers make a more accurate decision

5.4.2 Recommendation to Future Researcher

Concerning future investigations, researchers should consider taking a broader view towards identifying the non-financial factor. The components should include not only the recently identified constructs but also constructs/items that reflect the make-or-buy decision. Future investigations in this area might focus in searching more non-financial factor and seek to develop a framework which is based on the problem derived from these factors. This approach might yield useful insight into the understanding of non-financial factors toward make-or-buy decision.

Also, this research is only done in the Batu Pahat area. For future research, it is recommended that it be done is a larger area and over a wider number of industries. It is also recommended that the research cover into more specific roles of the manager and skills and knowledge that are required by companies when considering make-or-buy decision.

5.5 Limitations

Out of 100 questionnaires distributed, only 51 were willing to answer it. By using both online survey and by hand delivery, there were many obstacles faced by the researcher to collect the data.

An online survey is one of the fastest and cheapest way to get respondent. But, for some of the SME, they do not have the internet access and even some does not have their own email. The researcher then changes to a more classical way which is distributed by hand. But some of the SME denied to answer the questionnaire and some of them even did not welcome us to their office and factory. The unavailability of the manager due to business trips and vacation also contributed to the problem.

5.6 Conclusion

Companies are beginning to realize that there is some other factor that they can consider in deciding make-or-buy decision. The usual cost factor that they always consider when making a decision can now be combined with non-financial or non-cost factor to strengthen their decision thus making it more convincing than ever. They realize that by having another factor to weigh, it can make them think clearer and wiser.

The finding shows that capacity factor is the major non-financial factor for SME to decide whether to make-or buy. It is also discovered that process control is the most significant factor if the manufacturers decided to manufacture or making in-house while capacity is the most significant factor if the manufacturer decided to buy or outsource. This research provides an understanding of SME make-or-buy decision concept where it can be concluded that manufacturing capacity play a major role for SME in deciding whether to manufacturer in house or to buy or outsource externally.

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