

## **A Survey on Critical Factors and Problems in Implementing Benchmarking Towards Achieving Business Competitiveness in SMEs**

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### **ABSTRACT**

This paper is based on a survey conducted on top management of component suppliers to Malaysian automotive manufacturers. The survey was conducted to investigate the small and medium enterprises (SMEs) top managements' perceptions on the following: critical competitive performance measures relative to their competitors; important goals that drive the SMEs to stay lean and competitive; on critical factors and major problems encountered in implementing benchmarking initiatives. This study aims at providing empirical evidence on the SMEs top managements' perceptions of the above three major groups of factors. Analysis of the survey results showed that the three most critical competitive performance measures relative to competitors are product quality, manufacturing cost and technological competitiveness. Meanwhile, the three most important goals that help SMEs to stay lean and competitive are customer satisfaction, productivity improvement and operational performance. This survey also revealed the critical factors that must be in-place and major problems that must be overcome prior to the benchmarking implementation and adoption in order to ensure its success. The paper culminates with a discussion and general conclusion from the survey results.

Keywords: survey, critical factors, performance, competitive, SMEs.

### **ABSTRAK**

*Kertas kerja ini ditulis berdasarkan kepada sebuah kaji selidik yang telah dijalankan ke atas pengurusan atasan pembekal dan pengeluar komponen automotif di Malaysia. Kaji selidik ini telah dibuat untuk mengkaji persepsi pengurusan atasan dalam pengusaha kecil dan sederhana (PKS) terhadap: ukuran kritikal prestasi persaingan relatif kepada pesaing; matlamat penting yang mendorong PKS berada dalam keadaan "lean" dan kompetitif; dan faktor-faktor kritikal dan masalah utama ketika melaksanakan inisiatif tanda aras. Matlamat kajian ini ialah untuk mendapatkan bukti empirikal mengenai persepsi pihak pengurusan atasan untuk tiga kumpulan faktor di atas. Analisis keputusan kaji selidik menunjukkan tiga ukuran prestasi kritikal*

*relatif kepada pesaing ialah kualiti produk, kos pembuatan dan daya saing teknologi. Dalam pada itu, tiga matlamat terpenting yang mendorong PKS berada dalam keadaan "lean" dan kompetitif ialah kepuasan pelanggan, peningkatan produktiviti dan prestasi operasi. Kaji selidik ini juga memaparkan faktor kritikal yang perlu diamalkan dan masalah utama yang terpaksa diatasi terlebih dahulu sebelum melaksanakan dan menggunakan tanda aras bagi memastikan kejayaannya. Kertas kerja ini diakhiri dengan perbincangan dan kesimpulan berdasarkan keputusan kaji selidik.*

*Kata kunci: kaji selidik, faktor kritikal, prestasi, persaingan, PKS*

## INTRODUCTION

Over the past twenty years, the automobile industry in Malaysia has been the subject of long government intervention. During this period, promoting the automobile industry in a developing economy such as Malaysia requires protective instruments in the form of tariffs, quantitative restriction, investment control and refund schemes to protect the local automotive industry. External pressures such as World Trade Organization (WTO), ASEAN Free Trade Area (AFTA) and Asia-Pacific Economic Cooperation (APEC) to reduce tariff and other protection mechanisms have direct negative implications for the local automotive component manufacturers and automotive assemblers (Abdullah 2002). All these global and regional current factors have reshaped the automobile industry in Malaysia. In other words, the globalisation of markets, growing inter-diffusion of economies, and increased inter-dependence of economic agents are reshaping national and international competitive environment and economic performance (Ghobadian & Gallear 1996; OECD 1993). In a competitive market place, quality improvement tools and practices can help align organization's key business processes such as delivery, productivity, responsiveness to customer needs to achieve higher customers satisfaction, business competitiveness and bottom-line results (Deros 2004; Cassell et al. 2001).

### Roles of SMEs in Malaysian Manufacturing Sector

In Malaysia, the SMEs represent an important part of its business system and form a vital component of the economy. They dominate the manufacturing sector with more than 80% of manufacturing companies classified as SMEs (Shan 2001; Malaysia 1998). Their smallness is an advantage to the extent that it affords them flexibility to cope with unusual change of the global market (Kraipornsak 2002). For example, in

2000, SMEs are responsible for 31.2% of the total employment in the Malaysian manufacturing sector and contributed 82.6% to the regional income generation through external sales/import substitution (Hashim & Wafa 2002). These figures show their existence is of paramount importance in supporting and sustaining the national industrialization program. SMEs act as the main suppliers of product inputs and services to large industries, providing a range of products from simple to complex and above all, forming the backbone of the country's manufacturing industry (Shan 2001; Yusof 2000; Idris et al. 1999). Furthermore, by the year 2020, Malaysia aims to be an efficient and competitive industrialized nation, which can only be achieved if its manufacturing performance reaches world-class level with a very strong base of local SMEs, capable of manufacturing and supplying quality products at competitive prices. Currently, the Malaysian automotive SMEs market most of their products locally and are protected from their overseas competitors by the government fiscal or tax policy.

Stiff competition is expected in the future among ASEAN companies supplying similar products in terms of cost when AFTA is implemented in 2005, since it allows companies within member countries to import and export with minimal tax. For example, the tariff for the automotive sector will be reduced to maximum of 5% (Kraipornsak 2002; Ng 2001). In this highly competitive market environment (i.e. automotive sector), Perusahaan Automobil Nasional (PROTON), Perusahaan Automobil Kedua (PERODUA) and their SMEs vendors need all the performance improvement tools (e.g. TQM, benchmarking, 7QC tools, 5S, SPC) and assistances (i.e. technical, human and financial) to compete successfully for a share in the market, to survive and to prosper (Deros 2004). The importance of SMEs in the local manufacturing sector has become significant as demonstrated by their contribution to the Gross Domestic

**Table 1.** Manufacturing sector SMEs' contribution to GDP

Year	Percentage of contribution to GDP	Worth of contribution to GDP
1991	20 %	RM 4.3 billion
2000	40%	RM 21.4 billion
2020	50%	RM 120.0 billion (projected)

Source: (Hashim & Wafa 2002; SMIDEC 2002)

Production (GDP). Table 1 shows, SMEs in the manufacturing sector contributed 20% (i.e. RM4.3 billion) towards the GDP in 1991 and had risen to 40% (RM21.4 billion) in 2000. It is projected to reach 50% of GDP (i.e. RM120.0 billion) by the year 2020.

The above figures show, that SMEs provide significant contribution towards the economic performance of a country and is considered to be one of the main sources of new jobs (Greenan et al. 1997). This trend is also true in other countries such as indicated by Ghobadian & Gallear (1996) and Greenan et al. (1997) that firms with fewer than 500 employees categorised under the SMEs category dominate the industrial and commercial infrastructure. The significance of SMEs as a component to the Australian economic infrastructure is high with over 50% of employment and 90% of businesses represented by this sector (Husband & Mandal 1999). In Thailand, 92% of total enterprises in 1998 consisted of SMEs and 28.9% of these SMEs belong to the manufacturing sector (Sevilla & Soon-thornhada 2000). In Japan, 75% of manufacturing employment is in small and medium sized companies with less than 300 employees (Ghobadian & Gallear 1996).

## RESEARCH METHODOLOGY

A survey is considered the most economical among methods available for data collection due to its ability in performing quick, efficient data collection and analysis (Moser & Kalton 1971). However, it also has a few weaknesses such as low response rate, quality of collected data, biased reporting, does not allow detailed examination of a particular situation, criticism on reliability and accuracy of statistical methods used for data analysis (Bethlehem 1999). In general, quality of survey data quality depends on the sample representativeness and size, techniques used,

and extent to which survey questions are good measures.

A prerequisite in designing a good questionnaire is to decide what to measure. This step seems simple and self-evident but if overlooked may result in producing low quality questionnaires (Fowler 1984). In survey research, no matter how big and representative the sample, no matter how much money is spent on data collection and what the response rate is, the quality of data collected will be very much dependent on the questions that were asked. The survey questionnaire in this study was developed based on previous studies found in the literature and the general rules by Fowler (1998) on questions and answers basic characteristics, which are fundamental to a good measurement process. The final survey instrument was based on four critical factors, believed to be critical for improving and enhancing business performance. The factors comprises of critical performance measures, important company goals towards competitive business performance, critical success factors and major problems for implementing benchmarking activities to improve competitiveness.

In this survey, for each critical factor, the respondents were asked to select five (5) measures they believed to be very important from a list of between twelve and fifteen measures provided in the survey questionnaire. The first factor is critical competitive performance measures relative to the competitor. It is followed by the second factor, which describes the critical company goals to stay competitive and prosper in business. The third factor is critical factors for implementing benchmarking to enhanced business performance. Finally, the fourth factor is the major problems faced during implementing benchmarking activities.

### Population and Sample of The Study

The sample for the full survey consisted of 350 companies, which were randomly selected from the Malaysian automotive industry first and second-tier vendor's lists for PROTON and PERODUA. A questionnaire was mailed to the top management of each company. To limit the scope of the study the respondents selected for the study consisted of executive directors, managing directors, manufacturing managers, operation managers, production managers and quality managers of vendors for the Malaysian automotive industry. The authors believe that it is crucial to find out the perception of critical factors from those who have an understanding and practical experience in actual industrial environment. A reply-paid self-addressed envelope was included.

### Objectives of The Survey

In this survey, the authors attempted to investigate four major factors, namely; the respondents' overall perceptions of the critical competitive performance measures relative to competitors, important goals that drive companies to stay lean, competitive and prosper in business, critical factors for implementing benchmarking effort and major problems and obstacles in implementing benchmarking initiatives.

### General Respondent's Background Information

In this study, 350 sets of questionnaires were distributed to the first and second tier vendors for the two largest automotive manufacturers in Malaysia (PROTON and PERODUA) securing a response of 68 companies, which is equivalent to 19%. For comparison, a postal survey on 400 manufacturing SMEs in the United Kingdom by Reed et al. (2001) received a low response rate of 5.5%. Another 11 of the questionnaire were returned due to companies having moved to new locations or ceased operations. Given the low response associated with mail surveys, this response rate was considered reasonably adequate.

The first aspect investigated was the general background of the respondents, which includes number of years in the business, type of company ownership, the groups of products manufactured and quality system certification. About 65%,

the respondents' companies had been in the business for about 16 years. The majority of the companies (i.e. 69%) were fully owned by Malaysian, almost 28% on joint-venture basis and the remainder 3% were fully owned by foreigners. The top three groups of products manufactured by the companies, which forms more than 80% are metal (43%), plastic (21%) and electronic parts (18%).

With regards to quality system certification, about 82% of the respondents had a least one certification in place. Meanwhile, almost 18% of the respondents did not have any quality certification. This survey result was quite surprising, since it is expected that all the respondents companies should have at least one quality certification because it is almost a basic requirement for doing business in the automotive manufacturing sector.

### Critical Competitive Performance Measures Relative To Competitors

Table 2 shows a list of 15 competitive performance measures, which the respondents perceived to be critical relative to their competitors. Referring to Table 2, the five (5) most critical performance measures in terms of their ranking are product quality, manufacturing cost, technological competitiveness, gross profit margin, and creativity and innovation. Large majority (i.e. 75%) of respondents agreed that product quality being the most critical competitive performance measures, followed by manufacturing cost (71%). The other three remaining most important performance measures perceived by the respondents are technological competitiveness (44%), gross profit margin (31%) and creativity and innovation (31%). In other words, the survey results and findings indicated that large majority of respondents agreed that product quality and cost competitiveness as the two most critical performance measures for their survival and existence in the market place.

It is quite surprising that only 21% of the respondents had chosen timeliness (i.e. ranked 10<sup>th</sup>) as an important competitive performance measure relative to competition. This result is not in-line with Lobo and Zairi (1999), which suggests the three most important competitive performance measures are quality, cost and 100% on-time delivery (i.e. QCD). Firstly, this may be the result of their lack of understanding of



**Table 2.** Critical competitive performance measures relative to competitors

Ranking	Most Critical Factors	Number selected	Percentage selected
1.	Product quality	51	75.0
2.	Manufacturing cost	48	70.6
3.	Technological competitiveness	30	44.1
4.	Gross profit margin	21	30.9
5.	Creativity and innovation	21	30.9
6.	Sales growth rate	19	27.9
7.	Process and system flexibility	19	27.9
8.	Short cycle time from ideas to market	18	26.5
9.	Market share	16	23.5
10.	Timeliness	14	20.6
11.	Response to enquires	11	16.2
12.	Sales revenue	10	14.7
13.	Process cycle time	8	11.8
14.	Information flow	7	10.3
15.	Inventory turnover times	5	7.4

the meaning for the term “*timeliness*”. Secondly, because the list also contains two most critical factors that carries similar meaning to timeliness [i.e. process cycle time (12%) and inventory turnover times (7%)]. If we were to add together these three factors, then the total percentage would rise to 39 % (i.e. ranked as the 4<sup>th</sup> most critical competitive performance measure).

### Important Goals That Drive Company To Stay Lean, Competitive and Prosper

Table 3 contains a list of most important goals that could act as driver for the companies to be more productive, efficient and competitive in the market place. In this survey, about 75% of the respondents agreed in order to stay lean, competitive and prosper in business, they must strive towards continuous improvement to achieve higher customers’ satisfaction. This is the most important factor; it leads by more than 19% compared to the next most important goal that helps company to stay lean, competitive and prosper. It is followed by productivity improvement with an almost 56% of the respondents.

On the other hand, the other three most important factors in order of importance are operational performance and competitiveness (50%), technological competitiveness (44%), and improved employees satisfaction and morale

(40%). In other words, the survey results are in-line with the established quality theory (Besterfield et al. 2003) and automotive manufacturing industry standard practices found during the case study in six case companies that customer satisfaction is the key for business organization survival and growth in intense market competition (Deros 2004). As such, this is a very important goal because only satisfied customers will continue to provide business opportunities that in-turn contributed towards the company’s long-term survival, growth and profit. On the other hand, unsatisfied customers would normally go to other supplier of products/services that they require. Finally, a business organization without customers’ would eventually close down.

### Critical Factors for Benchmarking Implementation

Table 4 shows more than 80% of the respondents agreed that top management leadership and support for the benchmarking effort is very critical towards its implementation and adoption success. This is the most important factor; it leads by almost 30% compared to the next most critical factor for implementing benchmarking effort. The next most critical factor in enhancing business performance is to monitor and measure regularly their customers’ satisfaction levels (50%). This factor is closely followed by the

**Table 3.** Most Important Goals That Helps Company Stay Lean, Competitive and Prosper

Ranking	Most Critical Factors	Number selected	Percentage selected
1.	Greater customer satisfaction	51	75.0
2.	Productivity improvement	38	55.9
3.	Operational performance and competitiveness	34	50.0
4.	Technological competitiveness	30	44.1
5.	Improved employees satisfaction and morale	27	39.7
6.	Higher growth in total sales	25	36.8
7.	Higher value added products	23	33.8
8.	Bigger market share	18	26.5
9.	Better cash flow position	16	23.5
10.	Better financial performance	16	23.5
11.	Return on investment	14	20.6
12.	Shorter process change-over time	7	10.3

other three most critical factors, namely, practice continuous quality improvement culture (46%), formulate short and long-term business plans based on benchmarking results (43%), and understanding own systems and processes (43%). The survey result is in-line with theory, which is SMEs top management's leadership and support is very crucial in ensuring "change initiatives" success (such as TQM and benchmarking). This particular factor is very critical because without the top management's total support and commitment, these *change initiatives* may face with a lot of problems and obstacles during their implementation and adoption process that could end-up in failure.

### Major Problems in Implementing Benchmarking Initiatives

Table 5 shows the twelve major problems for implementing benchmarking to improve business process and overall business performance ranked according to the number of respondents that selected them during the survey.

Almost 56% of the respondents have the view that lack of awareness, knowledge and expertise as the highest obstacle towards achieving successful benchmarking implementation effort. On the other hand, 53% perceived that lack of resources (i.e. financial, human, technical and time) was the next major obstacle. Meanwhile, unsystematic planning and implementation

systems (44%) and ineffective communications links (43%), fell in the third and fourth place respectively. In addition, there are three major problems and obstacles that share the same ranking (i.e. 5) and percentage (41%) consisting of no systematic framework, lack of effective performance measurement instrument and top management not committed to implement benchmarking results recommendations.

Also shown in Table 5, the overall results for the five major problems for implementing benchmarking were generally low, ranging from 41% to 56%. This survey results shows that the survey respondents were unable to distinguish clearly the most critical problem for benchmarking implementation. In the authors' opinion, firstly, it may be due to the respondents' lack of knowledge and ability to distinguish clearly the most critical problem from the list of major problems provided in the survey questionnaire. Secondly, it may also be due to the lack of clarity between the twelve proposed major problems provided in the survey questionnaire.

### DISCUSSIONS AND CONCLUSION

In the demographic data analysis, this study indicates that majority of the respondents are Malaysian owned SME companies that involved in the automotive components manufacturing sector. In this survey, more than 70% of the respondents' agreed that product quality and

**Table 4.** Critical Factors for Implementing Benchmarking

Ranking	Most Critical Factors	Number selected	Percentage selected
1.	Leadership and support from top management	54	79.4
2.	Customer satisfaction levels are measured and monitored regularly	34	50.0
3.	Practice continuous quality improvement culture	31	45.6
4.	Formulate short and long-term business plans based on benchmarking results	29	42.6
5.	Understanding own systems and processes	29	42.6
6.	Systematic planning and implementation systems	25	36.8
7.	Top management commitment to implement benchmarking recommendations	25	36.8
8.	Organisation readiness to dismantle existing structures and culture	18	26.5
9.	Sufficient resources available	17	25.0
10.	Staff creativity and innovative capability	11	16.2
11.	Relevant staff education and training in place	11	16.2
12.	Employee satisfaction levels are measured and monitored regularly	10	14.7
13.	Existence of favourable work environment and culture	6	8.8
14.	Desirable human resources practices	1	1.5

manufacturing cost are the two most critical competitive performance measures relative to competitors. Meanwhile, the two most important factors to stay lean and competitive are customer satisfaction (75%) and productivity improvement (56%). Apart from that, large majority of respondents (79%) believed top management leadership and support for the benchmarking effort is crucial in ensuring success. In addition, majority (more than 52%) of them also believe the two biggest problems for implementing benchmarking effort are lack of awareness, lack of knowledge and expertise, and lack of resources (i.e. financial, human, technical

and time). Therefore, it can be concluded that the following factors play a major role in enhancing the SMEs ability to compete in the market-place. They are product quality, manufacturing cost and technological competitiveness. On the other hand, the three most important goals that help companies to stay lean, competitive and prosper are greater customer satisfaction, productivity improvement, and operational performance and competitiveness. With regards to implementing benchmarking efforts, almost 80% of the respondents agreed that top management leadership and support is crucial towards its successful implementation and adoption.

**Table 5.** Major problems for implementing benchmarking

Ranking	Major problems	Number selected	Percentage selected
1.	Lack of awareness, knowledge and expertise	38	55.9
2.	Lack of resources (i.e. financial, human, technical, etc.)	36	52.9
3.	Unsystematic planning and implementation systems	30	44.1
4.	Ineffective communications links	29	42.6
5.	No systematic framework	28	41.2
6.	Lack of effective performance measurement instrument	28	41.2
7.	Top management not committed to implement benchmarking results recommendations	28	41.2
8.	Unfavourable organizational structure and culture	16	23.5
9.	Seen to be non-critical activity	15	22.1
10.	High consultant, training and implementation costs	13	19.1
11.	Complicated to implement	11	16.2
12.	No support from employees' union	3	4.4

The survey methodology used in this study has several limitations. The survey analysis was conducted based on 68 companies only. However, the authors believed, it is adequate to show the trend, perceptions and practices of critical competitive performance measures relative to competitors, in achieving important goals that drive companies to stay lean, competitive and prosper, being the critical factors and major problems in implementing benchmarking and adoption. This study has a 19% response rate, which is much higher compared to Reed et al. (2001), who conducted a survey on 400 manufacturing SMEs in the UK with about 5.5%

response rate. This study is a part of an on-going research on benchmarking implementation in Malaysian automotive companies. Therefore, the results of this study must be treated with caution.

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