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READINESS OF SAUDI ARABIAN SMEs FOR GLOBAL COMPETITION: A STUDY ON THE EASTERN PROVINCE

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Abstract: Small and Medium Scale Enterprises (SMEs) of Saudi Arabia are going to be challenged by the global competitors as a result of country's accession to WTO. The main objective of the study is to evaluate current level of competitiveness of the Saudi Arabian SMEs in order to assess their readiness to face global competition. Competitiveness of Saudi SMEs is measured against 4 parameters, which are *Management Awareness and Attitude*, *Level of Technology*, *Customer Responsiveness* and *Skill Level of Manpower*. It was found that awareness level of the management of Saudi SMEs about the potential competition resulting from joining the country in WTO is very high and they are trying to shape their companies accordingly. They were found relatively weak in switching to new product in a quick time with little expenses. It was also found that level of technology used by the Saudi SMEs is quite advance and comparable to the global leaders in the respective industries. The study also found some weaknesses of Saudi SMEs in their customer responsiveness and skill level of their employees.

Key words: SME, competitiveness, WTO, globalization

Introduction

The issue of productivity and competitiveness of the business firm are becoming more and more important now a day. The current trend of heightened competition, erosion of trade barriers, increasing demand and awareness about the market and some other factors resulting from the globalization and open market economy are forcing the firms to become more and more concerned about their competitiveness to serve the market more efficiently than their competitors. This issue of competitiveness has now become a very crucial factor to the Saudi business firms as the Kingdom is going to be a member of WTO shortly.

Main driving force of Saudi economy is the oil and petrochemical industry, which constitute more than 70% of its GDP (Central Department of Statistics, KSA 2003). However as a result of huge development of social and economic infrastructure over the past three decades, there has been considerable transformation in economic and social aspects of Saudi Arabia, which includes emerging private sector in the development efforts of the country. Though public sector still remains dominant, with government expenditure in excess of one-third of GDP, the Seventh Development Plan (2000-04) emphasizes the need to promote the development of private sector. In Saudi Arabia medium and small-scale businesses constitute 65% of the total number of business firms (Nasser, 2003). At present over 3,300 licensed industrial units operate in the kingdom among which 28% manufacture metal products or machines, 20% make chemical or plastic products, 17% produce construction materials and 16% process food and beverages. Manufacturing industries now contribute nearly 15% of GDP with a value added in excess of SR55 billion compared to only SR18 billion in 1980 (Central Department of Statistics, KSA 2003).

The World Trade Organization (WTO) is the only global organization dealing with the rules of international trade. The WTO was established in 1995 following the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) negotiations. The WTO's rules cover food and environmental standards, regulation of

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services such as insurance and transport, copyright and patent law, farming policy, and many other issues related to economic and trade policy. Under WTO rules, a country willing to join the organization must agree on arrangements with its main trading partners on market access and reduction of customs and duties, which are subsequently to be widened to all other WTO members. The final step of getting WTO membership requires a commitment from the part of the respective country about the compliance of its trade legislations with all WTO rules (EU, 2003).

Saudi Arabia first applied in 1993 to join the General Agreement on Tariffs and Trade (GATT), which was eventually transformed into WTO in 1995. To comply with WTO requirements, the country has been institutionalizing several changes in its policies to ensure more transparency and greater competition in its domestic market. The reform policies include privatization, reducing subsidies, liberalizing trade, safeguarding intellectual property rights, introducing a new foreign investment code, changing the sponsorship law and granting foreigners the right to own shares and real estate.

Several facets of the reform program have already been implemented. During 2002, the Saudi Parliament passed a new foreign investment code that addresses and rectifies many of the discrepancies of the old investment policies. The new law introduced lower tax rates on foreign companies or equity stakes and contests restrictions on foreign ownership and the old sponsorship system. The Kingdom has also made new submissions to the WTO on intellectual property, industrial trademarks, biodiversity and other issues. Alongside these reforms, Saudi government has made precise commitment to bring further necessary changes in it's trade rules and legislations. Recently, The European Union (EU) has agreed to back Saudi Arabia's candidacy to join the WTO (EU, 2003). In the context of these recent developments it is expected that Saudi Arabia will be accede to WTO as a member by the end of the year 2004 (Ahmed, 2004).

From the discussion made so far it is clear that Saudi Arabia's joining WTO will open the door for the foreign companies to operate in the Kingdom that will pose strong challenge to the local producers who have been operating in a restricted market so far. The changed circumstances will leave local producers with little choice other than being ousted from the market.

Thus, the research question or problem is 'The Saudi SMEs are prepared enough to successfully compete with the global competitors who are invariably going to enter into the Saudi market as result of the country's joining in WTO'?

Conceptual Framework

Small and medium scale business: There is no single universal definition of small and Medium scale enterprises. In Saudi Arabia, a manufacturing unit is regarded as 'small' if its yearly turnover is not more than SR 10 million or if it does not have more than 50 employees working on regular basis. On the other hand, a medium scale industrial unit is one that has a yearly turnover not more than SR100 or number of employees working on reguilar basis is not more than 250.

Small and Medium Enterprises (SMEs) are characterized by some features like local market niche, customized production, relatively low capital, low production volume and simple structure (Daft, 2001). SMEs are typically established and owned by indigenous entrepreneurs and managed by individuals and families. Raymond (2003) suggests that SMEs present specific characteristics that fundamentally distinguish them from large enterprises are:

- Environmental: uncertainty towards the environment, vulnerability towards business partners;
- Organizational : simple structure, resource 'poverty';
- Decisional : short term, reactive, process focused on material rather than information flows;
- Psycho-sociological : dominant role of the owner-manager;

Apart from the above-mentioned characteristics the study also opined that they have the flexibility, proximity to markets and quickness to react and reorient themselves, which he termed as "agility".

SMEs are subject to some disadvantages in comparison to the large scale ones. They have been traditionally considered as weak contributors to internationalization because of financial and managerial constraints (Jarillo 1989; Oviatt *et al.*, 1994). Also there is widespread acceptance of the notion that small firms typically possess certain characteristics, which include inherent weaknesses with respect to capitalization and marketing awareness and practice (Danielle, 2003). Most often less endowed in human, financial, and technological resources than large enterprises, SMEs have advantages in terms of flexibility, reaction time,

and innovation capacity that make them central actors, the main driving force especially in the new and underdeveloped economy (Julien *et al*, 1996). According to Raymond (2003) SMEs are presently at the heart of the growth and renewal of local, regional, and national economies in both developed and developing countries, especially manufacturing and technological SMEs within subcontracting networks. SMEs account for maximum portion of the total number of business firms in most of the countries (John, 1992).

Competitiveness: Competitiveness, in a nutshell, refers to the firm's ability to provide the quality product at a lower cost (DeMott, 1993). It enables a firm to have more control and flexibility in setting price, to attract and retain customer by satisfying their needs and thereby to have an edge over the competitors. All of these advantages eventually contribute to the firm's profitability and growth and maximize the wealth of the firm and its shareholders.

A number of scholars have suggested different sets of factors that a firm should possess in order to have the competitiveness. Farrell (2003) emphasized on technology and innovation as the main factors that can help the firm to have competitiveness, while Mcguigon *et el.* (1999) argued in order to be competitive a firm should have advantage with respect to control over distribution, patent right, proximity and/or natural resources, easy and cheap access to financial resources etc. Daft (2001) emphasized on the managerial aspects like organizational philosophy, structure of management, communication and regular training as the necessary components of competitiveness. He argues that when a skilled, well-trained and visionary management manages the firm, all the other elements required for competitiveness will automatically be there. Porter (1981), in his five factors model suggested that how much competitive a firm is depends on five factors such as threat of new entry, threat of substitutes, bargaining power of the supplier, bargaining power of the buyers and the degree of rivalry among the competitors.

In this study an attempt has been made to evaluate the competitiveness of the small manufacturing firms of KSA in the light of all these factors and the micro and macro environmental contexts surrounding the firms. From the above discussion it can be inferred that following are the factors that play the key role in determining the competitiveness of a firm:

***Management awareness and attitude towards competition*:** Management determines long-term objective of a firm and formulates strategies to achieve the objective on the basis of analysis of competitive environment along with other environment factors, potential external opportunities and threats, firm's strengths and weaknesses and above all their ambition and mindset regarding the position that they want to have in the industry. Therefore, for a firm to be competitive at first it is necessary that its top management should be aware of as well as they should have the right attitude towards the present or prospective competition.

Technology: Technology enables the firm to reduce cost, maintain quality, reduce cycle time and make product differentiation, all of which are very important vehicles of competitiveness.

Customer responsiveness: Customer responsiveness is the ability to offer new product quickly in response to the change in the customer demand. It is a very important factor which gives the firm first mover advantage, opportunity for market skimming and creating customer loyalty. All these factors not only help the firm to out compete its existing competitors but also help to erect entry barrier for the potential entrants.

Skilled labor: Skilled labor in all the functional areas are indispensable for translating firm's strategy into operational success. It is also a vital factor for the utilization of technology and other resources of the firm. Besides, hiring skilled labor and continuous training and development are very important to maintain and update the skill level of the employees.

In this study an attempt has been made to evaluate the competitiveness of SMEs' in the light of these above-mentioned factors.

Objectives: Evaluating competitiveness of the Saudi SMEs has been set as the main objective of the study for having answered to the research question 'whether the Saudi SMEs are prepared enough to successfully compete with global competitors'. For the convenience of data collection and analysis, the main objective is broken into following four precise specific objectives- (i) to identify attitude and awareness of the management of Saudi SMEs towards the impact of country's accession to WTO; (ii) to make an assessment of the levels of technology used by the Saudi SMEs; (iii) to measure responsiveness of Saudi SMEs to the

change in customer demand and, (iv) to evaluate whether Human Resource policies practiced in Saudi SMEs are good enough to hire, develop and retain skilled manpower.

Materials and Methods

The study is based on data collected on the thoughts of the managements Saudi SMEs about their current level of competitiveness. CEOs or a top-level managers of the SMEs located in the Eastern Province of the Kingdom were interviewed for data collection. Convenient method of sampling was used for selection of these firms because of lack of appropriate sampling frame. Survey was conducted by a close-ended structured questionnaire. Initially a pilot study was conducted by an open-ended questionnaire involving 10 organizations. After the pilot survey, questionnaire was finalized as a close ended one and distributed among 100 companies. Among these 100 organizations 70 responded. Analysis and conclusion of the study are based on the responses from these 70 sample companies.

Questionnaire was divided into four parts to collect information on four parameters. For each question there are four alternative answers, against which points ranging from 4 to 1 have been assigned in order of optimistic to pessimistic nature of answers. Overall standing of all the samples on a question has been determined by calculating mean ($\overline{X}$) of the points corresponding to the answer of the question. Grand mean ($\overline{\overline{X}}$) of the points corresponding to the answers of the questions on a parameter is calculated by averaging the means of the questions to determine overall standing of the samples of the respective parameter.

Secondary data were mainly used to obtain different information about the Saudi economy. These were collected from different academic literatures and reports of government agencies mentioned in the reference.

Results and Discussion

Management awareness and attitude: First question in this part was, to what extent top management is aware of country's accession to WTO and potential competition resulting from this. Mean score 3.41 suggests that respondents are, as a whole, well aware of the fact that Saudi Arabia is going to be a member of WTO and as a result they are going to face competition from the global competitors. More significant to note here is that 54.29% of the respondents are *Fully Aware* and 32.86% of them are *Aware* of country's accession to WTO and the consequent change in competitive structure while no respondent is completely ignorant to this fact (Table 1, App 1).

Second question was about to what extent managements believe that their business will be affected by the changed circumstances. In response to the question, 32.86% replied that their business would not be affected at all as they have taken adequate precautionary measures to encounter the potential competition from the global competitors. 44.29% replied that their business might be affected but not significantly. The second group of respondents also believes that they already have started taking precautionary measures to minimize the effect: even to zero if possible. Rests of the respondents have rather a negative and pessimistic notion towards changed circumstances. 12.85% believe that their business will be significantly affected while 10% believe that their business will be severely affected. However, a mean score of 3.00 (Table 2, app 1) indicates an overall belief of the respondents that their business will not be significantly affected by new competition resulting from country's accession to WTO.

Third question in this part is related to how effectively management is communicating the issue of global competition, which is very essential for building a spirit of high performance and competition among all the members of the organization. About 27% of the respondents informed that they have a strategic and integrated plan to communicate this issue to all the employees. Among others, 38.57% communicated the issue at departmental level, 20% at individual level without systematic planning while 14.28% did not have any effort to communicate this issue to the employees (Table 3, App 1)

Fourth question is aimed at collecting information regarding companies' efforts to explore opportunities and threats resulting from new competitive environment and how they incorporated these in their strategic planning. 52.86% of them fully incorporate this information in their strategic planning. 32.86% gave significant emphasis to this information in formulating their strategic plan, though they did not fully incorporate these factors due to lack of reliable information and managerial experience. Rests of the

organizations (13.98%) had hardly any effort in this regard. However, mean score of 3.36 indicates an over all high level of effort on the part of the respondents exploring these opportunities and threats and incorporating them in their strategic planning. (Table 4, App 1)

Fifth question is related to companies' effort to expand their business out side the Kingdom that might be very crucial to maintain and even enhance their profitability in the face of new competition. 52.86% of the respondents are already exporting mainly to other Arab countries. They also have a plan to expand their export in terms of both volume and markets. 32.86% respondents do not export currently but they are seriously considering and preparing to export to make up the loss of the domestic sales due to competition. 11.42% have not taken any decision yet. They have a 'wait and see' policy about the export. They will decide exporting after seeing the actual effect of globalization on their business. 2.86 respondents do not think they will be able to export under any circumstance. Mean score 3.41 in this question shows an over all high intention and preparedness on the part of the companies to export their product in the face of new competition in their domestic market (Table 5, App 1). Grand mean score ($\overline{\overline{X}}$) of 3.19 in this part shows a high level of overall awareness and high level of motivation and competitive attitude of Saudi SMEs.

Level of technology: Technology is the most important vehicle for a firm to offer high quality product at lower cost. Whatever competitive strategy company may follow, it is extremely difficult, if not impossible, to be successful without having appropriate technology.

In response to the question how the management compares their technologies with the used by the worlds' leading companies, 47.14% inform that they use the same level of technology as used by the worlds' leading companies. 40% of the respondents feel that their technology is little bit inferior to that of the global leaders. 8.57% respondents feel that they are lagging far behind from the global leaders in terms of technology while 4.29% of the respondents do not have any idea about this. Mean 3.3 (Table 1, App 2) indicates an overall belief of the managements Saudi SMEs that they are using advanced level of technology and are not lagging far behind from the global leading companies.

In response to the question regarding attitude towards adapting of new technology, it is found that 47.14% are pioneer in adapting new technology. 40% of the firms are early adapter. 14% respondents are late adapters who adapt new technology when they find their existing technology has become completely obsolete. 4.29% who mainly use labor-intensive technology are not concerned about adapting new technology. The mean 3.13 (Table 2, app 2) here however indicates an overall strategy of Saudi SMEs to adapt new technology in reasonably quick time.

About the question to what extent they view and use the technology as a tool of gaining competitive advantage, 47.14% of the respondents answered that to them technology is one of their strategic concerns and they use it as a tool of gaining long term competitive advantage. Another 40%, though do not build their long-term strategy on technology, use the technology in gaining competitive advantage over their current competitors. For 8.57% respondents, technology is a tool of ensuring operational efficiency and for rest 4.29% it is merely a supporting tool. About the frequency of reviewing the change in the macro level technological environment, 27.14% reviews in every 2-3 years and 38.57% reviews in every 5 years. 24.29% seldom carry out any review of their technology and rest 10% never carried out any review or survey of changes in the technological environment. Most of the last groups of organizations have been operating for less than 15 years. Mean score 3.13 and 2.83 on these two questions respectively (Table 3 and 4, Appendix 2) suggest that management of Saudi SMEs acknowledge technology as a strategic tool of gaining competitive advantage and put significant emphasis on reviewing and upgrading it regularly.

Final question in this part was on Saudi SMEs budget allocation for research and development. 18.57% of the respondents spend more than 20% of their total budget for research and development. 40% spend from 10 to 20% and 28.57% spend from 5-10% while 12.86% spend less than 5% of their total budget for research and development. Mean score here is 2.88. Grand mean score ($\overline{\overline{X}}$) 3.05 in this part indicates overall significant concern and use of advanced level technology in Saudi SMEs.

Customer responsiveness: Customer responsiveness is a vital factor for the companies to survive and successfully operate in today's market where rapid and frequent change in the customer demand is a feature.

Frequency of customer survey, market intelligence to collect information of competitors' current and future product, timing of introducing new product, transition cost of the company to change their product and technical ability to change product quickly are the variables used to evaluate customer responsiveness of companies under sample.

About the frequency of conducting customer survey in order to track change in the market demand, 11.43% respondent informed that they conduct customer survey every year to track change in the customer demand. 18.57% informed that they conduct customer survey in every two or three years. 31.57% informed that they conduct customer survey in every 5 years while the rest (38.57) do not conduct customer survey. Mean score 2.03 (Table 1, App 3) indicates an overall low level of effort of Saudi SMEs to track the changes of customer demand by regular market survey.

Regarding use of market intelligence to collect information about competitors' current and future product, 15.71% has continuous and extensive system to collect information about current and future products and plans. 25.72% respondents do not have any regular system in this regard but they collect this information, generally by using consultant, when they feel it necessary. 37.14% do not have any market intelligence effort separately. They some times collect information about competitors through their sales people. 21.43% respondents have no effort what so ever to collect information about competitors. Mean score here 2.36 indicates an over all poor marketing intelligence possessed and used by the Saudi SMEs.

About the timing of the introduction of new product, 12.86% companies offer new product before customer demand emerges strongly. 35.71% introduce new product when there is a clear market demand and when few companies have already introduced the product in the market. These companies are willing to keep pace with the change of customer demand but also like to avoid risk of failure of new product. 11.43% companies are operating mostly in the business of construction and agro business, have never introduced any new product and they don't have any plan to do so in future. Mean score here is 2.5 (Table 3, App 3), which indicates lack of initiative and capabilities of Saudi SMEs to offer new product to keep pace with the customer demand.

About the flexibility of changing the product features, 10% can change the product feature by incurring very low transition cost and 32.86% can do so with reasonable transition cost. 44.28% will have to incur significantly high transition cost while 12.86% will need capital investment to do so. Mean score 2.40 (Table: 4, App 3) here suggest lack of flexibility of the Saudi SMEs to change their product features quickly which may be a major drawback for facing the global competition. Grand mean score ($\overline{\overline{X}}$) 2.36 in this part indicates overall low level of customer responsiveness of the Saudi SMES.

Skill level of labor: Skilled manpower in all the functional areas are indispensable for translating firm's strategy into successful implementation. It is also a vital factor for utilization of technology and other resources of the firm. In order to attract, develop and maintain manpower with required skill organization should have an efficient Human Resource Planning Process (HRP), effective training and development program, performance appraisal system and proper reward system for high performance. In this part, questions were asked on this variable to measure the skill level of the employees of Saudi SMEs.

Regarding Human Resources Planning (HRP), only 7.14% organizations have a well-designed HRP in their organization. 27.15% informed that a reasonable HRP exists and practiced though there is scope for improving it. 38.56% respondents believe that HRP is poorly designed and is hardly practiced while 27.15% acknowledged that there is no Human Resources Planning in their organizations. Mean score 2.14 (Table 1, App 4) indicates very low level of attention of the management to develop and practice well designed HRP which is a fundamental requirement for ensuring placement of right people in the right job.

Regarding training and development program 14.29% respondents informed that they arrange training program for the employees on regular basis. 24.28% arrange training when it is needed. Unlike the first group of firms, training program in these firms is not a regular and routine activity. Rather they arrange training whenever training need is identified and recommended by the departmental head or any other responsible senior manager. About 44.29% respondents informed that they arrange training in very special occasion like when new machines or technologies replace the old ones. 17.14% informed that they donot have training program of any sort. They also informed that they meet the inevitable demands for new skills by subcontracting or outsourcing. Mean score 2.36 here suggest an overall low level of emphasis given on the

employee training and development program in Saudi SMEs (Table 2, App 4). Most of the companies mentioned high for portion of foreign employees (especially blue collar employees) is the reason for this. Turn over rate is very high in Saudi SMEs as most of the foreign employees leave the job after contract period is over. This makes the employer reluctant to train and develop them.

Regarding performance appraisal only 10% of the firms have a system that covers all performances of every employee. This system is the system of objective performance measurement. 25.71% have a periodic appraisal system. Unlike the first group, they make an overall assessment of the performance of the employees at the end of the stipulated period (year end in most cases). 50% of the firms evaluate employees' performance on as needed basis, mostly for promotion or for laying off. They do not have any defined basis for measuring performance. Here employees are rated on the basis of supervisor's overall perception on them. Mean score here is 2.31, that shows an over all lack of well-designed performance appraisal system in Saudi SMEs. (Table 3, App 4).

About the incentive for good performance, no company practices total performance based reward system. However, 35.71% companies practice performance based reward system in limited scale, while 12.86% companies have only some non-monetary incentives like free housing or transport for good performance. There is no relationship between performance and pay in 41.43% of the companies. Mean score 2.04 indicates companies' apathy to adequately motivate the employees to perform better. There is however an explanation from the companies for placing low importance on performance in determining compensation. They argue that implementing performance based pay system is not possible as there are different pay scales for employees of different nationalities all over Saudi Arabia. Grand mean score of this part is 2.21 that suggest the need for lot of improvements in the Human Resources policy of Saudi SMEs to attract the skilled manpower and enhance their skill level.

Limitations

Lack of complete sampling frame was a major limitation of the study for which the researcher had to go for convenient sampling method in stead random sampling method. Reluctance of the respondents to disclose the information was another limitation of the study. This problem forced the researchers to omit the questions on the specific information, especially the financial ones, from the questionnaire after the pilot survey. In spite of the limitations, researchers made every effort to make the study a valid and reliable one.

Conclusion

Saudi SMEs are going to face tough competition from foreign companies, as Saudi government has to open the market for them as a requirement of WTO agreement. Saudi SMEs are well aware of this potential new competitive structure and incorporating this factor in their strategic planning that is definitely a precondition to compete successfully. They are considering entry into foreign markets as a strategy to maintain their profitability. Saudi SMEs are quite advance in possessing advance level of technology but they are lacking skilled manpower to make efficient use of technology. Training and manpower development programs are also very inadequate in Saudi SMEs. Their focus on tracking customer demand and their ability to offer varieties of products to meet the market demand are also poor that indicate their low customer responsiveness.

As indicated in the methodology, this study is based on the opinion of top managements of Saudi SMEs about their current level of competitiveness. This study will open an avenue for further research on whether the actual scenario matches with their perception. It will also be helpful in carrying out further research on the appropriate measures Saudi SMEs should take in order to overcome their drawbacks found in this study.

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Appendix 1: Management awareness and attitude.

Table 1. Awareness of top management about country's joining in WTO and potential competition resulting from this.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Fully aware	38	4	54.29	152
Aware	23	3	32.86	69
Hardly aware	9	2	12.85	18
Not aware at all	0	1	0	0
Total	70		100	239
Mean score:				3.41

Table 2. Management's belief about affect the potential global competition on their businesses.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Will not affect at all	23	4	32.86	92
Will not affect significantly	31	3	44.29	93
Will affect significantly	9	2	12.85	18
Will affect severely	7	1	10.00	7
Total	70		100	210
				3.00

Mean Score ($\overline{X}$) = Total score / Total No. of respondents

Table 3. Level of communication of the globalization issue within the company.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Centrally planned integrated communication	19	4	27.15	76
Communication at departmental level	27	3	38.57	81
Scattered communication in individual level	14	2	20	28
No communication effort	10	1	14.28	10
Total	70		100	195
Mean score:				2.79

Table 4. Incorporation of new opportunities and threats in strategy formulation.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Fully incorporated	37	4	52.86	148
They are considered in formulating strategy	23	3	32.86	69
Hardly being incorporated	8	2	11.42	16
Not incorporated at all	2	1	2.56	2
Total	70		100	235
Mean score				3.36

Table 5. Considering export for maintaining and enhancing profitability in the face of the challenge from global competitors.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Already exporting and have plan to expand	38	4	52.86	152
Currently not exporting but planning to start shortly	25	3	32.86	75
Hardly being incorporated	5	2	11.42	10
Not incorporated at all	2	1	2.56	2
Total	70		100	239
Mean score:				3.41

Grand mean Score ($\overline{\overline{X}}$) = $\sum$ Mean scores / No of Qs (5) = 3.19

Appendix 2: Level of technology.

Table 1. Level of technology used in comparison to those used by the global leading companies.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Same	33	4	47.14	132
They are little superior	28	3	40.00	84
They are far superior	6	2	8.57	12
No idea	3	1	4.29	3
Total	70		100	231
Mean score:				3.3

Table 2. Attitude towards adopting new technology.

Alternative responses	No. of Respondents	Point	% of respondent	Score 2*3
Pioneer	24	4	47.14	96
Early adapter	35	3	40.00	105
Late adapter	7	2	8.57	14
Laggard	4	1	4.29	4
Total	70		100	219
Mean score:				3.13

Table 3. Use of technology as a tool of gaining competitive advantage.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
For gaining long-term competitive advantage	24	4	47.14	96
For gaining an age over existing competitors	35	3	40.00	105
For ensuring operational efficiency	7	2	8.57	14
Only to support the operations	4	1	4.29	4
Total	70		100	219
Mean score:				3.13

Table 4. Frequency of reviewing the existing technology in terms of new technological innovations.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Every 2-3 years	19	4	27.14	76
Every 5 years	27	3	38.57	81
Seldom	17	2	24.29	34
No such review	7	1	10.00	7
Total	70		100	219
Mean score:				2.83

Table 5. Portion of the total budget allocated for research and development.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
20% and above	14	4	18.57	56
10% - 20%	33	3	40.00	99
5%-10%	18	2	28.57	36
Less than 5%	5	1	12.86	5
Total	70		100	196
Mean score:				2.88

Grand mean Score ($\overline{\overline{X}}$) = $\sum$ Mean scores / No of Qs (5) = 3.054

Appendix 3: Customer responsiveness.

Table 1. Frequency of conducting customer survey to track changes in the market demand.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Every year	8	4	11.43	32
In every 2-3 years	13	3	18.57	39
In every 5 years	22	2	31.43	44
No customer survey is conducted	27	1	38.57	27
Total	70		100	142
Mean score:				2.03

Table 2. Use of market intelligence to collect information regarding competitors' existing and future product.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Continuous extensive intelligence collection system developed in house	11	4	15.71	44
Ad hoc basis intelligence collection system	18	3	25.72	54
Market intelligence scattered collected by the functional areas	26	2	37.14	52
No effort	15	1	21.43	15
Total	70		100	165
Mean score:				2.36

Table 3. Timing of introducing new product.

Alternative responses	No. of Respondents	Point	% of respondent	Score 2*3
Proactively before customer demand	9	4	12.86	36
Reactively to competitors offering	25	3	35.71	75
Only when it become inevitable	28	2	40.00	56
Has never introduced new product	8	1	11.43	8
Total	70		100	175
Mean score:				2.5

Table 4. Transition cost for changing the product feature.

Alternative responses	No. of respondents	Point	% of respondent	Score 2*3
Very Low	7	4	10.00	28
Reasonably low	23	3	32.86	69
High	31	2	44.28	62
Capital investment	9	1	12.86	9
Total	70		100	168
Mean score:				2.4

Table 5. Company's self perception about offering new product.

Alternative Responses	No. of respondents	Point	% of respondent	Score 2*3
Fast mover	7	4		28
One of the pioneers	27	3		81
Follower	31	2		62
Don't change product	5	1		5
Total	70		100	176
Mean score:				2.51

Mean score ($\overline{X}$) = Total score / Total No. of respondents; Grand mean Score ($\overline{\overline{X}}$) = $\sum$ Mean scores / No of Qs (5)= 2.36

Appendix 4: Skilled of labor.

Table 1. Belief about practicing a well designed Human Resource Planning (HRP) is in the organization.

Alternative Responses	No. of Respondents	Point	% of respondent	Score 2*3
It is existing and being practiced	5	4	7.14	20
It's there, though there is scope for improvement	19	3	27.15	57
It's there, but not very well designed and is not practiced regularly	27	2	38.56	54
There is no HRP	19	1	27.15	19
Total	70		100	150
				2.14

Table 2. Regularity of training program.

Alternative Responses	No. of Respondents	Point	% of respondent	Score 2*3
Training is regular and routine activity	10	4	14.29	40
Arranged when needed	17	3	24.28	51
Seldom arranges	31	2	44.29	62
No training program	12	1	17.14	12
Total	70		100	165
Mean score:				2.36

Table 3. Practice of performance appraisal.

Alternative Responses	No. of Respondents	Point	% of respondent	Score 2*3
Continuous, comprehensive and objective appraisal	7	4	10	28
Periodic Appraisal	18	3	25.71	54
Irregular subjective appraisal	35	2	50	70
No appraisal	10	1	14.29	10
Total	70		100	162
Mean score:				2.31

Table 4. Link between performance and compensation.

Alternative Responses	No. of Respondents	Point	% of respondent	Score 2*3
Fully performance based pay	0	4	0	0
Only part of incentives are based on performance	32	3	35.71	96
Only some non monetary reward	9	2	12.86	18
No relation	29	1	41.43	29
Total	70		100	143
Mean score:				2.04

Mean Score ($\overline{X}$) = Total score / Total No. of respondents; Grand mean Score ($\overline{\overline{X}}$) = $\sum$ Mean scores / No of Qs (5)= 2.21