THE ROLE OF STRATEGIC FLEXIBILITY IN MINIMIZING RESPONSE UNCERTAINTY OF PERCEIVED RISKS FACING MANUFACTURING SMES IN PAKISTAN

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Abstract

The performance of manufacturing SMEs has declined in Pakistan. The task environment of manufacturing SMEs in Pakistan was studied for two main purposes: to identify the perceived environmental risks and to investigate if response uncertainty is a major issue for management while dealing with perceived risks. In the context of Pakistan, this study maintains that higher level of response uncertainty in task environment creates the condition to adopt more flexible structures, practices and strategies. To assess the existence of response uncertainty, three dimensions of uncertainty: state, effect, and response were examined in four manufacturing SME clusters. 65 semi-structured interviews were conducted with senior level managers and owners of the manufacturing SMEs. Analysis of the data demonstrated that the situation of state and effect uncertainty is not so alarming, but, the major problem for management to deal with perceived risks is response uncertainty. This article suggests that adopting flexibility in different organizational constituencies like structure, functions, HR practices, marketing, and most importantly in management will provide appropriate ways to ameliorate response uncertainty and deal effectively with perceived environmental risks. This modified ontology provides better application of flexibility in manufacturing SMEs in Pakistan.

Keywords
Uncertainty, flexibility, task environment, manufacturing SMEs, Pakistan

Introduction

Human societies around the world pass through different stages of their development. The organizations existing in these diverse social contexts also have different structural and functional characteristics. Keeping in view the developments in Western societies, post-bureaucracy is often considered as the most appropriate term for explaining the contemporary trajectory of some organizations, which is characterized by flexibility in structure, and multi-skilled workers (Volberda, 1997), whereas, the societies in the developing countries still seem to be nurturing traditional and bureaucratic structures (Kirkpatrick et al., 2012). Modern or bureaucratic organizations are characterized by micro division of labour, as well as defined hierarchy, rule-based procedures of working, a relative absence of informal relations and standardized criteria for promotion and demotion (Du Gay, 2000). Perhaps a major reason for transforming organizations from

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pre-bureaucratic to bureaucratic and post-bureaucratic structures during the past two centuries was to develop the more effective forms of organizational structure in response to environmental contingencies. Here the dimensions of organizational structure include: division of labour, authority and control (Mintzberg, 1983; Robbins and Barnwell, 2002). Bureaucracy and post-bureaucracy are considered as two ideal types to solve the problems of organizational structure in different organizational contexts (Bolin and Harenstam, 2008). For example Bolin and Harenstam (2008) conducted a study on ninety work-places in Mid-Sweden to analyse the bureaucratic and post-bureaucratic organizational characteristics in which they found that uncertain and changing environment is a driving force for flexible organizational structure. Likewise, Castells (2000) in *Rise of Network Society* claims that organizations are moving towards flexible structures in uncertain environments. Hence, the rationale here is that where an organizational environment is unpredictable and fast moving, where the variables comprising the environment remain undefined, or the rate of change in variables is unknown; bureaucratic structures are the least effective response to meet the environmental uncertainties because of their top down mechanistic modes of command and control (see Volberda, 1997). In contrast, post-bureaucracies are taken to be more suited to such dynamic environments as their defining characteristic is often presented as a reliance upon responsibly autonomous employees empowered to flexibly deal with unpredictable production demands rather than being merely compliant with rules and direct supervisory commands (see Johnson et al., 2009). In other words, the more the environmental uncertainty, the more will be the need for greater organizational flexibility (Burns and Stalker, 1961; Eppink, 1978).

The research reported in this paper focuses on the analysis of task environment of small and medium enterprises operating in manufacturing sector of Pakistan. Small and medium enterprises (SMEs) are amongst the major sources of employment, income and GDP in the economy. However, the statistics reveal that current performance of SMEs in Pakistan is not satisfactory and the graph of performance indicators shows a continuous downward trend since the year 2009 (*The Economic Survey of Pakistan*, various years). This trend could be attributed to various factors existing in the task environment that adversely affect the sale, profit margin, and market share. Management and decision makers of SMEs are well aware of these factors and their effects; however, the major issue is their lack of awareness about the response options available to deal with affecting factors. In this research, these factors are identified as ‘perceived task environmental risks’ while the lack of awareness of management and decision makers about response options is identified as ‘response uncertainty’.

The basic assumption of this research is that response uncertainty in the task environment of manufacturing SMEs in Pakistan demands greater organizational flexibility. There are three main objectives of this research. The first two are empirical: to identify the task environment perceived risks, and to investigate the existence of response uncertainty which is a major problem in dealing effectively with perceived risks in the task environment of manufacturing SMEs in Pakistan. The third objective involves the development of a conceptual framework for strategic flexibility to effectively deal with perceived task environmental risks. To achieve the objectives of this research, unstructured interviews were conducted of 65 entrepreneurs from four SME clusters. For the balanced
In pursuit of these objectives we now turn to the literature focused on defining the concepts of uncertainty and flexibility, followed by a description of the research context of Pakistan. Subsequent sections are organized as: a detailed methodology; a report of empirical findings; a discussion of an implementation plan for more flexible manufacturing in SMEs; a conclusion.

**Conceptual foundations of uncertainty and the Milliken’s approach**

Environment is one of the major areas of investigation in organizational analysis wherein, coping effectively with uncertainties is considered as a prerequisite to deal with the organizational environment (Crozier, 1964; Dess and Beard, 1984; Duncan, 1972; Ellis and Spielberg, 2003; Milliken, 1987; Taylor, 1984; Thompson, 1967). Various viewpoints are available in the management literature to conceptualize the notion of uncertainty e.g. unpredictability of the event (Cyert and March, 1963); lack of information for decision making (Thomson, 1967); complexity in the environment (Galbraith, 1973); complexity and rate of change in environmental variables (Daft et al., 1988). Despite the diverse views on uncertainty, there are two models that are generally followed by organizational researchers (Ellis and Spielberg, 2003). These are presented by Duncan (1972) who focuses on the characteristics of uncertainty, and Milliken (1987) who discusses its various types.

According to Duncan (1972), characteristics of uncertainties include: lack of information about the environmental factors associated with a given decision situation; lack of knowledge of the outcomes and effects of a specific decision; and inability to assign probabilities with any degree of confidence i.e. how environmental factors affect the success or failure of the decision unit in performing its functions. Meanwhile, Milliken defined uncertainty as ‘an individual’s perceived inability to predict something accurately’ (1987: 136). He also categorizes uncertainty into three types: state uncertainty, effect uncertainty, and response uncertainty. State uncertainty is related with organizational environment, and suggests that an individual is unable to predict the future changes in organizational environment or its particular component. In this situation, the top management of an organization is uncertain about the validity of its decisions. Duncan’s model of uncertainty mostly focused on state uncertainty. Effect uncertainty, on the other hand, is related with the individual's ability to predict the effects of environmental change on organization. According to Milliken, it involves the lack of understanding of cause and effect relationship, whereby managers cannot be sure about the effects of change in the environment upon an organization. Finally, the response uncertainty is related with the ‘response option available to the organization, and what the value or utility of each response might be’ (Milliken, 1987: 137). It is defined earlier by Taylor (1984) as inability or lack of knowledge of managers to decide the response options, or to predict the consequences of each response.

**An understanding of organizational and strategic flexibility**

The notion of flexibility developed significance in Western societies during the second half of 20th Century whilst in the context of developing countries; it is in the earlier stages of development (see Kirkpatrick et al., 2012). As we have argued earlier flexibility is
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considered as the characteristic of an organization that places it in a better position to respond effectively to environmental changes (Eppink, 1978; Volberda, 1997). The discourse of flexibility may be divided into three broad categories: organizational level flexibility (Linitch et al., 1996; Volberda, 1996, 1997); group level flexibility (Blyton and Morris, 1992; Cordery et al., 1993; Slomp and Molleman, 2002); and individual level flexibility (Anderson and Terborg, 1988; Molleman and Slomp, 1999; Värlander, 2012).

In organizational flexibility, the interrelated domains of flexibility include structural flexibility (Eppink, 1978; Krijnen, 1979; Overholt, 1997); functional and numerical flexibility (Atkinson 1984; Bagguley, 1990; Cohen et al., 1996); manufacturing flexibility (Gerwin, 1993; Groote, 1994; Gupta and Buzacott, 1989; Kathuria and Partovi, 1999); managerial flexibility (Adler, 1988; Bahrami, 1992; Holcomb et al., 2009; Slade, 2001); and strategic flexibility (Eppink, 1978; Zhang, 2005). Our focus in this research was upon one key aspect of organizational flexibility – the strategic.

Structural flexibility means developing a structure that would be helpful for the organization to operate successfully in the turbulent and uncertain environment. Functional flexibility refers to the ability of workers to work across traditionally separate occupational boundaries whilst numerical flexibility is the capability of an organization to vary headcounts according to the requirements. Various modes of functional flexibility include: job enrichment, job rotation, job enlargement and semi-autonomous work groups; whereas, some of the approaches of numerical flexibility include: temporary employees, contractors, and outsourcing. Manufacturing flexibility means adjusting the manufacturing processes to meet the environmental changes. Some of the methods of manufacturing flexibility include: deploying multifunctional machinery, equipment and devices; adopting flexible timing for the production purposes; developing new line of products; and adopting modified and modern methods of transformation etc. Managerial flexibilities focus on developing in managers a variety of capabilities and skills that would be helpful for decision making in the uncertain and changing environment. In contrast strategic flexibility is a much more all embracing concept and perhaps the most difficult to understand. Indeed because different researchers have presented different definitions. For example, Harrigan (1985) considered it as the ability of a firm to change the market strategies to capture and retain the customers. Others, such as Evans (1991), considered it as the ability to modify strategies whilst according to Sachenz (1995); it reflects the capabilities of a firm to deal with environmental changes by reorganizing its resources. Here strategic flexibility provides alternate ways and options to an organization to use its organizational resources, adopt modified structures, enhance functional flexibilities, and improve dynamic capabilities to operate in an uncertain and dynamic environment. In other words it enables and enhances other forms of organizational flexibility as it reflects the capabilities of an organization to use flexibly its resources, processes, structures, as well as the ability of managers and employees to deal with environmental changes, uncertainties, and complexities (Lau, 1996).

Organization is dependent on its environment for obtaining inputs and for supplying its outputs, as Eppink (1978) said that, it is therefore necessary for management to establish a good fit between environment and organization for long term survival. For creating the good fit it is necessary that management has sufficient knowledge about the
environment to make optimum decisions. If the environment is uncertain and most of the dimensions as well as the behaviour of the dimensions of the environment are hidden or unpredictable, it is impossible for the managers to make effective decisions. Volberda (1997) also explained this phenomenon arguing that when environmental changes are undefined and fast moving, it is difficult to manage the situation with conventional strategic management techniques.

So, with reference to its focus on task environment of manufacturing SMEs in Pakistan, this research proposes that the environment of the developing countries is relatively more uncertain than the environment of developed countries. In highly uncertain environment, management has limited information available for decision making. The situation is worsened in the developing countries by lack of appropriate education, knowledge, and dynamic capabilities on the part of management. Under this situation dealing effectively with the environment becomes even more problematic and challenging and theory suggests that greater strategic flexibility would be the most appropriate option in this situation (Aaker and Masceranhas, 1984; Eisenhardt and Martin, 2000; Evans, 1991; Shimizu and Hitt, 2004).

The case of Pakistan

Like most of the other developing countries, Pakistan is an agro-based economy. The majority of the rural population directly engaged in agri-businesses. In the cities such engagement is important but more indirect. Manufacturing is the second largest sector of economy. It consists of two subsectors: large scale manufacturing and small scale manufacturing. Large scale manufacturing comprises of 5 percent of the total manufacturing sector, while, small scale manufacturing comprises of 95 percent of the total manufacturing sector. Large scale manufacturing consists of textile, chemical, automobiles, fertilizer, leather products, wood products and iron and steel products etc (The Economic Survey of Pakistan, 2012). On the other hand, small scale manufacturing consists of micro, small and medium enterprises mainly operating in the form of industrial clusters as identified by Small and Medium Enterprises Development Authority (SMEDA). There are around 31 established clusters in the province of Punjab, 10 in Sindh, 4 in Khyber Pakhtoonkhwa, and 2 in the province of Baluchistan. There are more than 200 informal and unorganized clusters in different areas of Pakistan as well (SMEDA, 2012). Most of the manufacturing clusters are operating in the province of Punjab.

The manufacturing sector of Pakistan is facing a critical situation due to various general and task environment perceived risks. Some of the general environmental perceived risks that are currently affecting both large scale and small scale manufacturing are: power shortage, high interest rate, political instability, insecurity, terrorism, and extortion etc. As far as the task environment is concerned, every subsector of manufacturing has its own perceived risks.

Methodology

Semi-structured interviews were conducted for this research. The interviews were conducted with the purpose of achieving the empirical objectives of this research. Sixty five (65) interviews of owners/senior managers having decision making powers were conducted
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from four SME clusters. These clusters included: Auto-body parts in the city of Lahore, electrical fitting in Sargodha, gas appliances in Gujranwala, and light engineering in Faisalabad. There were three main reasons for selection of these SME clusters. Firstly, these SME clusters are technologically more developed than other manufacturing clusters. Secondly, these clusters have proper organizational structures; and thirdly, there is a continuous declining trend in their output and profit margin during financial years 2007-2011.

As this research employs Milliken’s approach of measuring uncertainty, a part of interviews was focused specifically upon the uncertainties identified by Milliken (1987) along-with the general focus upon the identification of perceived risks. Rigorous interview plan was developed and consent was sought from each interviewee via a letter covering the objectives of study and goals of the interview. The interviewees comprised of two groups: 45 owners (O) of businesses who were executives as well, and 20 senior level managers (SM). Senior level means those managers who occupied top or second place managerial positions in their respective organizations. Interviews were conducted face-to-face over four months period and were recorded through the digital voice recorder. The interviews were conducted in local language to make it easier for interviewees to understand. Subsequently, these interviews were transcribed into English language to identify the most important points and ideas related with state, effect, and response uncertainties as well as perceived task environmental risks. After identifying the key points of each interview, data was analysed critically to classify the responses received from interviewees. The detail of these responses and their classification is given out in the following section of discussion.

Key findings and discussion

The interviews for this study were conducted to analyse the uncertainties of the task environment of manufacturing SMEs in Pakistan. There were two major objectives of conducting interviews: to identify task environment perceived risks; and to consider if and how manufacturing SMEs are affected by response uncertainty. As discussed earlier, Milliken (1987) model was used for this research which explains that if there are state and effect uncertainties in the task environment of selected clusters then entrepreneurs cannot identify environmental risks and their effects on enterprises. On the other hand, if managers are able to identify the risks and their impacts upon enterprises, it signifies that there is no state and effect uncertainty. In the current study, we have identified from the results of data analysis that state and effect uncertainties do not exist in the SME sector. However, an extremely high level of response uncertainty appeared to be present in the SMEs of Pakistan.

For a comprehensive analysis of collected data regarding state and effect uncertainties, we read all the responses carefully and then divided them into two categories i.e. agreement and disagreement on the basis of positive or negative responses regarding the information on state and effect of task environment.

State uncertainty

The analyzed data revealed that 56 respondents (39 owners and 17 senior managers) had knowledge about current and expected future state of their task environment. There was no uncertainty regarding the existing or future state of task environment because most
of the owners, senior managers, and decision makers claimed to have the capability to predict the expected changes in task environment based on their past experiences. Table-1 shows the number of respondents who agreed or disagreed with having information about the current and future state of their task environment.

**Table 1. Information about state of task environment**

Although, in Table 1 we have categorized the responses on state uncertainty into two types on the basis of their overall implication, the interviews helped in obtaining more detailed response from each interviewee. In the following paragraphs we have provided two responses of a Senior Manager and an Owner that typically explain the situation and represent the general opinion of 56 respondents about this issue. We have omitted the names of respondents and their respective organizations to ensure their privacy. The senior manager (Mr. X) explained the situation in the following way:

All the businesses in Pakistan are facing the problem of energy shortage. I do not know about the state of other industries but if the same situation persists for another year or two in our industry, we will have to stop our production and operations… Over and above it, we are facing tough competition from China in our domestic market… We are also facing difficulties in procuring raw material for our production, and once we arrange it we cannot transform it to finished goods because of the energy shortage in the country. Currently, we are unable to fulfil the demands of local market and we cannot fulfil the demand in the future as well, because we know that this situation will persist at least in the near future.

Another respondent who was both owner and senior executive of the enterprise expressed:

Currently we are facing many problems. This industry is facing the immense shortfall of electricity. Being a small enterprise, we have very limited resources to arrange alternate sources of energy. In this situation; Government of Pakistan has not been supporting us to deal with the electricity shortage. We are also facing the problem of raw material shortage because our suppliers are also affected by the same problems that we are facing. Besides, there is political instability, terrorism and insecurity in Pakistan. We have shortage of financial resources, and China is rapidly capturing the market. This is the most drastic situation of the economy since independence. It is impossible for the economy to get worse than it currently is. We are living in this situation since 2006 and there is no hope that the situation will become better in the next ten years.

The responses reveal that the management has insight about the task environmental issues and its future state. Based on their past experience, most of the interviewees were almost certain that the situation will not change in the future and they will have similar or much worse conditions to deal with. Therefore, it can simply be concluded that the decision makers of manufacturing SMEs in Pakistan are not facing the problem of state uncertainty.

**Effect uncertainty**

The results of interviews reveal that most of the respondents were well aware of the effects of these risks on their enterprises. The analyzed data reveals that 52 respondents
(37 Owners and 15 Senior Managers) had strong understanding of the effects of perceived risks on their enterprises. Table 2 shows the number of respondents who have knowledge about the effects of task environment perceived risks.

**Table 2. Information about effects of task environmental factors on organization**

The responses of the interviews show that effect uncertainty do not exist in the task environment of manufacturing SMEs in Pakistan. The following paragraphs are extracted from the discussion of two respondents (1 Senior Manager and 1 Owner) on the situation of effect uncertainty. These two responses represent the general opinion of 53 respondents about this issue. The senior manager (1) proclaimed that:

Our output is badly affected by electricity and supplies shortage. We are operating at the minimum level. Average working hours per day are hardly two or three. Our production cost is continuously increasing due to increase in fixed cost. If I am not wrong, we are not operating even at break-even point. Workers are de-motivated and most of them are trying to find another better opportunity... Obsolete technology is another reason that we cannot enjoy the benefits of economies of scale... However, unless we have the right number of skilled workers and staff, owners are not ready to upgrade the existing technology.

The response of the senior manager reveals that effect uncertainty is not an issue for these enterprises. Similar arguments were made by Mr. B who was working as both the owner and senior executive. He explained the situation in the following words:

Current situation has destroyed us. Our organization remains closed for four days in week. We are forced to start downsizing because we are unable to pay the salaries of employees... and most of our skilled workers have already left us. Even Government of Pakistan is not helping us... and under this situation without electricity... without skilled workers... and without appropriate quantity of raw material we cannot survive much longer, and it has become almost impossible for us to compete with the low cost foreign products in our markets. If the situation persists we will have to permanently close our production unit in the near future.

The responses of senior manager and business owner, which represent the opinion of 52 respondents, reveal that the managers and owners had apparent understanding of the problems and their effects. It explains that state and effect uncertainty were not the primary entrepreneurial issues in these organizations. However, the decision makers in general had no idea of how they could respond effectively to this threatening situation.

**Identification of perceived risks**

Identification of perceived risk was first objective of this research. We conducted content analysis of the responses to identify the perceived risks. After conducting content analysis, seven perceived risks were identified. Three of which were related with the general environment while four were related with task environment. After categorizing the risks into general and task environmental risks, we categorized all the responses into two more categories: responses that identified the task environmental risks; and, responses that did not identify task environmental risks. Table 3 presents the task environmental perceived risks along with number of respondents who identified these risks.
Table 3. Identification of perceived task environmental risks

In the following paragraphs we will discuss above mentioned four perceived risks in detail, which would be helpful to understand the task environment of manufacturing SMEs in Pakistan.

The biggest problem for manufacturing SMEs is the shortage of energy (electricity). Due to shortage and a discontinuous supply of electricity, average working days for manufacturing SMEs are restricted to around 120 to 150 days per year (Federation of Pakistan Chamber of Commerce and Industry (FPCCI), 2012). In Pakistan, the shortfall of electricity in the month of November, 2012 was 4800MW per day (Kiani, 2012). Pakistan generates electricity with three different sources: hydroelectric (6,463 megawatts, 33%), thermal (12,580 megawatts, 65%), and nuclear (462 megawatts, 2%). There are three major agencies which are generating and distributing electricity in Pakistan; these are Water and Power Development Authority (WAPDA), Karachi Electric Supply Company (KESC) and Independent Power Producers (IPP). Their installed operational capacities are: WAPDA: 11328 MW; KESC: 1755MW and IPPs: 5970 MW (HDIP, 2008). The current energy crisis started in the early 1990s. The government engaged nineteen IPPs to generate electricity in Pakistan. At the time of installation, their total capacity was 3158MW and total investment was 4.0 billion USD. Later on, due to the expansion in their production capacity, the total installed capacity was raised to 5970MW till March, 2003. Until the year 2005, the aggregate supply was more than the aggregate demand, but afterwards the ineffective planning and the need for additional sources of power generation resulted in an increasing gap between demand and supply (National Electric Power Regulatory Authority (NEPRA), 2007). There are many reasons behind this crisis, some of which include ineffective management of energy resources like dams, changing policies of the government, no accountability of the policy makers, corruption in power projects, non-payment of outstanding dues by the Government of Pakistan to IPPs, and inaccurate calculations and forecasts of future requirements.

Shortage of raw material for is the second perceived risk for most of the SMEs. Manufacturing sector SMEs mostly depend on Pakistan Steel Mills (PSM) for supplies of raw iron (PSM is a government owned company). The overall supply chain from supplier to PSM to manufacturing SMEs is the best example of poor supply chain management. Pakistan Steel Mills has a long history of issues with its suppliers, which is the major reason that Pakistan Steel is not operating at its maximum capacity. Low output of Pakistan Steel Mills adversely affects the supply of raw iron to various manufacturing SMEs clusters. There are various other steel mills in Pakistan (e.g. Aisha Steel Mills LTD, Shalimar Steel, Tuwairqi Steel Mills, Nazir Sons Steel Mills etc.) but their supplies to manufacturing SMEs are very low (Pakistan Steel Melters Association (PSMA), 2012).

In addition to electricity and material shortage, manufacturing SMEs are also facing the shortage of skilled workers. Most of the small enterprises want to upgrade their production technology, but they are unable to do so because of non-availability of skilled workers, technician and engineers. Therefore, most of the manufacturing SMEs are unable to enjoy the benefits of manufacturing with modern technology and achieving economies of scale.
Competition in the local market is another risk factor in the task environment of manufacturing SMEs. Production of the SME sector in Pakistan is insufficient to meet the local demands, while the cost of manufacturing is higher. International suppliers especially China are capturing the local market by supplying standardized products. On top of that, the local importers attempt to capture the market by spreading rumours that Pakistani products are not available in the market or that Chinese products are cheaper and of better in quality.

**Response uncertainty**

In the previous paragraphs we discussed perceived risks existing in the task environment. The second objective of this study was to investigate the existence of response uncertainty. The analysis of data rejects the existence of state and effect uncertainty in the task environment of manufacturing SMEs. However, the real issue for enterprises is response uncertainty. Most of the decision makers including managers and owners were not aware of the response options available to deal with task environment perceived risks. Table 4 presents the number of respondents that responded positively to the awareness of response options available to deal task environmental risks. Positive response described that respondents had knowledge about the response options available to cope with four identified perceived risks.

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<th>Table 4. Views on information about response options available to deal with task environmental risks</th>
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The responses of the interviews show that decision makers were facing response uncertainty. In the following paragraphs two responses (1 Senior Manager and 1 Owner) that explain the situation of response uncertainty are provided. These two are the most representative responses of the general opinion of 49 interviewees about this issue. The senior manager Mr. M. claimed:

> We have adopted some measures to cope with existing situation. In the short run it might help us to minimize the effect of environmental changes, but in the long run I am not sure that it will be so effective. We have no clear plan to fix these issues in the long run.

The response of senior managers describes that he was uncertain about the response options and their effects to cope with the task environment perceived risks. Almost similar response was received from an owner Mr. B. who described the situation in the following words:

> We have prepared short term policies to deal with the problems of raw material and workers’ shortage but the most important issues are still unattended. We are currently standing in a void and we have no ideas of what to do next.

The above discussion and analysis of data shows that manufacturing enterprises in Pakistan are affected by response uncertainty. The decision makers can easily identify the perceived environmental risks but they are facing lack of appropriate responses to deal with these variables in the future. On the basis of analyzed data, we could easily conclude that manufacturing SMEs in Pakistan are not affected by state and effect uncertainty in its task environment. But we can easily conclude that these SMEs are affected by response uncertainty. In the following section, implementation plan has been proposed to deal effectively with task environment perceived risks.
Implementation plan for manufacturing SMEs

There is evidence available in the relevant literature that appropriate policies could minimize the effects of perceived risks (Ashill and Jobber, 2010; Wilderom et al., 2012). From this research, it is evident that manufacturing SMEs in Pakistan are facing higher level of response uncertainty. The decision makers have no idea of how to respond the perceived environmental risks. However, flexibility in different dimensions of the organization would provide an opportunity to management to cope with the perceived risks existing in the task environment. Strategic flexibility is the most appropriate amongst the flexibility strategies in this situation. In this research we have identified strategic flexibility as a combination of different flexible strategies: manufacturing flexibility, functional flexibility, managerial flexibility, flexibility in purchasing system, and marketing flexibility. In the following paragraph we discuss these flexibilities individually.

1. Energy crisis is the major perceived risk for manufacturing SMEs in Pakistan. Most of the production units use electricity for production purposes. In response to the question regarding the availability of electricity, one of the interviewees who was an owner and senior manager at the same time told us that electricity was available only for two to three hours during 8 AM to 5 PM which are the normal working hours of industry and most of the workers prefer to work during these hours. After 5 PM the supply of electricity gets relatively better, but workers are reluctant to work at these hours. Most of the workers want to spend evening and night time with their families. That is the major reasons that majority of workers left the industry and were doing temporary jobs somewhere else on a daily or hourly basis. As discussed previously, SME sector is unable to adopt alternate energy sources due to the shortage of financial resources. In this scenario they have just two options available i.e. either to adopt flexible timings or close down the factory. Flexible timing is one of the dimensions of manufacturing flexibility. As stated by Kim ‘probably the most widely held view of manufacturing flexibility is that it is about how fast a manufacturer can adapt its operations to meet the needs of changing conditions and competitive environments. A flexible manufacturer is one that can quickly adjust its operations to events such as changes in demands for its products, changes in consumer tastes, variations in supplier quality and lead times, and emergences of new product and process …’ (Kim, 1991: 4). In the case of SMEs in Pakistan, adopting manufacturing flexibility in a way that production unit might start its production process on those hours in which electricity is continuously available could help to minimize the effects of electricity shortage. Management should motivate the workers for working in flexible hours through flexible pay scales and additional facilities. Flexible work plan by giving options to workforce to work on weekly hours, monthly hours or even annual hours can motivate them to work after 5-PM.

2. Shortage of skilled workers is a major reason because of which most of the manufacturing SMEs are reluctant to install modern production technology. Atkinson (1984) presented two strategies of flexibility to deal with the issues of human resource shortage: functional flexibility; and numerical flexibility. The purpose of functional flexibility is to improve the capabilities of existing workers. The objectives of functional flexibility can be achieved through job enrichment, job rotation, job enlargement, and
teamwork. Through developing functional flexibility, small and medium enterprises can increase the numbers of multi-skilled workers. Multi-skilled workers also decrease the dependency of organization on specific employees (Blyton and Morris, 1992). Numerical flexibility, on the other hand, is the capability of a firm to increase or decrease headcount quickly and easily. If manufacturing SMEs need skilled workers, they can arrange required workforce through different strategies like temporary workers, contractual workers, outsourcing etc. but only if those types of required employee are regularly available on the labour market. Where they are unavailable functional flexibility is the only available recourse. Besides making arrangements for the shortage of skilled workers, there is a dire need to increase the capabilities of managers and decision makers. Managerial inefficiency and incapability are among the major reasons of response uncertainty in SME sector. Most of the manufacturing SMEs are basically family owned businesses in which owners of the businesses are senior managers as well. In the existing task environment, new managerial capabilities are needed to handle perceived task environmental risks. Instead of depending on owners, highly responsive managers should be hired, who have dynamic capabilities and are capable enough to analyse the changes taking place in the task environment. Skilled managers could make decisions for manufacturing flexibility, organization stability, and respond effectively to perceived environmental risks at right time in the right way (Aaker and Mascarenhas 1984; Frazelle, 1986; Hatum and Pettigrew, 2004).

3. Flexibility in purchasing and supply chain management system of the enterprise could resolve the problem of raw material shortage (Ammer, 1974; Ellram and Carr, 1994). Majority of the manufacturing SMEs mostly depend only upon one supplier. When that supplier does not supply raw material to the enterprise, the production process is affected immediately. To deal with this problem, management must expand its list of suppliers by purchasing raw material from a various sources, if required, instead of depending only upon one supplier. Effects of extending the pool of supplier are twofold: it will decrease the dependency of enterprises upon one supplier on one hand, and decrease the bargaining power of the only supplier on the other.

4. Flexibility in marketing strategies will help manufacturing SMEs in gaining competitive advantage in the local market. Currently, local manufacturers do not perform marketing activities to attract the buyers and increase their market share. On other hand, local importers who import standardized products from China perform the marketing activities for imported goods. These importers are attempting to capture the whole of the local market because of the shortage of locally manufactured products. Management of manufacturing SMEs should plan strong marketing strategies to capture the attention of the target market (Baker and Sinkula, 2005; Davis et al., 1991). It will not only inform the buyers about the availability of local products at competitive prices, but will also create barriers for Chinese products to capture the whole market.

5. Finally, an effective strategy for the survival of manufacturing SMEs would be to join hands with their counterparts in the industry to cope with the environmental uncertainties. Flexible inter-agency alliances like consortia, networks, and virtual organizations could help the resource constrained SMEs in ensuring their survival and continued growth by the achievement of competitive advantage.
Conclusion

This article highlights the state of uncertainty in task environment of manufacturing SMEs in Pakistan. This research also presents flexibility as a strategic option to deal with task environment uncertainties. From the review of literature, it is evident that flexibility in the organizational dynamics is the most appropriate response to deal with environmental uncertainties. This theorization, with its focus on uncertainties of developing countries has been applied to the manufacturing SMEs in Pakistan.

The analysis of data identified four major task environmental risks. These risks include: shortage of energy/electricity, scarcity of raw material, lack of skilled workers and competition with foreign products. According to the data, these four factors are the major causes of continuous downfall in the performance of manufacturing sector SMEs in Pakistan. Moreover, the managers of SMEs were not clear about the response options available to deal with these perceived risks. Therefore, this research has offered the most applicable approach in the form of strategic flexibility to deal effectively with the perceived risks.

The problem of electricity/energy shortage could be dealt with enhanced flexibility in the manufacturing system while, the issue of labour shortage can be resolved through functional and/or numerical flexibility. The problem of raw material may be solved through expanding the pool of suppliers instead of depending only upon one supplier. Effectively managing the supply chain by adopting flexibility in suppliers can easily fulfil the demand of raw material to manufacturing SMEs. To deal with the foreign products in the local market, marketing flexibility could be the most feasible option for SMEs. Currently, the manufacturing SMEs do not use any marketing tools to target the potential consumers; while, the importers of foreign products have created separate departments to perform marketing activities aimed at capturing the consumers’ attention and increasing their market share.

By discussing the response uncertainty of task environment and the role of strategic flexibility in the context of developing countries, this research introduces new dimensions in the research on post-bureaucracy. Most importantly, while taking the case of Pakistan, it highlights the significance of strategic flexibility for the enterprises of the developing countries. Therefore, it is a significant contribution to the post-bureaucratic organization research in the sense that it identifies the potential for post-bureaucratic attributes in developing countries which often have been seen as in transition between traditional and bureaucratic modes of organization (see Kirkpatrick et al., 2012). Nonetheless, as the research was conducted only in Pakistan, the nature of perceived risks and the requirements of strategic flexibility could be different in the other societies. For example, even within Pakistan, the clusters selected for this research were operating only in the province of Punjab due to the reason that the majority of manufacturing clusters exist in this province. However the reports of government and non-governmental sources indicate that the sectors operating in other provinces like Baluchistan and Khyber Pakhtoonkhwa are mostly affected by general environment perceived risks including terrorism and deteriorating law-and-order situation etc. The studies of strategic flexibility and post-bureaucracy in turbulent environments as well as in the other developing societies around the world are the areas open for future research.
Funding
This research was partially supported by Higher Education Commission, Pakistan. Technical and administrative support was provided by Small and Medium Enterprises Development Authority (SMEDA); Punjab Small Industries Cooperation (PSIC); Auto Body Parts Manufacturers Association (APBMA); Electrical Fittings Manufacturers Association (EFMA); Trade Development Authority of Pakistan (TDAP); and Pakistan Industrial Technical Assistance Centre (PITAC).

Notes
1. The names of respondents and their respective organizations have not been mentioned in the paper to ensure their confidentiality. However, the first letters from the names of managers have been used to distinguish them in the discussion of this paper.

References


Economic Survey of Pakistan (Various Years) Islamabad: Economic Adviser's Wing, Finance Division, Govt. of Pakistan.


The role of strategic flexibility in minimizing response uncertainty of perceived risks facing …

Table 1. Information about state of task environment

<table>
<thead>
<tr>
<th>Category of Respondents</th>
<th>Agreement</th>
<th>Disagreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>39</td>
<td>06</td>
</tr>
<tr>
<td>Senior Level Managers</td>
<td>17</td>
<td>03</td>
</tr>
</tbody>
</table>

Table 2. Information about effects of task environmental factors on organization

<table>
<thead>
<tr>
<th>Category of Respondents</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>37</td>
<td>08</td>
</tr>
<tr>
<td>Senior Level Managers</td>
<td>15</td>
<td>05</td>
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</tbody>
</table>

Table 3. Identification of perceived task environmental risks

<table>
<thead>
<tr>
<th>Perceived environmental risks</th>
<th>Identified</th>
<th>Not identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortage of electricity</td>
<td>65</td>
<td>00</td>
</tr>
<tr>
<td>Scarcity of raw material</td>
<td>41</td>
<td>24</td>
</tr>
<tr>
<td>Lack of skilled worker</td>
<td>47</td>
<td>18</td>
</tr>
<tr>
<td>Market competition</td>
<td>49</td>
<td>16</td>
</tr>
</tbody>
</table>

*Political instability, Terrorism, and Governmental support are categorized as the areas of General Environment*

Table 4. Views on information about response options available to deal with task environmental risks

<table>
<thead>
<tr>
<th>Category of Respondents</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>09</td>
<td>36</td>
</tr>
<tr>
<td>Senior Level Managers</td>
<td>07</td>
<td>13</td>
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</tbody>
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