Analyzing the Interaction among Factors Hindering the Growth of SMEs: Evidence from the Cutlery Sector of Pakistan

Dr. Naveed Iqbal Chaudhry
Assistant Professor, Department of Business Administration
University of the Punjab, Gujranwala
Email: naveed.iqbal@pugc.edu.pk

Zaid Bin Khalid
M.S Management Scholar, IB&M,
University of Engineering and Technology, Lahore
Email: zaid_125@hotmail.com

Haleema Farooq
Department of Business Administration
University of the Punjab, Gujranwala

Abstract

In developing countries SME sector greatly contribute to the economic growth and is considered as the backbone of the economy. But unfortunately small and medium enterprises in Pakistan face gigantic challenges to chase the economic growth. Therefore this study aim's to consider different aspects that inhibit the growth of SMEs in the cutlery sector. By using interpretive structural modeling, the research will give a hierarchical structure and the reciprocal relationships among those barriers which hinder the progress and development of the SMEs.

Keywords: barriers, interpretive structural modeling, SMEs

1. Introduction

In today's dynamic and competitive global situation, a feasible and vibrant SME sector is a fuel to the growth of developing economies. SMEs are the basic source through which new entrepreneurs contribute their skills, unique ideas and innovative product to the economy (SiowYue & Soesastro, 2007). In Pakistan, SME sector greatly contribute to the economic growth. The significance role of this sector is demonstrated by following statistics. SMEDA report shows that most of the 90% firm under the head of SMEs, manufacturing sector give employment to 70.49% to non-agriculture labor, contributing 40% to annual GDP and almost 25% to exports. According to the report of Asian Development Bank, SMEs contribute 30% in value addition and 80% in employment (Khattak, Arslan, & Umair, 2011).

But SMEs of the some developing nations are facing a sequence of internal and external issues that have adversative effects on their progress and in addition to that they are also facing difficulties for making a position in enhancing economy. Cutlery sector also falls in one of those

sector which are striving for their growth. After independence cutlery sector was going through disaster because large businesses were suited in Bombay, Delhi and Calcutta. That is why main markets were gone and financiers moved to India. However diligent labour and craftsmen recover their repute through their hard work in a very short period of time (Velde, 2005).

Table 1: Growth Barriers and their references as reported in the Literature

Barrier No.	Barriers	References
1	Limited financial resources	Etemad (2004), Freeman & Reid (2006), Fletcher (2004), Bitzenis (2004), Miesenbock (1988), Ofarrell et al. (1998), Beck et al. (2006), Acs & Szerb, 2007), (Grimsholm & Poblete, 2009), Nichter & Goldmark (2009), (Afaqi & Seth, 2009), (Nkuah, Tanyeh, & Gaeten, 2013) , (Kamal & Khan, 2012), (Berger & Udell, 2002), (Berry, 2002), (Kaya & Alpkan, 2012).
2	Stiff competition	Hasan (1998), Kaleka & Katsikeas (1995), Mohy-ud-Din & Javed, Atiq-ur-Rahman (1997), Madrid-Guijarro et al. (2009), Bourletidis (2013), (Al-Hyari, 2013), (Naicker 2006), Okpara (2011), (ANGELINI, 2005), (Madrid-Guijarro, Garcia, & Van Auken, 2009), Moy & Luk (2003).
3	Use of obsolete technology	Atilla Dicle & Dicle (1992), Oviatt et al. (2004), Romijn (2001), Morse et al. (2007), Lee (2001), Siringoringo et al. (2009), (Phillips & Sipahioglu, 2004), (Sikka, 1999), (Trumbach, Payne, & Kongthon, 2006), (HANEEF, 2010), (Dean, 1980; Drucker, 2014), Morse and Lawrence (2007), (Trumbach, Payne, & Kongthon, 2006).
4	Power crisis	Trianni & Cagno (2012), Tambunan (2009), Mead & Liedholm (1998), Hussain et al. (2012), (Bari, Cheema, & Haque, 2005), (Manes, 2009), (Yang, 2011), Hussain et al, (2012), (Afraz, n.d.), (Fjose, Grünfeld, & Green, 2010), (Batra & Tan, 2003), (Mullin, 2002).
5	Inadequate education of SMEs owners and managers	Gallo & Sveen (1991), Graves & Thomas (2008), Huang & Brown (1999), Ofarrell, Wood, & Zheng (1998), Huang & Brown (1999), (Smit & Watkins, 2012), (Rogerson, 2008; Brink, Cant, & Ligthelm, 2003), Laforet & Tann (2006), Saini & Budhwar, (2008), Feldens & Garcez, (2011).
6	Little research and development	Wang & Ahmed (2004), Baregheh, Rowley & Sambrook (2009), Amabile et al. (1996), Du Plessis (2007), Leonidou (2004), Deeds & Decarolis (1999), (Timmons, 1985), (Ahlstrom, Young, Chan, & Bruton, 2004), (Afraz et al., 2014), (Bari et al., 2005), (Munir & Khan, 2011).

7	Dearth of skill labor and human resource	Lee (2001), Yew Wong (2005), Jun & Cai (2003), , Saini & Budhwar (2008), Hessels & Parker, (2013), (Hessels & Parker, 2013; Krasniqi, 2007), Ding (2010)
8	Lack of government support and incentive	Siaw& Rani (2012), Kamalian et al. (2011), Olawale & Garwe (2010), Al-Hyari, AL-Nasour, Alnsour, Al-Weshah&Abutayeh (2011), Evans et al. (2008), (Olawale & Garwe, 2010; Tambunan, 2009; Siringoringo, Tintri, & Kowanda, 2009)
9	No export oriented behavior of SMEs owner and managers	Figueiredo et al. (1988), Brooks & Frances (1991), Kaleka & Katsikeas (1995), , Cardoso (1980), Okpara & Okpara (2011), Hessels & Parker (2013), (Kedia & Chhokar, 1986), (Ahmed, 1999), (Morrison, 2006), Morgan and Katsikeas (1997), Okpara (2011), (Leonidou, 2004), Kaynak and Kothari (1984), Skinner (2005), (Aid, 2007),
10	High production cost	(HANEEF, 2010), (Bannock, Gamser, Juhlin, & McCann, 2002), (Bari et al., 2005).
11	Risk aversion attitude of SMEs owners and managers	Webster (1992), (Craig & Douglas (1996), Ostgaard & Birley (1996), Albaum et al. (2008), (Plous, 1993), (De Bondt & Thaler, 1994), VAN NIEKERK, (2005), (G. Singh, Pathak, & Naz, 2010).

The aim of this study is to consider different aspects that inhibit the growth of SMEs in the cutlery sector and to develop contextual relationship among these barriers by representing the barriers in a hierarchal model according to their driving and dependence power. Interpretive structural modeling (ISM) is a well-established methodology for identifying relationships among specific items, which defines a problem or an issue. On the basis of experts opinion contextual relationships among barriers are established which further assist in development of ISM model. Barriers are identified from different sources such as from extensive literature review and experts opinion (see table 1). Some barriers which are identified from the existing literature were defined by researchers in different context and terminologies.

2. Literature Review

Conventionally SMEs are defined as any enterprise or entity that is involved in a financial economic activity which particularly include partnerships, self-employed individuals, associations and family business of craft etc. But when we discuss about the definition of SMEs it is the subject of considerable debate, it is likely to be different from one country to another and from one province to another (Mustafa & Khan, 2005).

According to SME bank of Pakistan, "An enterprise having total assets of Rs.20 million is small enterprise and an enterprise with total assets of Rs.100 million is called medium enterprises" (Khattak et al., 2011).

Table 2: Definition of SME

Enterprise category	Employment size (a)	Annual Sales (b)
Small and medium enterprise (SME)	Up to 250	Up to Rs.250 Million

The firm growth includes the entrepreneur and all other factors those have effect on growth. There are number of advantages if the firms grow even though the few of them go toward growth like job creation, healthy competition, expand resources and capability. In different studies growth factor is taken in term of growing potential of the firms. But there barriers are taken into account that what factors hinder the growth. Obstacles include both internal and external factors that restrict the potential of the firm to grow. Barriers are also considered as negative factor that constrain the firm to grow which intend to grow. The immense competition and market conditions affect the growth (Naicker 2006). Organizational strategy helps the firm and provides it a direction to move towards its goal. Growth depends upon the production patterns of the firm. If there is some issue in production pattern then it leads to the low productivity and poor quality (Dean, 1980; Drucker, 2014). SMEs have not enough resources to improve its production process and using the obsolete technology (Berger & Udell, 2002). Because there are limited resources, SMEs have very little research and development environment (Afraz, Hussain, & Khan, 2014). Researcher claimed that entrepreneurs have great effect on the firms' growth. Growth depends upon the intention of entrepreneur towards growth as it has significant role in policy and strategy making (Phillips & Sipahioglu, 2004). Unavailability and shortage of trained labor is a great matter of concern for SMEs because it creates huge problems like low productivity, poor quality and high cost. However Government is not supportive to SMEs and it gives more attention to larger firms. Therefore SMEs do not get the benefits which are enjoyed by large firms.

Based on the literature review, the authors have identified eleven barriers that limit the growth of the small and medium enterprises (See Tab. 1).These barriers are described in the following sub-sections.

2.1. Limited financial resources

SMEs have little access to finance and correspondingly most of them depends upon the informal source to get funds. As per estimation, advances portfolio of financial institutions commonly belongs to the large organization and SMEs accommodate only 19% of it (Nkuah, Tanyeh, & Gaeten, 2013). SMEs do not go for the option of taking long- term loan from the commercial

banks and financial institutions. SMEs borrowing is just restricted to over draft facility, letter of credit and short-term finance. Major reason behind such behavior of SMEs toward commercial banks is high security concerns or high rate of interest. In various studies limited financial resources is a prominent constraint for SMEs to grow. Most of the SMEs fail in the first five year of its start-up due to limited finance or over trading (Berger & Udell, 2002).

2.2. Stiff competition

In today's competitive world, it is difficult for SMEs to compete with larger organization and even with other SMEs (Al-Hyari, 2013). In Pakistan there are no competition laws, manufactures are facing stiff competition and to attract buyer using destructive prices which negatively affect the whole industry (ANGELINI, 2005). Political instability leads the industries toward the price war that makes the competition worse. To increase the potential and market share, industries should focus on the innovative products that can compete in the dynamic environment. Firms can not survive for a long period of time in the domestic market with the same products, as these are undertaken by the overseas markets. Additionally, local competitors also exist in market with more power and ideas that make it is very tough for SME to compete (Madrid-Guijarro, Garcia, & Van Auken, 2009).

2.3.Use of obsolete technology

Technology advancement is a key component to get competitive advantage over local and international producers. Technological change supports the competitiveness of the economy (Sikka, 1999). Unfortunately, it is found that small and medium enterprises have low high-tech competences, not allowing them to fully grab benefits of new technologies. Lack of technological advancement hampers the development of SMEs (Trumbach, Payne, & Kongthon, 2006). In Pakistan many entrepreneurs are not enhancing their businesses due to out-dated technology and old methods of production (HANEEF, 2010). SMEs are basically the user, not the inventor of technology that is why they do not compete in the market (OSMEP, 2008). Several studies reveal that most of the entrepreneurs do not even know which technology is suitable for their business and they are also unable to choose the right technology.

2.4. Power crisis

From some last couple of years Pakistani industries are facing the severe problem of energy shortage which hampers their growth (Bari, Cheema, & Haque, 2005). Energy shortage is not just a constraint to SMEs but has gain importance because large number of business surveys conducted about this problem. According to the survey conducted in 2002, about 39.3 percent firms ranked electricity shortfall as the most disturbing constraint, in 2007 the figure reached up to 79.6 percent (Manes, 2009). Energy pitfalls are constraint for all firms around the Pakistan and is a major problem faced by SMEs. Whereas large firms have the alternate arrangements. But small firms already have low profit margin and power shortage makes it even harder for them to survive. Because affording the cost of alternative fuel can be devastating for small firms (Yang, 2011).

2.5. Little research and development

The growth of SMEs is limited due to little or no investment in Research and Development which results in low innovation and productivity. The approach of entrepreneurs toward R & D is conservative they prefer to relay on the internal finance rather than taking debt. Technology is something which is not stagnant, it is ongoing process and needs investment in R & D (Timmons, 1985). Bringing incremental change in the products is the main focus of the most of entrepreneurs. Most of them do not spend too much on R&D in order to just copying the product from overseas. With the view of incremental changes, entrepreneurs do R&D to improve the products developed by other countries and applying it in local environments (Ahlstrom, Young, Chan, & Bruton, 2004).

2.6. Inadequate education of SME owners and managers

Basic cause identified for the failure of SMEs by the research conducted is the lack of managerial skills in entrepreneurs. Saini & Budhwar, (2008) highlighted that mostly SMEs do not have proper system of formalized training and they also lack professionalism in the people of management. In SMEs an entrepreneur requires different skills from large organization because it is quite different to manage few labor rather than large amount of labour. According to Feldens & Garcez, (2011) main barriers which limit the innovative activities in SMEs are shortage of finance, legal barriers, uncertainty and difficulty in finding qualified professional managers.

2.7. Dearth of skill labor and human resource
Lack of skilled and trained labour is one of the major reasons hampering the growth of SMEs. Workforce is unskilled due to low literacy rate and training opportunities in Pakistan (Hessels & Parker, 2013; Krasniqi, 2007). Labour is the one of the most important assets of a firm because its efficiency depends upon their abilities and eager and loyalty to work. Dearth of skilled labour slows down the process of the innovation. Gibb (1987) highlighted that it is the deficiency of management's commitment that it doses builds the innovative culture in the organization. Mostly SMEs do not have formal training system and also facing managerial problems. APO (2001) shows that unskilled labour force is a major constraint faced by SMEs because to attract trained and educated employees is very difficult. Therefore there is shortage of labour because they prefer to work in those organizations which offer high compensation packages, carrier opportunities and job security. That ultimately affect the quality of goods and services offered (OSMEP, 2008).

2.8. Lack of Government support and incentive

Unfortunately, entire world accepts the importance of SMEs but still their growth is restricted by the Government and monitoring policies (Olawale & Garwe, 2010; Tambunan, 2009; Siringoringo, Tintri, & Kowanda, 2009). According to Al-Hyari (2011) bad policies destroyed the SMEs opportunities as it makes the process complicated and expensive. Long process of administrative activities delayed the distribution of product; affect the profit margins and product image (Hamisi, 2011). According to Kamalian (2011) external factor affect the organization more than internal factor because internal factors are controllable for these firms. External factor which influence the growth of firms are such as government policies, competition and economic instability (Günerergin, Penbek, & Zaptçıoğlu, 2012).

2.9.No export oriented behavior of SME owners and managers

Cardoso (1980) highlighted that SMEs play an important and serious part in the enlargement of exports of any country. Although exporting is thought as a difficult and costly process and also it requires plenty of time but as time goes on it gives international opportunities and attracted ways to earn a handsome amount of profit but it is very difficult to take export decisions for the firms (Kedia & Chhokar, 1986). Behavior of entrepreneurs toward exports depends upon the barriers and incentives of the exports. According to Morgan and Katsikeas (1997) SMEs face more challenges in exporting rather than big organization. The size of the firm also matter in the export oriented behavior. According to Moini (1997) the nature of barriers for non-exporters is different from exporters. Those entrepreneur who never try exports treat the mini hurdle, more sever barrier as compared to those entrepreneurs who are regularly exporting. The rigorous thinking of non-exported can be removed through experience of doing exports.

2.10. High production cost

Increasing cost of doing business has great impact the performance of all businesses but especially small and medium enterprise suffers. According to SMEDA, high cost of production, power crises, shortage of labour have compressed the performance of SMEs in different way. Shortage and uncertain electricity supplies slows down the work and increase the cost of product per unit. Severe cut off of gas and electricity increase the work of employees as a result product need more time to be completed. Many SMEs did not survive and close their business due to irregularity of power supply and high production cost (HANEEF, 2010). High cost of doing business badly affects the profit margin and it is very difficult for small businessman to sustain in this situation because customer rapidly switch (Bannock, Gamser, Juhlin, & McCann, 2002).

2.11. Risk aversion attitude of SMEs owners and managers

It is a common assumption that human being doesn't like to take risk. They have risk aversion attitude but it is not true in all circumstances (Plous, 1993). Entrepreneurs do not invest in the risky projects where there is a high chance of loss. SMEs have limited resources so they first calculate the return coming from the particular investment. Entrepreneurs having risk aversion attitude are more conservative minded. They don't want to change and work according to the traditional way of doing business. The risk avoiding attitude of SMEs owners and managers is due to the fear of external factors that may affect their decisions and do not allow an organization to grow (De Bondt & Thaler, 1994).

3. ISM Methodology and Model Development

Interpretive structural modeling (ISM) is a technique that brings orders in variables and facilitates related and distinct variables, portrayed in the complex situation to develop a comprehensive model (Warfield, 1977; Sage, 1977).
The ISM methodology involves the following steps;

1. The barriers are listed in table 5 related to hindering the growth of SMEs which were previously described by researcher in literature review and also confirm by the experts.
2. A matrix is settled in row and columns for the barriers identified in the previous step by developing relationship of one barrier with other barriers pair-wise. Contextual relationship among factor is developed in the form of "A", "V". "O" and "X".

3. On the basis of contextual relationship developed in step 2, a structural self-interaction matrix is established.
4. An initial reachability matrix is than established by transforming the relation developed in SSIM into binary form "0" and "1".
5. After obtaining the initial reachability, transitivity is checked and if necessary some changes are made. It is basic assumption in ISM technique that if variable "i" relates to variable "j" and "j" relates to "k" than definitely variable "i" relates to "k". After removing the transitivity final reachability is constructed.
6. On the basis of antecedent and reachability set, final reachability is divided into different level.
7. After the completion of step 5 final reachability matrix and step 6 level partition and conical matrix is developed.
8. The diagraph found from step 7 is than transformed into ISM model.
9. Finally in the last step ISM model is confirm by expert and modifications are made if necessary.

3.1. Developing Structural self-interaction matrix

After identifying the barriers, contextual relationship among variables is developed by the consensus of the experts. Some experts are taken from the academia and others from industries. In this research a group of fifteen members contribute which include six from academician and nine from industries of cutlery sector. All the participants have the huge experience in the field study.

These four symbols indicate the direction of relationship exist between two variables (I, j):

1. Symbol "V" denote that enabler "i" will help to achieve the enabler "j."
2. Symbol "A" denote that enabler "j" will be alleviated by enabler "i."
3. Symbol "X" denote that both enablers "i" and "j" are interrelated.
4. Symbol "O" denote that there is no relation exist between two enablers "i" and "j".

Table 3: Structural self-interaction matrix

Sr.no	Factors	11	10	9	8	7	6	5	4	3	2	1
1	Limited financial resources	V	O	V	A	V	V	O	V	V	V	-
2	Stiff competition	O	X	A	A	O	A	O	O	A		
3	Use of Obsolete technology	A	V	V	A	O	A	A	O			
4	Power crises	V	V	V	A	O	O	O				
5	Inadequate education of SMEs owner and managers	O	V	V	A	O	V					
6	Little research and development	V	V	X	A	A						
7	Dearth of skill labour and human resource	X	V	V	A							
8	Lack of Government support and incentive	V	V	V								

9	No export oriented behavior of SMEs owners and managers	X	O
10	High production cost	X	
11	Risk aversion attitude of SMEs owners and managers	-	

3.2. Reachability matrixes (Initial and Final)

Two steps are followed to developed Reachability matrixes. In first step contextual relationships are transform into initial reachability by converting the relationships into binary digits "1" and "0".

The rules for transformation are as follow;

- If the relationship of cell (i, j) shows "V" symbol, than the cell (i, j) converted into "1" and the cell (j, i) converted into "0"
- If the relationship of cell (i, j) shows "A" symbol, than the cell (i, j) converted into "0" and the cell (j, i) converted into "1"
- If the relationship of cell (i, j) shows "X" symbol, than the cell (i, j) converted into "1" and the cell (j, i) converted into "1"
- If the relationship of cell (i, j) shows "O" symbol, than the cell (i, j) converted into "0" and the cell (j, i) converted into "0"

Table 4: Initial reachability matrix

Sr.no	Factors	1	2	3	4	5	6	7	8	9	10	11
1	Limited financial resources	1	1	1	1	0	1	1	0	1	0	1
2	Stiff competition	0	1	0	0	0	0	0	0	0	0	0
3	Use of Obsolete technology	0	1	1	0	0	0	0	0	1	1	0
4	Power crises	0	0	0	1	0	0	0	0	1	1	1
5	Inadequate education of SMEs owner and managers	0	0	1	0	1	1	0	0	1	1	0
6	Little research and development	0	1	1	0	0	1	0	0	1	1	1
7	Dearth of skill labour and human resource	0	0	0	0	0	1	1	0	1	1	1
8	Lack of Government support and incentive	1	1	1	1	1	1	1	1	1	1	1
9	No export oriented behavior of SMEs owners and managers	0	1	0	0	0	1	0	0	1	0	1
10	High production cost	0	1	0	0	0	0	0	0	0	1	1
11	Risk aversion attitude of SMEs owner and managers	0	0	1	0	0	0	0	0	1	1	1

Table5: Final reachability matrix

Sr.no	Factors	1	2	3	4	5	6	7	8	9	10	11	Driving
1	Limited financial resources	1	1	1	1	0	1	1	0	1	1*	1	9
2	Stiff competition	0	1	0	0	0	0	0	0	0	0	0	1
3	Use of Obsolete technology	0	1	1	0	0	1*	0	0	1	1	1*	6
4	Power crises	0	1*	1*	1	0	1*	0	0	1	1	1	6
5	Inadequate education of SMEs owner and managers	0	1*	1	0	1	1	0	0	1	1	1*	7
6	Little research and development	0	1	1	0	0	1	0	0	1	1	1	7
7	Dearth of skill labour and human resource	0	1*	1*	0	0	1	1	0	1	1	1	7
8	Lack of Government support and incentive	1	1	1	1	1	1	1	1	1	1	1	11
9	No export oriented behavior of SMEs owners and managers	0	1	1*	0	0	1	0	0	1	1*	1	6
10	High production cost	0	1	1*	0	0	0	0	0	1*	1	1	5
11	Risk aversion attitude of SMEs owner	0	1*	1	0	0	1*	0	0	1	1	1	6
	Dependence	2	11	10	3	2	9	3	1	10	10	10	

By implementing these rules initial reachability is developed as displayed in Table 4. In the second step transitivity is removed as earlier explained in step 5, to developed final reachability. The table of final reachability is shown in Table 5 representing transitivity as 1*. Table also depicts the dependence and driving power. Driving power of the single barrier is the total number of barrier which it helps to attain. On the other hand dependence power is the total number of factors which help to attain it.

3.3. Level Partition

Sets of antecedent and reachability of the barriers are withdrawn from final reachability. (Sage, 1977). Reachability set entail all barriers including itself which it may assist in achieving the others. Similar to that antecedent set entails all the barriers including itself which all assist in achieving them. All those barriers which have same reachability and intersection set ranked at the top of the model. Now they would not lead any other variables above their level. After ranking them in the model these are removed from the list of barrier. "Stiff competition" (barrier 2) comes at the first level so it is ranked at the top of the model (see table 6). Same process is continue until all the barriers achieved their level and ranked in the model. Iteration and level partition of all the variables are presented in Table 7.

Table 6: Level iteration 1

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1	1,2,3,4,6,7,9,10,11	1,8	1	
2	2	1,2,3,4,5,6,7,8,9,10,11	2	*I*
3	2,3,6,9,10,11	1,3,5,6,7,8,9,10,11	3,6,9,10,11	
4	2,3,4,6,9,10,11	1,4,8	4	
5	2,3,5,6,9,10,11	5,8	5	
6	2,3,6,9,10,11	1,3,4,5,6,7,8,9,11	3,6,9,11	
7	2,3,6,7,9,10,11	1,7,8	7	
8	1,2,3,4,5,6,7,8,9,10,11	8	8	
9	2,3,6,9,10,11	1,3,4,5,6,7,8,9,10,11	3,6,9,10,11	
10	2,3,9,10,11	1,3,4,5,6,7,8,9,10,11	3,9,10,11	
11	2,3,6,9,10,11	1,3,4,5,6,7,8,9,10,11	3,6,9,10,11	

Table 7: Level of SMEs growth barriers

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1	1	1,8	1	*V*
2	2,10	1,2,3,4,5,6,7,8,9,10,11	2,10	*I*
3	3,6,9,11	1,3,5,6,7,8,9,11	3,6,9,11	*II*
4	4	1,4,8	4	*IV*
5	5	5,8	5	*IV*
6	3,6,9,11	1,3,4,5,6,7,8,9,11	3,6,9,11	*III*
7	7	1,7,8	7	*IV*
8	8	8	8	*VI*
9	3,6,9,11	1,3,4,5,6,7,8,9,11	3,6,9,11	*II*
10	2,10	1,2,3,4,5,6,7,8,9,10,11	2,10	*II*
11	3,6,9,11	1,3,4,5,6,7,8,9,11	3,6,9,11	*II*

4. Classification of Barriers

Barriers are divided into four categories: dependent, independent, autonomous and linkage according to their driving and dependence power. The driving power and dependence power diagram for barriers is shown in Fig. 1.
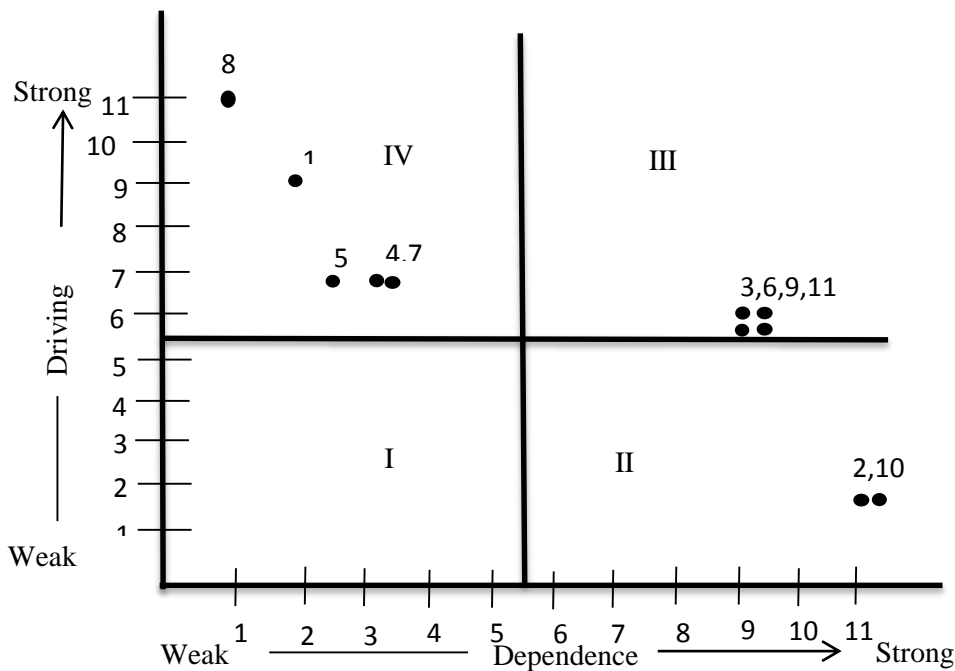
Notes: I → autonomous barrier; II → dependent barrier; III → linkage barrier; IV → independent (driver) barrier

Figure: 1 Driving power and dependence diagram

The first group contains "autonomous enablers" which have weak dependence and driving power. It means that they are either disconnected from the others enablers or have very few link. Second group contains "dependent enablers" representing the weak dependence but powerful driving force. Third group contains "linkages enablers" showing great dependence and driving power. Which means that any action performed on these variables could highly affect the other variables. Forth group contains "independent enablers" representing the high driving force and weak dependence. It is perceived that independent variables are the most important variables as it has high driving force and little dependence on other factors.

5. Formation of ISM Model

After removing the transitivity as explained above in the ISM methodology final model is construct as shown in Figure 2.The ISM model in this study portrays that "Government support

and assistance" (barrier 8) is very important barrier which limit the growth of SMEs as it placed at the bottom of the model. On the other hand "stiff competition" (barrier 2) is the barrier which is drived from all the other variables as it is placed at the top of the hierarchy. "Lack of government support and assistance" (barrier 8) drive "limited financial resources" (barrier 1) and "inadequate education of SME owners and managers" (barrier 5), showing that Government is not supporting to SMEs in attainment of advances from financial institution or also there is no proper training institute which provide professional learning to SMEs owner and mangers. Furthermore due to financial shortages leads to "power crisis" (barrier 4) and "dearth of skilled labour and human resource" (barrier 7). SMEs have lack of financial resources due to which they find difficulties in finding good human resource.

"Power crisis" (barrier 4) and "dearth of skilled labour and human resource" (barrier 7) both effect the "use of obsolete technology" (barrier 3), "little research and development" (barrier 6), "no export oriented behavior of SME owners and managers" (barrier 9) and "risk aversion attitude of SME owners" (barrier 10). Barrier 3, 6, 9, and 10 are interrelated which means that if there is little culture of research and development than SMEs lack modern technologies. Entrepreneurs reluctant to take risk can't grow and expand in the foreign markets. Without resolving these hurdles it is impossible to eliminate "stiff competition".
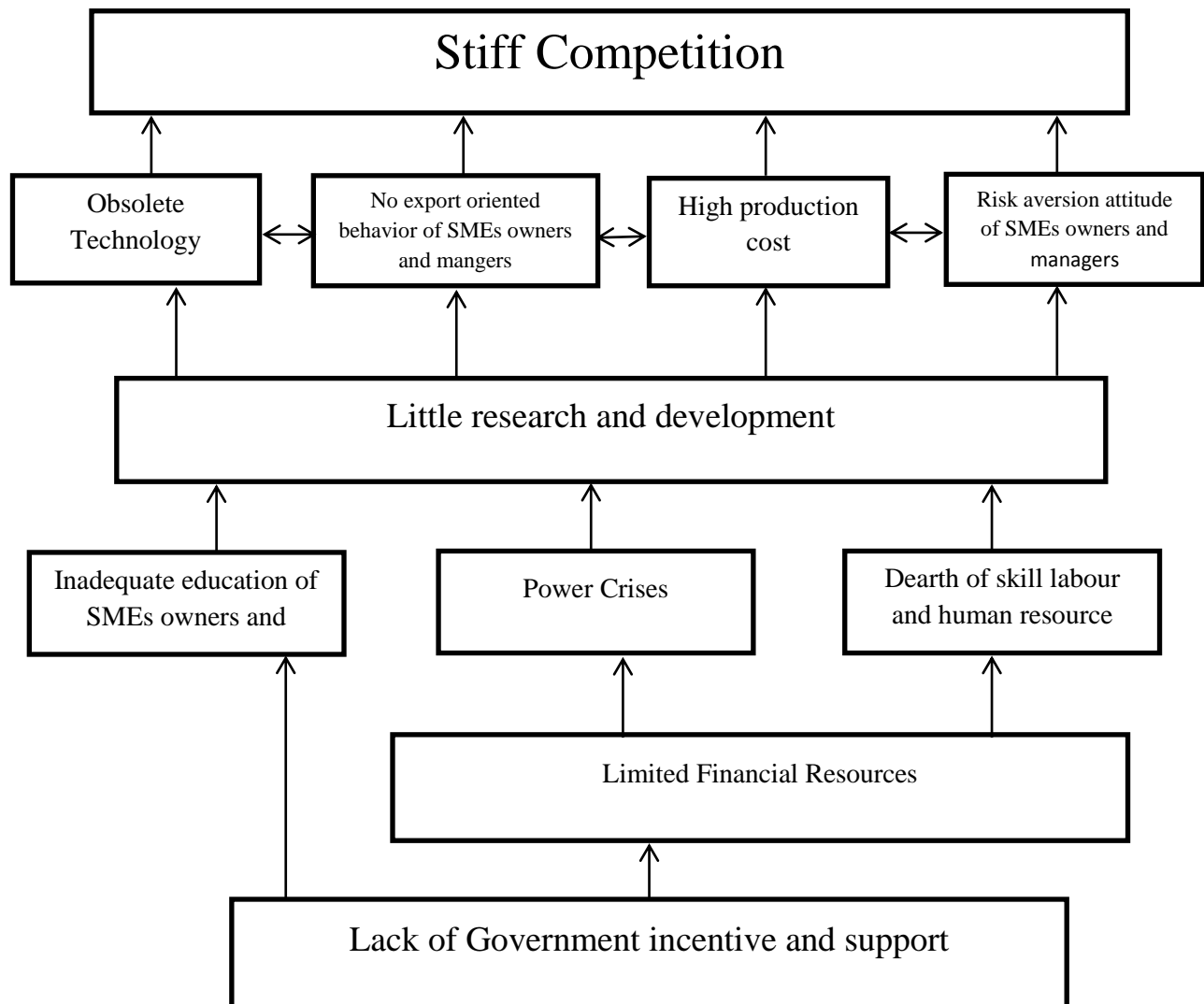
Figure 2: ISM-based model of SMEs growth barriers

6. Discussion an Conclusion

Level of barriers is extremely important for mitigating the effect of these factors on growth. According to (Figure 1) there is no enabler in the autonomous group which depict that it is necessary for the management to focus on all the enablers because there is not a single variable which is disconnected from the system. Barriers which showing high dependence power is "stiff competition" that negatively affect the outcome. This variable is ranked at the top of the hierarchical model (Figure 2), requiring the huge attention of the managers to control them. Furthermore the linkages variables include "use of obsolete technology", "High production cost", "risk aversion attitude of SMEs owners" and "no export oriented behavior of SME owner and managers" having great dependence and driving force. They propagate through lower variables in the hierarchy and in return influence the above factors. Linkages variables are unstable; any action performed on them would affect all the other including them too. Finally the (Figure 2) designates independent enablers like "Lack of government support and assistance", "Power crisis", "Little research and development" and "Inadequate education of SMEs owners and managers" placed at the base of the hierarchal model depicting the lowest dependence power. As independent are the major barriers having power to affect all other barriers so management needs to manage these tricky barriers carefully and give high priority to these variables.

An effort is made by this research to recognize the violating barriers hampering the growth of SMEs in Pakistan. Although literature is available on the factor limiting the growth of SMEs but this research gather all the major barriers in the single platform. This study gives its contribution to the development of model of all those barriers hampering the growth of SMEs in Pakistan. In which relationships among variables are developed. This model would help the management, having deep understanding of the relationships in order to minimize them.

It is useful suggestion for the upcoming researchers to identify the barriers in the sectors of SMEs or may compare the barrier of one sector with another or even with other countries. In this study model is developed but not statistically tested. Researchers can also test this model by using different statistical approaches. "Structural Equation Modeling" (SEM) approach is one of the statistical approach use to validate a model.

7. References

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