BAŞKENT UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES
PH.D. IN MANAGEMENT AND ORGANIZATIONS

THE ORGANIZATIONAL CHANGE ADAPTATION PROCESS: DIFFERENTIATION AND INTEGRATION

DOCTORAL DISSERTATION

PREPARED BY

MUHAMMAD ALI

DISSERTATION ADVISOR

PROF.DR. M. ABDÜLKADİR VAROĞLU

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DEDICATIONS

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Sincerely

Muhammad Ali

Monday, 20 July 2020

ABSTRACT

Muhammad Ali, the Organizational Change Adaptation Process: Differentiation and Integration, Başkent University, Institute of Social Sciences, Ph.D. in Management and Organizations – 2020.

This study was carried out to explore the change adaptation approaches and mechanisms of small and medium-sized enterprises (SMEs) operating in Haripur and Abbottabad Province in Pakistan. Previous studies were mostly based on large complex organizations operating in developed countries and little attention was paid to SMEs. Secondly, current change adaptation models generally don't consider organizational structural and external environmental characteristics. To develop a comprehensive change adaptation model that shows the change adaptation process in terms of different organizational structures, strategic postures, and different types of external environments. The hypotheses were developed based on the five research variables (organization structure, strategic posture, differentiation, integration, and external environment) that are critical in the change adaptation process. Once the hypothesis was tested each variable individual research item was cross-compared in a stable and dynamic environment to explore the characteristics of each research variable. Furthermore, based on the findings change adaptation approaches and mechanisms were developed. These approaches and mechanism models show how mechanistic and organic enterprises can adapt to the external environmental changes based on the external environment type.

Keywords: Change adaptation, Mechanistic structure, Organic structure, Strategic Postures, Stable Environment, and Dynamic Environment.

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ABBREVIATIONS

Small and medium-sized enterprises (SMEs)

Small and Medium-Sized Enterprises Development Authority (SMEDA)

Union of Chambers and Commodity Exchanges of Turkey (TOBB)

Organisation for Economic Co-operation and Development (OECD)

Turkey's Small and Medium Industry Development Organization (KOSGEB)

CHAPTER 1

ORGANIZATIONAL CHANGE

Change is an inevitable phenomenon of the organizational life cycle and an organization's ability to deal with change is regarded as its core competencies in terms of its performance and survival (Burnes, 2004). Change is a complex phenomenon and it is perceived differently among academics and practitioners: some regarded it as incremental while others consider change as a continuous concept. Additionally, its very nature of occurrence is also divided into two main groups, one group perceived change as an emergent process while other groups perceived it as a deliberative process (Quinn, 1982; Romanelli & Tushman, 1994; Bamford & Forrester, 2003). Studies on how organizations should be structured and changed have gain momentum over the past few decades (Lewis, 1994; Teece, 2000; Black, 2000; Burnes, 2005).

Organizational change is a concept that has substantial consensus between academics and practitioners (Romanelli & Tushman, 1994; Brown & Eisenhardt, 1997; Scholes, Johnson, & Whittington, 2002; Benn, Edwards, & Williams, 2014; Dawson, 2019). However, despite substantial consensus, the successful organizational change adaptation process is a very challenging and obscure phenomenon as many studies have found the failure rate of organizational change adaptation well above 80% (Beer & Nohria, 2000; Brodbeck, 2002; He & Yang, 2016). Successful organizational change adaptation debate has gain momentum over the last two decades to find optimal processes to manage organizational change (Romanelli & Tushman, 1994; Beer & Nohria, 2000; Stacey, 2007 Dawson, 2019). Complexities theories are a good starting point to explore the change adaptation processes. These theories consist of various concepts that are borrowed from various scientific disciplines such as biology, physics, mathematics, meteorology, and chemistry (Burnes, 2005; Amagoh, 2008, Rescher, 1998; Grobman, 2005; Levy, 2000). Complexity theories provide a strong base to develop the understanding of organizational change this argument is backed by academics and practitioners (Bechtold, 1997; Tetenbaum, 1998). Complexity theories view the organizations as a system and these theories present the

argument that systems are unpredictable, but there are always order-generating rules of patterns (Burnes, 2005).

Complexity theories focus on the emergency of patterns at a specific order in dynamic systems. Which are categorized as non-linear systems as these systems are constantly changing (Wheatley, 1994; Beeson & Davis, 2000). Organizations are complex systems that constantly adjust, and change their structures or internal systems to survive in the environment (Lewis, 1994; MacIntosh & MacLean, 1999; Macbeth, 2002). Organizational survival is dependent upon the constant and simultaneous processes of fit with external environmental patterns (Lewis, 1994; MacIntosh & MacLean, 1999). The process of establishing "fit" is dependent upon the alignment of organizational structural patterns with external environmental patterns (Burns & Stalker, 1961; Lawrence & Lorsch, 1967). Furthermore, when an organization structure loses its alignment with the external environment this generates negative performance. Therefore, the organization needs to rematch its structure with external environmental patterns by adapting the changes from the external environment (Donaldson, 2001). There are different organizational change adaptation approaches however, there is general agreement that these approaches can be classified into two main categories, planned and emergent approaches (Burnes, 2004; Cummings & Worley, 2001).

1. Approaches to Change Adaptation

Organizations are well aware of their roles and interdependence on each other in complex global business environment. The business environment has become more complex, dynamic, competitive, and unpredictable (Kanterholds, 1999). These complexities have forced organizations to re-evaluate their structural characteristics and mechanism to respond to environmental dynamism (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Livne-Tarandach & Bartunek, 2009). Business environments across the globe have encountered unforeseen changes due to global collaboration on a large scale (Kanterholds, 1999). The business environment has become very complex and it became very challenging to accurately predict the change patterns (Schein, 2004; Sunarni, 2020). An IBM based study conducted in 2008 presented an argument that organizations are like a "work in progress" entities rather than a stable and persistent institution (Burns, 2006). The study findings

support the concept of change as continuous phenomena rather than a discrete concept (Chia, 1999; Weick & Quinn, 1999). Organizations use different methods to adapt the change such as planned and emergent approaches.

The planned approach dominated the change management literature from the 1950s to the late 1970s. The planned approach is based on the work of Kurt Lewin's three-stage model of change (unfreeze, change (transition), and freeze (refreeze)). The approach considers organizations as a set of processes. The planned change is based on pre-identification of the need for change and it comprises of chronological steps for changing the organizational internal mechanism to match with external environment emerging patterns (Livne-Tarandach & Bartunek, 2009).

Lewin is considered the founding father of planned change in change management field. Kurt Lewin's three-stage model of change is considered as a fundamental planned change model that focuses on maintaining the status quo through change adaptation (Lewin, 1947). The planned approach starts to lose its effectiveness during the 1970s oil crisis and its impact on the economic situation (Issawi, 1978; Dunphy & Stace, 1993; Burnes, 2004). The 1970s oil crisis impacted the organizations and the need for rapid and often brutal transformation was the only option for survival (Burnes, 2004; Dunphy & Stace, 1993). Therefore, the need for a more dynamic and flexible change adaptation approach was critical and this gap was covered by the emergent approach as planned changed framework was too slow and bureaucratic (Peters & Waterman, 1982). The emergent change adaptation approach is more flexible and innovative as compared to the planned approach. (Kanter 1983; Peters & Waterman, 1982).

Additionally, with the development of literature on change management in the 1980s, new approaches to organizational change adaptation begin to surface. However, these approaches were based on the previous two main approaches that are planned and emergent approaches to change. For example, the processual approach argues that change is a continuous phenomenon and has no finite endpoint (Pettigrew & Whipp, 1993; Wilson, 1992). However, each approach was criticized such as planned change was assembled under the shield of emergent change (Weick, 2000). Over time more new models of change adaptation were presented, such as the punctuated equilibrium model (Romanelli & Tushman, 1994) and the continuous transformation model (Brown & Eisenhardt, 1997). The

punctuated equilibrium model argued that organizations formed through an equilibrium period that are disrupted by short ruptures of revolutionary periods. These revolutionary periods generate patterns and these patterns provide a base to the new equilibrium states (Romanelli & Tushman, 1994). On the other side, the continuous transformation model rejects incremental and punctuated equilibrium and argues that organizational change is continuous phenomena and organizations must develop their abilities to match the external environmental patterns (Brown & Eisenhardt, 1997).

1.1 Problems with Change Adaptation Approaches

The basic issue with change adaptation approaches is that all these approaches were based on general principles or one specific type of structure or environment. Considering the example of Lewin's model, the very first issue that we face is that organizations are fluid entities (Kanter, Stein, & Jick, 1992). Organizations are not wedged in one state that we can unfreeze or refreeze rather organizations are fluid entities that have different operations and processes regardless of the type of structure (mechanistic or organic structures). Additionally, even if we accept the organization as a frozen entity does this refers to the organization structure? Processes? Strategy? Or the core mechanism? Secondly, how can change adaptation processes can be initiated in an organization? How organizations can be unfrozen from one state to another? If unfreezing refers to the structure it means that unfreezing can only be done using a parallel structure as if unfreezing can be performed from the same structure it means structure was already inflow.

Furthermore, how to perform the refreezing process? In case of failure of change, do the organization has enough time to redo all the steps and retry? Many questions cannot be answered using the planned change approach. The emergent approach on the other hand supports the dynamic environments and is based on the assumption that change is continuous, open-ended, and unpredictable (Kanter, 1983; Peters & Waterman 1982). The basic issue with the emergent approach is that it gives a general road map of change adaptation but does this approach is valid for both mechanistic and organic structure? Operating in a stable and dynamic environment or it only works for a dynamic environment?

To develop an effective change adaptation model it is critical to explore the basic relationship between key concepts involved in the change adaptation processes. These concepts consist of organizational structural characteristics, strategic posture, and external environmental dynamism. Environmental dynamism is an important and widely-used research concept in the field of organization theory and strategic management. This concept is dependent upon the degree of stability or instability of its key factors, such as market conditions, technology, economic, social, and political forces (Dess & Beard, 1984; Emery & Trist, 1965; Sharfman & Dean, 1991).

In terms of organization theory, environmental dynamism has been defined by different scholars as placid or turbulent, (Emery & Trist, 1965), stable/uncertain, (Lawrence & Lorsch, 1967) simple-complex, or static-dynamic (Duncan, 1972). Environmental dynamism has been further categorized under a variety of conceptualizations such as task environment (Dill, 1958), sub-environment (Lawrence & Lorsch, 1967), territory (Child, 1972), and industry/market (Miller & Friesen, 1986). Generally, environmental dynamism is categorized by the intensity of certainty, complexity, and munificence (resource availability) (Dess & Beard, 1984).

The association between external environmental dynamism and organizational structure was explored by many authors and they found a constructive relationship between two concepts (e.g., Burns & Stalker, 1961; Lawrence & Lorsch, 1967). Organizational structure is the systematic system that provides a mechanism through which different activities, tasks, and processes are coordinated and managed to achieve the goals of an organization. (Jackson & Morgan, 1978). Organizational structure may range from a highly mechanistic form of a structure to a highly organic form of structure or hybrid structure, which is, neither completely mechanistic nor completely organic. Mechanistic structures are highly formalized, non-participative (centralized), hierarchical tightly controlled which follow inflexible structural patterns. Whereas, organic structures are characterized as flexible, dynamic, and decentralized which follow flexible structural patterns (Khandwalla, 1977; Randolph, Sapienza, & Watson, 1991).

Environmental dynamism has also been linked with strategic posture based on the research conducted by many authors (Clark, 1971; Hambrick, 1983; Jauch, Osborn, & Glueck, 1980; Jemison, 1981; Rockart, 1979; Miles et al., 1978; Miller, Dröge, & Toulouse,

1988; Mintzberg, 1979; Selznick, 1949; White & Hamermesh, 1981; Zahra & Pearce, 1994). Strategic posture refers to the enterprise's strategic approach ranging, from conservative strategy to entrepreneurial strategy. That is whether an enterprise's strategy is innovative-risk-taker or non-innovative (conservative) – risk-averse (Karagozoglu & Brown, 1988).

Lawrence and Lorsch (1967) further explore the relationship between organizational structure and environmental dynamism by developing an open systems theory that explains how organizations develop and combine their different departments to best adapt to the environmental changes. They introduce two concepts (i) structural differentiation and (ii) structural integration. Differentiation refers to the distribution of organization functions into sub-units theses sub-units interact with sub-environments (external environment). Whereas, integration, refers to the mechanism that connects different sub-units' output into a single output (Lawrence & Lorsch, 1967).

Businesses across the globe have entered into a hyper-competitive environment, this hyper-competitive environment shifts dramatically from stable-simple-predictable environment to the complex-dynamic-unpredictable environment in which competitive advantage becomes a very challenging concept (D'Aveni, 2010). Competitive advantage is the on-going phenomenon in which enterprises drop and re-design their strategies through strategic shift (Griffith & Harvey, 2001). Enterprises in dynamic environments adapt dynamic capabilities as their primary strategy to deal with a dynamic environment.

Enterprises' dynamic capabilities refer to their abilities to constantly adjust, through adapting change in its internal structure along with strategies to match the challenges imposed by the external environment to achieve competitive advantage (Teece & Pisano, 1994; Teece, Pisano, & Shuen, 1997). These dynamic capabilities enable enterprises to adapt to environmental changes (Teece, 2007). The first task of this research was to focus on exploring the association between key variables while the second part focused on the cross-comparison of research items. This cross-comparison was important as it shows the core mechanism of each variable in greater depth. Furthermore, based on these two parts of analysis the model of change adaptation was developed using the procedural research design model.

1.2 Motivation of Study

There are various studies on change adaptation with the perspective of environmental dynamism, organization structure, strategic posture (For example, Burns & Stalker, 1961; Child, 1972; Emery & Trist, 1965; Eisenhardt & Schoonhoven, 1990; Lawrence & Lorsch, 1967; Mintzberg, 1961; Miles et al., 1978; Zahra & Pearce, 1994). These studies are mostly linked with large-complex organizations operation in developed countries e.g., Box, White, and Starr (1994); Wiklund (1999) and Zahra and Pearce (1994). Research on small-medium enterprises (SMEs) specifically operating in developing countries are mostly ignored (e.g., Miles, Covin, & Heeley, 2000).

Additionally, these studies mostly focus on the empirical relationship between variables with no comprehensive explanation of change adaptation models in terms of different types of organizational structures, using different strategic posture operating in stable or dynamic environments. Secondly, literature consists of several change adaptation models and theories (Calder, 2013; Cameron & Green, 2019) but they are developed on a general principle of change, not in the specific purpose that is how organization adapt to change in dynamic environments and stable environments in terms of its core mechanism. That is, what is the difference between mechanistic and organic firms when it comes to change adaptation operating in different types of environments? Moreover, why some organizations adapt to change at a faster rate as compared to others at a lower rate.

Furthermore, do organic structures are more successful as compared with mechanistic structures in terms of change adaptation since they have more flexibility? Studies on these aspects are mostly ignored. Therefore, comprehensive research on the change adaptation approach in terms of different structures, strategic posture, and external environment is very much required and it will benefit both academics and practitioners.

1.3 Research Problem and Questions

Across the globe, businesses are operating in different environments and the success of businesses is not guaranteed by having the same general structure or strategy. Considering the examples of Starbucks' failure in Australia (Adams, 2012) and Walmart’s failure in South Korea (Gao, 2013). These business giants face failure despite having huge success in one

environment, they failed to achieve success in other environments, does their failure linked with environmental characteristics, poor strategy, Ineffective structural design, change adaptation approach or a combination of these factors? This research is designed in such a way that it can help to give some answers to these questions not just in terms of the strategy-structure-environment relationship aspect, but also, In terms of how organizations survive and adapt change in different environments.

The survival and progress of organizations depend on two factors (i) effective change adaptation mechanism and (ii) effective "Fit" between organizational structure and external environmental contingencies. Taking into consideration the aforementioned factors, three research questions were generated.

Research Question 1: How can enterprises adapt to change successfully?

Research Question 2: Does the level of structural differentiation and integration proposed by Lawrence and Lorsch (1967) have a role in change adaptation based on external environmental characteristics?

Research Question 3: Does the change adaptation process vary across different organizations (Mechanistic to Organic) operating in different environments (Stable or Dynamic environments)?

1.4 Preliminary Conceptual Model

The preliminary conceptual model of research is designed in a way that will serve the base for the development of effective change adaptation models in terms of different structures (mechanistic structure - organic structure), strategic postures (conservative-entrepreneurial), and external environment (stable environment-dynamic environment) as shown in Figure 1.1. Additionally, to explore the association between preliminary model variables Figure 1.2, and 1.3 were designed to elaborate the hypotheses.

The first part of the research was conducted to explore the relationship between organizational structure (mechanistic structure- organic structure/ level of differentiation-integration), strategic posture (conservative-entrepreneurial), and external environment

(stable-dynamic). In the second part, a comparative analysis was performed across the stable and dynamic environments in terms of organizational structure, strategic posture, level of differentiation, and integration. The finding was used as a base to develop change adaptation models.

Figure 1.1. Preliminary Conceptual Research Model

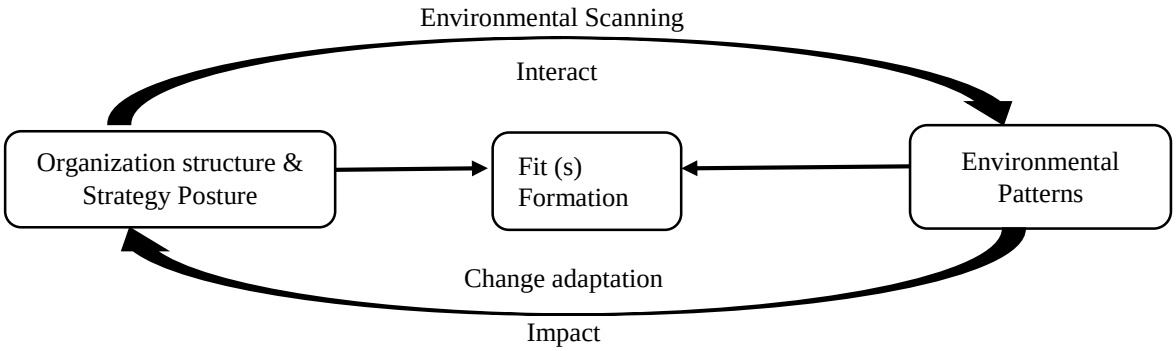


Figure 1.1. Hypotheses for Stable Environment-Mechanistic Enterprises

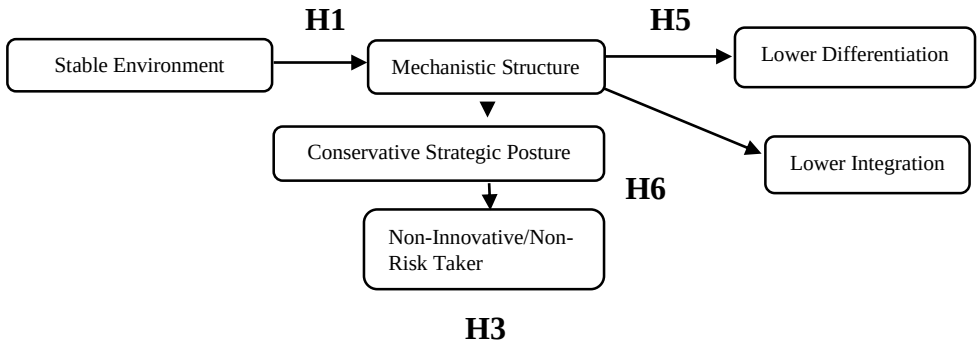
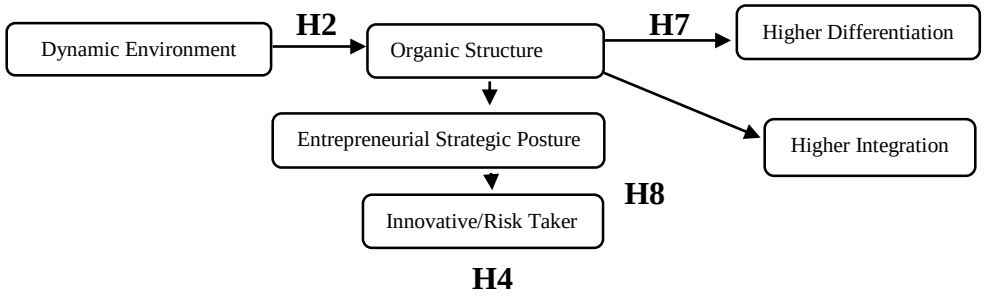


Figure 1.3. Hypotheses for Dynamic Environment-Organic Enterprises



1.5 Research Methodology

The study is quantitative and is based on primary data that was gathered using a standardized questionnaire which was based on the work of Miller and Friesen's (1982) and Khandwalla (1977). The questionnaire was compiled based on the requirement of the study. The questionnaire was distributed to production managers in each SMEs at the Hattar Industrial region - Haripur and Small Industrial Estate – Abbottabad. Additionally, the selection of Hattar and Abbottabad industrial estates was based on the requirement of the study since the study required insight into organizational structural and strategic mechanisms operating in stable and dynamic environments.

The pilot study was specifically crafted to explore the organizational structural and strategic postures in association with environmental patterns and characteristics. This study focus on the two different external environments (stable and dynamic) and two different organizational structures (mechanistic and organic) operating with two distinct strategies postures (conservative and entrepreneurial). Therefore, Hattar and Abbottabad's industrial estates were selected based on pilot study results to fulfil the basic requirement of the study. Secondly, these two industrial estates were established inside a specific designated large area based on the pre-planned design. Hence the data gathering in terms of operational and non-operational firms was very convenient. Small and Medium Enterprises Development Authority (SMEDA) does not provide a list of operational and non-operational firms.

1.6 Limitations and Implications of the Research

The general limitations of the study were financial and time factors. The study was limited to only two small industrial estates operating in Haripur and Abbottabad. The results may not be generalizable to many other countries. The work of Hofstede was used to explore the generalizability of the study's findings. Secondly, since the only Small and medium-sized enterprises (SMEs) from the manufacturing sector were taken into consideration the data may not be generalizable to other sectors.

This research generated different change adaptation models based on organizational structure, strategic posture, and environmental patterns which will enable academics and

practitioners in understanding how can organizations (mechanistic and organic) adapt the change across the different environments (stable–dynamic). Secondly, on a managerial level, it will enable management to develop an effective change adaptation mechanism based on environmental characteristics. The research results will also help management for designing effective compatible strategies based on environmental patterns.

CHAPTER 2

CHANGE ADAPTATION APPROACHES

2. Introduction

Managing organizational change is considered a very thought-provoking and challenging task. Academics and practitioners continuously debate the best approach and mechanism to deal with change adaptation process (Cummings & Huse, 1989; Kanter, Stein, & Jick, 1992). Furthermore, literature categorized change approaches into two main groups, (i) planned, and (ii) emergent (Burnes, 2004; Cummings & Worley, 2001). Planned change has ruled the theory and practice of change management for about fifty years and this approach is based on the work of Kurt Lewin. The planned approach considers change as a systematic process of shifting from one fixed state to another fixed state. This shift from one stage to another is defined with the work of Lewin's three-stage model of change. This model presents three stages of change as unfreezing, change, and refreezing (Lewin, 1947). On the other side, the emergent approach argues that change is not series of linear patterns emerging in a specific time but change is an on-going open-ended phenomenon (Burnes, 1996, Burnes, 2004; Dawson, 1994).

2.1 Emergent Change and Planned Change

The work of Kurt Lewin was an inspiration for many scholars and they have developed further Lewin's change model. For example, Cummings and Huse (1989) developed their eight-step model of change based on the work of Kurt Lewin. Bullock and Batten's (1985) model that consists of four steps for successful change adaptation. The planned change approach was considered effective but with the passage of time changes in the external environment have attracted much criticism. For example, Schein (1985) criticizes this approach based on its focus on the isolated change and its incompetence to adjust the radical change. Additionally, the main focus of the problem regarding this approach is that it assumes that in an organization everyone has the same approach towards work that is one direction this aspect ignores the factor of conflict or disagreement (Bamford & Forrester, 2003). The planned change starts to lose its grip in the field of change

management during the 1970s oil crisis. The business environment at that time begins to transform into more dynamic patterns. The conflict and disagreement were common around the organizations (Bamford & Forrester, 2003; Issawi, 1978; Dunphy & Stace, 1993; Burnes, 2004). Furthermore, Wilson (1992) presented the argument that planned change is focused on the schedules, goals, and objectives that are predefined to deal with the change and this approach puts a burden on the shoulder of a single person (manager).

The 1973 oil crisis globally impacted business environments (Kume, 1988; Mork, 1994). The sudden change in the business environment gives birth to the emergent approach. The planned approach towards change may be useful if organizations are operating in stable and predictable environments. Since a stable environment generates stable patterns of change which gives organizations the position to move from one fixed stable state to another fixed stable state (Bamford & Forrester, 2003). Consequently, planned change approach is ineffective in dynamic environments as dynamic environments require more flexible and progressive change adaptation approach (Burnes, 2011; Bamford & Forrester, 2003).

The key point in the emergent approach is its "bottom-up" mechanism rather than "top-down" in managing change. The logic behind the "bottom-up" approach is that change cannot be singly managed by management instead it's a group process (Bamford & Forrester, 2003). Additionally, Pettigrew and Whipp (1993) presented the logic that there are no universal rules to govern change instead it is a group process that requires co-ordinations at all levels of organizational structure. Emergent change has a diverse background and each aspect of emergent change offers its way of managing change. Additionally, different emergent change adaptation models were developed by different authors, for example, Hinings and Greenwood's (1988) model of change dynamism; Kanter, Stein, and Jick's (1992) big three model of organizational change, and Pettigrew's (1985) model of change.

2.1.1 Kurt Lewin 3-State Model of Change

Kurt Lewin's three-stage model is considered as the most basic model of change with much criticism due to its ineffectiveness in a dynamic environment. Lewin's model is based on four factors, (i) Field Theory, (ii) group dynamics, (iii) action research, (iv) three-step model (Burnes, 2004a).

(i) Field theory assesses the behavior of the individuals in terms of the interaction between individuals and with the environment, that is, understanding of individual behavior in terms of other individuals and from the perspective of the environment in which individuals operate (Back, 1992).

(ii) Group Dynamics: Lewin presented the view that without knowing the nature of the interaction between group members one cannot change the behavior of the group (Allport, 1948; Bargal, Gold, & Lewin, 1992).

(iii) Action research: Lewin believed in action research that is to solve a problem it is important and necessary to assess the situation. Once the situation is properly assessed all the possible alternative needs to be analyzed before the selection of the best solution (Burnes, 2004a)

(iv) Three-stage change model: Lewin (1947) argues that successful change adaptation involves three basic steps:

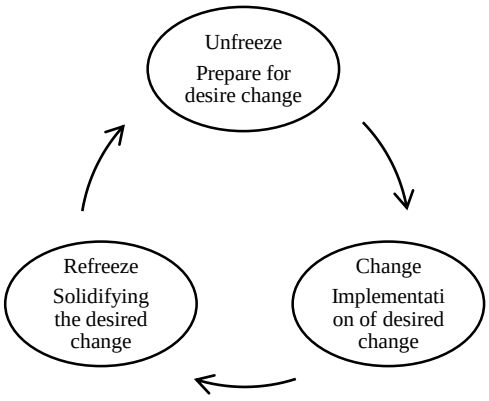
Stage 1-Unfreezing: It is a process of destabilization of equilibrium state for discarding of unnecessary elements (Burnes, 2004a).

Stage 2-Change: Unfreezing is simply disassembly of old patterns. The change refers to redesigning, rearranging, or establishment of new patterns on trial and error basis (Lewin, 1947).

Stage 3-Rezeezing: This step refers to the stabilization and attainment of a new state of equilibrium (Burnes, 2004a).

Figure 2.1 shows Lewin's three-stage model of change begins with unfreezing which refers to the destabilization of the current equilibrium state. The second step involves changing of older patterns through redesigning. Furthermore, the third step involves the stabilization of the processes to attain a new equilibrium state

Figure 2.1. Preliminary Conceptual Research Model



Lewin's approach focuses on the human factor in an organization and suggests that successful change can be adapted through group members' participation in change adaptation (Burnes, 2004a; Armenakis, Harris, & Mossholder, 1993; Nurick, 1982). However, with time business environments become more complex and dynamic and thus innovative, flexible, and participative approach is much needed to cope with the dynamic environments (Kanter, 1983).

To cover this gap the emergent approach was purposed. The emergent approach is an on-going phenomenon of changing patterns, rearrangement, and redesigning without predefined intention as it is an ongoing process (Weick, 2000). Emergent change focuses on the progressive approach of managing change (Brown & Eisenhardt, 1997). Emergent change approach is acknowledged by a large number of academics and practitioners based on its focus on continuous transformation and complexity theories which suit the dynamic environments (Bechtold, 1997; Black, 2000; Lewis, 1994; Stacey, Griffin, & Shaw, 2000).

2.1.2 Three Comprehensive Models of Emergent Change

Kanter, Stein, and Jick's (1992) change model consists of guidelines for executing the change inside an organization. These guidelines consist of ten steps as shown in Table 2.1. Kotter's (1996) model offers eight guidelines based on which organizations can perform a successful transformation to adapt the change as shown in Table 2.1. Furthermore, Luecke's (2003): model provides seven-step guidelines to adapt the change as shown in

Table 2.1 (By, 2005). These three models are considered most comprehensive models of emergent change approach Table 2.1 shows the details of each model in terms of different steps that are required to perform the change adaptation process successfully under the umbrella of the emergent approach.

Table 2.1. Comparison of Emergent Change Approaches

Kanter et al.'s Ten Commandments for Executing Change (1992)	Kotter's Eight-Stage Process for Successful Organisational Transformation (1996)	Luecke's Seven Steps (2003)
1. Analyze the organization and its need for change 2. Create a vision and a common direction 3. Separate from the past 4. Create a sense of urgency 5. Support a strong leader role 6. Line up political sponsorship 7. Craft an implementation plan 8. Develop enabling structures 9. Communicate, involve people and be honest 10. Reinforce and institutionalize change	1. Establishing a sense of urgency 2. Creating a guiding coalition 3. Developing a vision and strategy 4. Communicating the change vision 5. Empowering broad-based action 6. Generating short-term wins 7. Consolidating gains and producing more change 8. Anchoring new approaches in the culture	1. Mobilize energy and commitment through joint identification of business problems and their solutions 2. Develop a shared vision of how to organize and manage for competitiveness 3. Identify the leadership 4. Focus on results, not on activities 5. Start change at the periphery, then let it spread to other units without pushing it from the top 6. Institutionalize success through formal policies, systems, and structures 7. Monitor and adjust strategies in response to problems in the change process

Source: By, R. T. (2005). Organisational change management: A critical review. Journal of change management, 5(4), 369-380: p.376.

Emergent approach criticism begins with its techniques as this approach lacks consistency and diversity in terms of its techniques (Bamford & Forrester, 2003; Wilson, 1992). The second main criticism about the emergent approach is that this approach is based on more skepticism to the planned approach rather than an approach towards the change adaptation (Bamford & Forrester, 2003; Dawson, 1994).

Change can be episodic or continuous: episodic organizational change is a macro-level perspective where an organization (a system) maintains a status quo until a discontinuous change occurs in the external environment. Whereas, a continuous change is a micro-level perspective in which change is considered as evolving and continuous (Weick & Quinn, 1999). Planned and emergent approaches towards change should not be considered as a complete range of change patterns. Therefore, a contingency approach to change adaptation should be considered (By, 2005). The contingency approach focuses on the

structure and performance and argues that both organizational structure and performance is dependent upon the situational factors (Dunphy & Stace, 1993).

2.2 A Review of Contingency Theory Paradigm

Contingency theory provides a platform to understand the change adaptation process. This theory argues that there is no optimal method to manage and organize an enterprise instead the optimal course of action is dependent upon the internal factors of enterprise and external environmental factors (Donaldson, 2001). The effectiveness of one variable A on variable B is dependent upon some other variable let's say C. Changing the value of C the relationship between A and B will differ that is when C is high, the effectiveness of A and B will be different whereas, the effectiveness of A on B when C is low will be different (Donaldson, 2001). Contingency theory originated in the United Kingdom in the 1960s (Burns & Stalker, 1961; Pugh et al., 1963; Woodward, 1965). Furthermore, Lawrence and Lorsch (1967) based on classical contingency argument, presented a theoretical variant of organizational structure by focusing on intra-organizational structural alignment with external environment sub-units.

The contingency theory paradigm works on the principle of organizational structural "fit" with its external environment contingencies (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Pennings, 1992). Environmental contingencies impact organizational structure (Pennings, 1992). The structural contingency theory presents the view that organizational structure needs to be in a match or fit with three main constructs, (i) external environment, (ii) organizational size, (iii), and its strategy. Furthermore, these contingencies impact organizational structure (Chandler, 1962; Child, 1973; Burns & Stalker, 1961). Organizations adapt their external environmental characteristics (Child 1973; Hage & Aiken, 1969; Rumelt, 1974).

Contingency theory is not the same as universalistic theories. The universalistic theories present the argument of "one best way" that is a specialization (Taylor, 2004). Classical management focuses on the maximization of performance through formalization, centralization, and specialization (Brech, 1965). Contingency theory presents the argument that there are many effective methods to achieve the same results (Pennings, 1987). Contingency concept was mostly studied along with organizational structure (Donaldson, 1995) and this phenomenon is termed as structural contingency theory (Pfeffer, 1982).

Contingency theories are spread over a vast field dealing with leadership characteristics, human resource management, and strategic decision making (Delery & Doty, 1996). Additionally, this study focused on structural contingency theory.

A contingency is any factor that impacts organizational performance (Donaldson, 2001). Holdaway, Newberry, Hickson, and Heron (1975) conducted a study on the structural contingency and define structure as, deliberate patterns of relationships. Furthermore, Child (1973) study the structural contingencies, and Grinyer, Yasai-Ardekani, and Al-Bazzaz (1980) worked on the strategic contingency and organizational structure. The change in the external environment is caused by contingency factors due to various reasons such as advancement in technology, changes in customers' demand, changes in government rules, and regulations (Donaldson, 1987).

The Contingency Theory of Structural Adaptation (SARFIT) model presents two scenarios A and B. In scenario-A, there is a match between organizational structure and contingency variables which leads to positive performance. In scenario B, the fit is no longer present since contingency factors are changed, and hence "fit" is necessary that organizations develop through structural changes and to gain positive performance (Donaldson, 1987). These scenarios are shown below:

Situation A: Organizational structure → Match ← Contingency Variables → Positive Performance →successful change adaptation.

Situation B: Organizational structure → Mismatch ← Contingency Variables → Negative Performance →Change adaptation → Re-match between Organizational structure and Contingency factors →Positive Performance

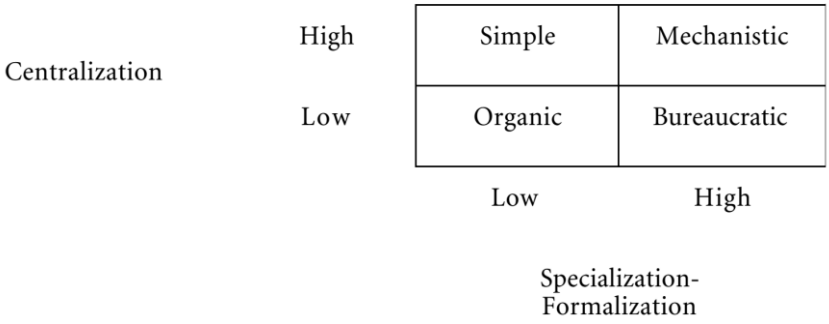
Source: Donaldson, L. (2001).

2.3 Fit and Equifinality Concept

When an organization has a mechanistic structure (centralized, formalized), it suits the stable environment whereas, organic structure (decentralized, unformalized) suits the dynamic environment (Burns & Stalker, 1961; Donaldson, 1987). The first study that uses the term contingency theory for the organizational structure was conducted by Lawrence and

Lorsch (1967), in which they argue that the level of differentiation and integration varies by environmental characteristics (stable to dynamic). The organizational structure lies between two extremes poles that are pure mechanistic structure to pure organic structure (Burns & Stalker, 1961) each structure has its unique characteristics as shown in Figure 2.2.

Figure 2.2. Organizational Structure Framework



Source: Donaldson, L. (2001). The Contingency Theory of Organizations, Sage Publications, Thousand Oaks, CA: p.12.

"Match or Fit concept" is defined as the match between organizational structural patterns with the external environment patterns or contexts, higher the match higher will be the performance. Whereas, lower the match lower will be the performance (Pfeffer, 1982, 1997). The second argument regarding "fit" is the interaction between external environmental contingencies with organizational structure variables. The fit is a multiplicative interaction term (Schoonhoven, 1981). The configurational approach does not consider the contingency theory as the main viewpoint in change management literature. This approach is categorized as a "holistic" view of organizations and presents the view that organizations consist of closely mutually dependent and supportive factors and the importance and role of each factor can only be obtained through a holistic approach (Miller & Friesen, 1984).

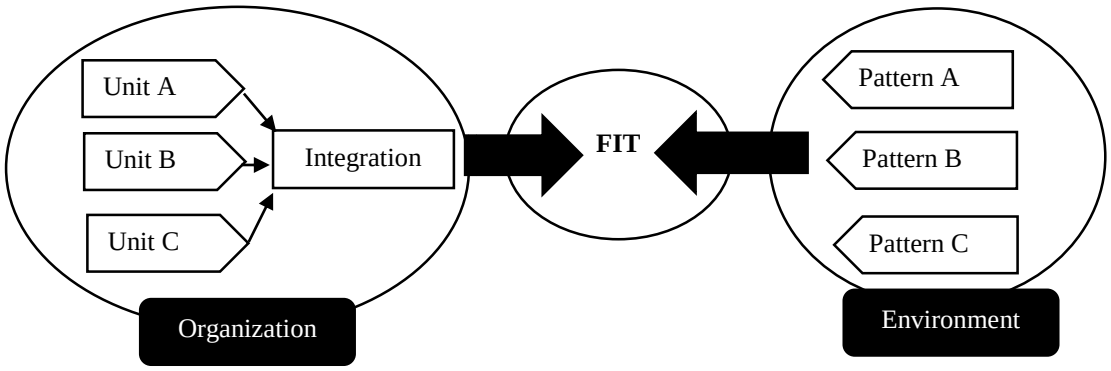
The configurational approach was developed in reaction to the contingency theory (Miller, 1981). Miller's (1981). The configurational approach and contingency theory share the same fundamental view that focuses on the notion of "fit" (Meyer, Tsui, & Hinings, 1993). Contingency theory adopts a reductionist mode of inquiry whereas, configurational analysis adopts synthetic that is a holistic approach (Meyer et al., 1993). The configurational approach acknowledges the idea of "Equifinality". Which refers to the concept that the same

task can be effectively performed through various methods. The configuration approach presents the argument that configurations are dynamic and can always change based on external factors. The change process can be expressed as punctuated equilibrium (Miller, 1982).

The concept of equifinality in the context of contingency theory refers to the argument that in the same situation there could be several ways of doing the same thing each method or strategy can equally be effective. There is no universal structure that matches all contingency variables and there is not only one structure for each situation, but it can also be several different structures to deal with the same situation (Pennings, 1987).

"Fit" can range from single fit to multiple fits between the organizational structures to external contingency constructs. Some authors have suggested that multiple fits are formed by added the first fit to the second fit to yield the overall impact on the achievement of organizational goals (Randolph & Dess, 1984) and sum of fits is not equal to individuals fit (Van de Ven & Drazin, 1985). These fits can be understood from the perspective of Lawrence and Lorsch (1967), in which differentiation across the enterprise structure matches each unit with a specific pattern of the external environment and building harmony through integration concept as shown in Figure 2.3, (Units are sub-departments and Patterns are sub-environments).

Figure 2.3. Organizational Structural –Environmental Fit



Various studies explore the importance of "fit" between strategic posture with a structural type (e.g. Channon, 1978; Grinyer, Yasai-Ardekani & Al-Bazzaz, 1980; Hamilton & Shergill, 1992). Contingency theory focuses on the state of equilibrium that takes the

organizational change process as ongoing for re-gaining equilibrium (Burns & Stalker, 1961). Moreover, when an organization slips from fit to misfit, it loses its performance that poor performance triggers the need for change adaptation (Chandler, 1962; Donaldson 1987).

2.4 Change Adaptation within the frame of NEO-Contingency Theory

NEO-contingency theory has been developed by various authors (e.g. Alexander & Randolph, 1985; Drazin & Van de Ven, 1985). Neo-contingency theory is the latest work based on structural contingency theory. This theory is linked with the micro-perspective of individual enterprises in the context with environmental contingencies (Tsukas, 2005). The organization's structure adapts to external environmental contingencies (e.g. technological factors, political, social, etc.,) to achieve a "fit" through the utilization of organizational slack resources. These slack resources can be organization size, workforce, technology, and processes (Donaldson, 1998). Neo-contingency model argues that individual organizations adapt to varieties of contingencies through their constant state of adaptation. This phenomenon takes place between organizational structure and the contingencies that the organization faces at a specific time (McKinley & Mone, 2005).

Organizations' external environment consists of tangible and intangible factors (Duncan, 1972; Fahey & Narayanan, 1986; Frishammar, 2006; Rosenzweig & Singh, 1991). Researchers have defined the external environment as a force towards which organizations respond (Anderson & Paine, 1975; Duncan, 1972; Lawrences & Lorsch, 1967). Numerous studies have been conducted on strategy formulation and external environmental factors. These external environmental factors include turbulence, complexity and uncertainty level, and heterogeneity (Fredrickson & Mitchell, 1984; Keats & Hitt, 1988; Miller, Dröge, & Toulouse, 1988). The firm performance is dependent upon external environmental dynamism (Garg, Walters, & Priem, 2003), strategy (Miller, 1988), strategy formulation (Rajagopalan, Rasheed, & Datta, 1993). The contingency theory and NEO-contingency stress the importance of an in-depth understanding of the organizational structure, strategy, and its external environment characteristics for the effective change adaptation process (Burnes, 1996). To develop a comprehensive change adaptation model the understanding of

organizational structural characteristics, strategic posture, and external environmental characteristics are critical.

2.5 Environmental Dynamism and Organizational Structure

A wide variety of studies regarding organizational structure and environmental dynamism were conducted. Such as Burns and Stalker's (1961) theory of organizational structures; Mintzberg's (1983, 1990, 1979) theory of organizational structure and strategic posture; Albrow's (1970) theory of bureaucratic structure and Lawrence and Lorsch's (1967) theory of organizational structure. The business environment is getting complex (Emery & Trist, 1965; Gundelach & Hansen, 2018) and this is due to deregulations, globalization, and technological changes (Hamel & Prahalad, 1996; Ohmae, 1989; Savage, 1990). External environmental change occurs through technological factors, political factors, societal factors, or demographical factors (Shane, 2009).

When an external environment has stable patterns, it demands organizational structure to be mechanistic structure whereas, in case of an environment with constant change patterns it requires organic structures (Burns & Stalker, 1961). Furthermore, a hybrid external environment demands hybrid internal organizational structures. The hybrid approach combines the characteristics of mechanistic and organic structures that can support the demands of dynamic environments (Tidd & Bessant, 2018).

Environmental dynamism concept has been widely explored by different authors in the field of organization theory and strategic management (Kim & Rhee, 2009; Miles et al., 2000; McArthur & Nystrom, 1991). Environmental dynamism refers to the rate of instability and/or turbulence generated through actors present in that environment (Dess & Beard, 1984; Emery & Trist, 1965; Sharfman & Dean, 1991). Additionally, dynamism refers to the rate and the unpredictability of external environmental change (Dess & Beard, 1984). Environmental dynamism impact on the large complex organization has been empirically studied by Burns and Stalker (1961), and Lawrence and Lorsch (1967).

Environmental dynamism is also linked with strategy formulation process and strategic postures (Zahra & Pearce, 1994). Organizations constantly align their structure with external environmental patterns for their survival and performance (Al-Haddad & Kotnour,

2015; Burnes, 2004; Kotter & Schlesinger, 1989 Mintzberg, 1979; Moran & Brightman, 2001). Organizational structure refers to features such as centralized or decentralized decision making. Early attempts to define effective organizational structure can be linked back to the classical management and scientific management (Hersey, Blanchard, & Johnson, 2007; Mahmood, Basharat, & Bashir, 2012; Weiss, 1983).

The relation with organizational structure and external environment has been explored and well-defined by various authors (e.g., Child, 1972; Eisenhardt & Schoonhoven, 1990; Miles et al., 1978). Furthermore, Bendix's (1956) and Selznick's (1949) studies specifically stress the importance of external constraint on organizational structure. Two basic approaches of studying organizational change are, (i) natural selection model of evolutionary theory and (ii) decision making perspective. The natural selection model is an organizational change model that is driven by external environment. Organizations align their structure to develop the best fit between organizational structure and environmental characteristics (Buckley, 1967; Hannan & Freeman, 1974).

The resource dependence model suggests that organizations are dependent upon the external environment for the supply of resources (Thompson, 1967). The resource-dependence model presents the view that organizations are active and capable of adapting change (Pfeffer & Nowak, 1976). This perspective does not consider the environment as an entity that imposes strict requirements for survival (Child, 1972; Chandler, 1962). Theorists generally assume that complexity and instability are generated through uncertainty (Duncan, 1972).

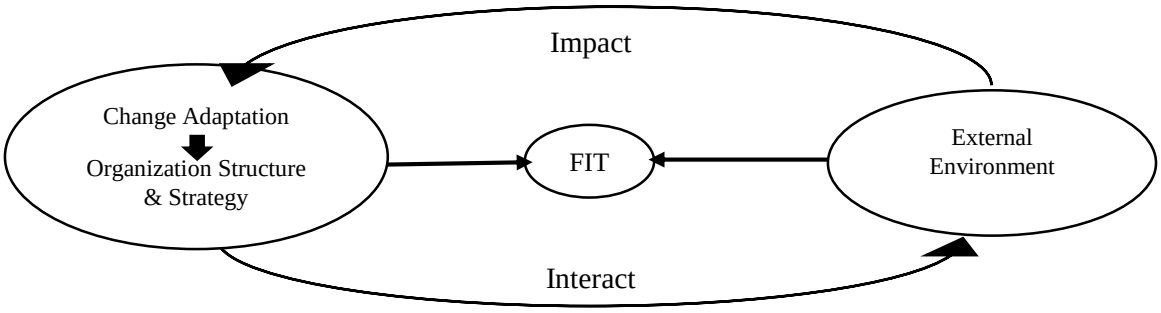
Organizational structure varies from centralized-mechanistic structure to decentralized-organic structure, as well as the hybrid of both extremes. A hybrid structure is a type of organization structure that is neither centralized nor decentralized (Lentz, 1996). Mechanistic structure is classified as highly formalized, non-participative, tightly controlled, and inflexible. Whereas the organic structure is classified as decentralized, loosely controlled, and flexible (Hage, 1965; Khandwalla, 1977; Mintzberg, 1979; Randolph, Sapienza, & Watson, 1991).

A dynamic environment provides opportunities to innovate through risk-taking. Organizations with organic structures consist of a flexible structure to respond to dynamic

environment. Additionally, organic structure organization requires a higher level of structural differentiation and integration (Lawrence & Lorsch, 1967; Miller & Friesen, 1984). Burns and Stalker (1961) argued that external environment levels of uncertainty impact organizational structure. The structural-contingency paradigm suggests that an effective organizational structure needs to match the environmental patterns thus creating "Fit". Moreover, when uncertainty is high, an organization needs to have a flexible structure (Lysonski, Levas, & Lavenka, 1995).

Macro-organizational theories regarding organizational structure suggest that organizational structure is depended upon environmental characteristics that surround an organization (Lysonski, 1985). Uncertainty is a product of unpredictability of different factors such as suppliers, competition, and customers (Duncan, 1972). An organizational structure is said to be centralized when the right to make a decision is bound to a higher hierarchy in an organization. The contingency-structure perspective suggests that firms that work in dynamic environments need to have a decentralized structure (Ruekert, Walker Jr, & Roering, 1985). Figure 2.4 shows the association between the external environment and organizational structure.

Figure 2.4. Change Adaptation: Structure-Strategy and Environmental Dynamism



Large complex organizations struggle greatly with structural challenges (Cameron & Quinn, 1983; Gilbert, 2005, 2006; Kimberly, 1979; Shane, 2003). Furthermore, embedded formalized roles and routines create bureaucratic layers inside organizational structure and this often creates difficulty for large organizations in responding to environmental turbulence (Mintzberg, 1979). On the other side, new ventures have more unformalized structures. These firms' structures are more flexible as compare to large mature organizations since they are formed as a reaction to opportunities in changing environments (Stinchcombe, 1965).

Weber's classical theory of bureaucratic organizations suggests that organizations with assigned roles, hierarchy, and authority are a superior form of organizations (Weber, 1947). Organic structure organizations are loosely coupled and can effectively adapted to dynamic patterns in the environment (Burns & Stalker, 1961; Durkheim, 1997) and organizations with formal bureaucratic structures are more appropriate for stable patterns in the environments (Burns & Stalker, 1961).

Herein lies the puzzle, considering the example of organic firms, they are at a disadvantage in the economic sector. Since organic firms lack a bureaucratic structure this causes ambiguity and uncertainty in their processes (Burns & Stalker, 1961; David & Han, 2004; O'Toole & Meier, 2003). Whereas, mechanistic firms reduces the risk of work ambiguity, and decision-making issues, thus increasing an organization's efficiency (Perrow, 1986). Moreover, Stinchcombe (1965) argued that new firms requires formalized and specialized structure and also required higher managerial resources as compared to the mature firms. Literature does not provide sufficient answers for SMEs' ideal structure for stable environments and dynamic environments. To find the answers to these issues, it requires to reconsider classical and contemporary literature regarding organizational structure. The classical structural theory arguments regarding organizational structure and environments are contingent upon the environmental characteristics; that is new venture can start with a mechanistic structure or organic structure as it is dependent on the external environment characteristics (Burns & Stalker, 1961; Cameron & Quinn, 1983).

Different studies have explored Burns and Stalker's propositions regarding organizational structure and environment; that is organic structure is optimal for a dynamic environment whereas, the mechanistic structure is optimal for a stable environment (e.g., Aiken, Bacharach, & French, 1980; Covin & Slevin, 1989). These research are mostly based on mature large complex organizations. Despite rich literature, very little is known regarding these theories' validity on SMEs. There are many studies regarding environmental dynamism with large complex organizations (e.g., Khandwalla, 1977; Lawrence & Lorsch, 1967; Miller, 1983; Naman & Slevin, 1993) but, little is known regarding SMEs (Box, White, Barr, 1993). Therefore, in the context of developing countries such as Pakistan few basic studies are present (e.g., Kureshi, Mann, Khan, & Qureshi, 2009; Hafeez, Shariff, & bin Mad Lazim, 2013; Shaukat, Nawaz, & Naz, 2013). Hence, little is known about the SMEs' structural

characteristics, strategic postures, operating in different environments (stable and dynamic). The following hypotheses were developed to answer these questions.

Hypothesis 1: Small and Medium-Sized Enterprises' structure in a stable environment are more mechanistic as compared to dynamic environments

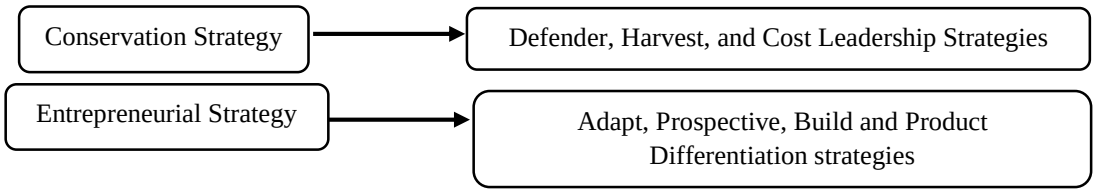
Hypothesis 2: Small and Medium-Sized Enterprises' structures in unstable (dynamic) environment are more organic (flexible) as compare to a stable environment.

2.6 Strategic Posture and Environmental Dynamism

An enterprise's strategic posture refers to an enterprise's approach towards its goals whether it's conservative or entrepreneurial. The strategic posture of an enterprise is an approach of management towards innovation and risk-taking. Different researchers have conducted studies regarding strategic posture and environment (Miles et al., 1978; Mintzberg, 1973. Mintzberg's study in (1973) presented two typologies, the first typology consists of four different types of enterprises – defenders, analyzers, prospectors, and reactors with each enterprise having a unique structure, culture, and processes to respond to environment. Whereas, second, typology consists of enterprises that are adaptive and entrepreneurial.

Generally, the term entrepreneurial does not mean an enterprise that simply changes its technology or product-line by following its competitors as this ignores risk-taking characteristics of the entrepreneurial enterprise since proactiveness is an important factor (Covin & Slevin, 1989). The enterprise's strategy has a direct impact on performance (Stede, Chow, & Lin, 2006). Conservative enterprises apply defender, harvest, and cost leadership strategies, while on other hand entrepreneurial enterprises adapt, prospective, build, and product differentiation strategies (e.g., Chenhall & Morris, 1995; Guilding, 1999). The difference between conservative and entrepreneurial enterprises can be further explained using the framework shown in Figure 2.5.

Figure 2.5: Conservative Strategy v/s Entrepreneurial Strategy



Entrepreneurial enterprises follow innovative, proactive, and risk-taking strategies to win competitive advantage (Covin & Slevin, 1989; Lumpkin & Dess, 1996). While, conservative enterprises on the other side build strategies that are characterized as defender since these enterprises follow patterns of other enterprises (Miles et al., 1978; Miller, 1983). In a dynamic environment, entrepreneurial enterprises require to have a participative strategy to achieve their targets since change is continuous (Ciavarella, 2003).

A dynamic environment is characterized by uncertainty, however, small enterprises have fewer resources to deal with uncertainty (Liesch, Welch, & Buckley, 2011). This uncertainty is a result of rules and regulations set by the government, competitive forces, and technological advancement (Zahra, 1993). To deal with an uncertain environment, management allows more participation in strategy making, and this increase in participation is performed through allowing more organizational members to be the part of strategy making (Liesch et al., 2011). Different authors have worked on organizational change adaptation perspective to explore the best practices to adapt change successfully (Brews & Purohit, 2007; Eisenhardt, 1989; Hart & Banbury, 1994; McGee & Sawyerr, 2003; Miller & Cardinal, 1994; Van Gelderen, Frese, & Thurik 2000; Zahra, 1993).

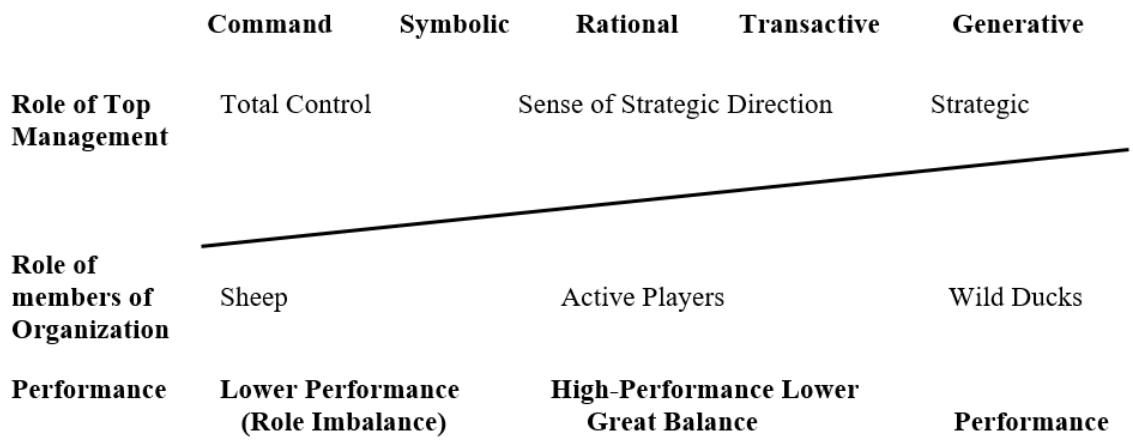
Small enterprise's survival in dynamic environments is very challenging and certain characteristics are associated with a small enterprise's survival in dynamic environments, such as rapid decision making and collective decision making (Eisenhardt, 1989). Organizations in dynamic environments allow stakeholder’s participation in strategy formulation to develop more effective strategies (Van Gelderen et al., 2000). External participation is not the only way of strategy making in such a turbulent environment since other effective methods have been identified (Andersen, 2004). Multiple approaches may coexist to deal with environmental contingencies (Andersen, 2004; Hart & Banbury, 1994). Hence, strategy development in a dynamic environment is more effective in a decentralized

structure since a centralized structure restricts the enterprise's ability to utilize opportunities in an external environment (Verreynne, Meyer, & Liesch, 2016).

According to Wood (2000), an organizational strategy is a set of patterns that deployed by management that can be used for long-term adaptation and survival. A high-risk strategy requires an organic structure (Hage, 1999). Since the organization needs to innovate in environments that are unpredictable, dynamic, or unstable (West, 1997). The works of Hart and Banbury (1992, 1994) were used as a benchmark in finding the optimal strategy for the entrepreneurial organization. They presented five different styles of strategy formulation, these are as follows, in command style: the strategies are developed using a centralized approach. Furthermore, strategies are deliberate and members of the organization receive fully developed and ready to implement strategies. In symbolic approach, top management and organizational members develop strategies based on the vision and mission of an organization.

Rational style involves more mutual collaboration between top management and organization members such as information sharing, environment scanning, setting goals, and objects. Moreover, top management and employees develop and implement the strategy. Transaction style involves a greater role for stakeholders, top management discusses strategies with stakeholders, and based on stakeholders' inputs the strategy is developed. Generative style is somewhat similar to the transaction style but more power goes in the hands of stakeholders which creates an imbalance in the strategy formulation process. These concepts are presented in Figure 2.6 using the strategy-making model developed by Hart (1992).

Figure 2.6. Strategy Making Mode and Enterprise Performance



Source: Hart, S. L. (1992). An integrative framework for strategy-making processes. *Academy of management review*, *17*(2), 327-351: p.340.

Figure 2.6 explains the level of participation by top management and members of organizations and their impact on the organization's performance. Furthermore, the balance of participation yields higher performance while the imbalance in the level of participation affects negatively on organizational performance (Hart, 1992). Organizational strategic postures have a positive relationship with the external environment (Khandwalla, 1977; Miller, 1983; Naman & Slevin, 1993).

Organizational structure needs to be decentralized for emergent strategy posture (Mintzberg, 1987; Miller & Friesen, 1983; Slevin & Covin, 1997) and such strategic posture is suitable for a dynamic environment (Mintzberg, 1987; Khandwalla, 1977). Whereas, the deliberate strategy is grounded on factors that are anticipated by an enterprise's management (Newman & Logan, 1971). Organizations with deliberate approach have a non-flexible structure and in literature, it is referred to, machine bureaucracy structure or mechanistic structure (Miller, 1986). This type of structure of organizations is extremely inflexible and tasks are performed through standardization of work (Burns & Stalker, 1961). The structure is very bureaucratic and hierarchical (Burns & Stalker, 1961; Pugh, Hickson & Hinings, 1969). Organizational members have almost no control over decision-making regarding strategy development, setting goals, and objectives. Such an organizational structure usually exists in large organizations (Zabojnik, 2002).

Table 2.2 presents the strategy-making approaches suggested by different authors. Furthermore, three main types of strategy-making approaches are discussed in the table (centralized, external participation, and internal participation). In a centralized approach, strategies are formed by the top management without employees' participation. In external participation, strategies are formed by the top management and stakeholders. Whereas, in internal participation, strategies are formed by the top management and employees.

Table 2.2. Mapping Approaches to Strategy-Making

Approach Citation	**Centralized**	**External Participation**	**Internal Participation**
Andersen (2004)	Strategy imposed by decree and the vision of the CEO		Participation in decisions/distributed decision authority
Ansoff (1987)		Reactive ad hoc	Organic
Bourgeois and Brodwin (1984)	Commander	Change	Collaborative
Chaffee (1985)		Adaptive	
Dess, Lumpkin, and Covin (1997)	Simplistic	Adaptive	Participative
Hart (1991, 1992)	Command	Transactive	
Khandwalla (1976, 1977)		Muddling through	Democratic
Miller and Friesen (1977, 1978,1984)	Industry expertise	Adaptiveness	
Mintzberg (1973, 1978)		Adaptive	
Mintzberg (1990)		Environmental	Political
Mintzberg and Waters (1985)	Umbrella/Imposed	Process Behavioural,	Consensus
Nutt (1981)	Normative	Adaptive	Group
Shrivastava and Grant (1985)	Managerial autocracy	Adaptive	
Verreynne (2006)	Simplistic	Adaptive	Participative

Source: Hart, S. L. (1992). An integrative framework for strategy-making processes. *Academy of management review*, *17*(2), 327-351: p.336.

The literature on entrepreneurial organization can be classified into two main categories: (i) new business (ii) renewal of existing business through innovativeness. In the first category, a new business is started whereas, in the second category changes in existing parameters were performed to adjust an innovative idea inside a business through complete transformation or an opening of a new unit to support a new innovative idea (Chebbi, Yahiaoui, Sellami, Papasolomou, & Melanthiou, 2019; Molina & García-Morales, 2019).

When an enterprise adapts innovative strategies, the enterprise takes risks to gain a competitive advantage (Karagozoglu & Brown, 1988; Miller, 1983). Enterprises with an entrepreneurial approach favor risk-taking whereas, enterprises that ignore the risk-taking approach by following others are categorized as conservative enterprises. Conversation strategy and entrepreneurial strategy, are widely discussed strategic approaches in strategic management (e.g., Knight, 1997; Miles & Arnold, 1991; Schafer, 1990; Zahra & Covin, 1995). A growing literature suggests that strategic posture is associated with environmental dynamism.

A research conducted by Khandwalla (1977) on Canadian enterprises found out that strategic posture is highly correlated with environmental dynamism. Furthermore, another study conducted by Miller (1983) and Naman and Slevin (1993) found a similar relationship. The role of the environmental dynamism and organizational structure cannot be neglected. Organizations need to have strategies to tackle environmental changes. Literature support regarding different strategic posture and environmental contingencies consist of many theories and empirical findings, but most of these studies are performed from the perspective of large complex organizations and very little is known about SMEs operating in different environments, therefore, the next hypotheses were formulated to fill out these gaps in the literature.

Hypothesis 3: The strategic postures of SMEs working in a stable environment are more conservative (Non-Risk taker/non-innovative) than those of SMEs in dynamic environments.

Hypothesis 4: The strategic postures of SMEs in a dynamic environment are more entrepreneurial (highly innovative/ high risk- taker) than those of SMEs in stable environments.

2.7 Structural Differentiation- Integration and Environmental Dynamism

Lawrence and Lorsch (1967) argue that the degree of environmental dynamism impacts the level of differentiation and integration. Furthermore, an organizational structure needs to develop an "optimal fit" with external contingencies through adjusting its structural characteristics (Tidd & Hull, 2003). Organizations can have both structures that can operate in parallel in the same organization (Lam, 2004). In contingency theory, the main factor is the examination of the effects of environmental factors on the organization structure and performance (Anand & Ward, 2004; Pagell & Krause, 2004).

Organizations do not adapt to change in a single-phase, rather each sub-unit adapts to change at different rates and processes (Lawrence & Lorsch, 1967). An organization's anatomy can be understood from two concepts, differentiation, and integration. Differentiation refers to the several specialized subunits, each working for a unique aspect of external environment and each specialized sub-units is properly aligned with a relevant external environment sub-unit. Integration is like a connector between subunits and thus makes individual sub-departments into a single entity (Lawrence & Lorsch, 1967). To understand Lawrence and Lorsch's argument, it is required to assess organization into two functions, first division and second coordination of tasks (Galbraith, 1973; Lawrence & Lorsch, 1967, 1986; March & Simon, 1958, 1993; Mintzberg, 1983). Ineffective synchronization among units/departments results in ineffective outcomes (e.g., March & Simon, 1958, 1993).

Lawrence and Lorsch (1967, 1986) presented an interesting explanation regarding the intra-organizational alignment with its sub-units. Lawrence and Lorsch (1967, 1986) have focused on theorizing the integration challenges related to intra-organizational differentiation. Differentiation is the degree of diversification inside an organization to perform various tasks, more sub-units mean more diversification. Therefore, the main starters of the original contingency idea are that organizations adapt changes in accordance with their environmental changes (Burns & Stalker, 1961). Each unit of the organization has a different rate and method of change adaptation since each organizational subunits are based on different sub-environments.

The external environment consists of various tangible as well as intangible aspects that influence the organizations (Duncan, 1972; Fahey & Narayanan, 1986; Frishammar, 2006; Rosenzweig & Singh, 1991). Integrations devices refer to the task-groups, planning departments, cross-functional teams, and strategic planning. Strategic planning is a tool for managing the horizontal and vertical differentiation spread across the structure (Porter, 1985). Strategic planning is a tool that generates a consistent set of organizational goals, as a result, the bond between differentiation and integration gets effective and work becomes one entity (Vancil & Lorange, 1975).

Vancil and Lorange (1975) argued that strategic planning can be applied to generate the consistency among the goals at various levels. Lawrence and Lorsch (1967; 1986) suggested that when an organization has high differentiation it requires different/many integrative mechanisms to cope with the system and to ensure effective performance of tasks and operations. When an organization has higher differentiation, it not necessarily mean higher integration since integration is dependent upon environmental aspects (Lawrence & Lorsch, 1967).

Lawrence and Lorsch (1967, 1986) studied only organizations with higher integration. Theoretically, organizations that are successful in responding to unstable external environments require a decentralized structure. When environmental uncertainties are high this means higher structural differentiation is required. (Lysonski et al., 1995). Higher differentiation leads to more specialists and specialized sub-units and hence more effective structure to chase environmental patterns for successful change. Lawrence and Lorsch (1967) suggested that a stable environment has higher certainty, therefore, an organization needs to have lesser sub-units and can rely on standard rules, therefore, the mechanistic structure can be an optimal structure for organizations to achieve its goals and objectives.

Lawrence and Lorsch's (1967, 1986) work was based on complex large organizations that have high differentiation and integration, operating in a dynamic environment therefore little is known in the case of SMEs operating in stable and dynamic environments. The comparative research between enterprises operating in a stable and dynamic environment

can give more details regarding the level of differentiation and integration in accordance with environment type. Based on this discussion the next set of hypotheses were proposed:

Hypothesis 5: SMEs working in a stable environment have a lower level of differentiation as compared to organizations working in dynamic environments.

Hypothesis 6: SMEs working in a stable environment have a lower level of integrations as compared to organizations working in dynamic environments.

Hypothesis 7: SMEs working in dynamic environments have a higher level of differentiation as compared to working in stable environments.

Hypothesis 8: SMEs working in dynamic environments have a higher level of integrations as compared to working in stable environments.

Rapid growth in technology advancement and consumers' needs has made businesses very competitive and dynamic. There is nothing constant except change (Heraclitus, the Greek philosopher), thus organizational adaptation concept has been substantially explored by different scholars over the second half of the 20th century (e.g., Argyris, 1993; Hannan & Freeman, 1984; March, 1981; Tsoukas & Chia, 2002; Weick & Quinn, 1999; Abatecola, 2012; Burgelman, 1991; Hrebiniak & Joyce, 1985; Jennings & Seaman, 1994). And in 21st century (on-going) (e.g., Graetz, Rimmer, Lawrence, & Smith, 2006; Bovey & Hede, 2001; Collins, 2005; Greenan, 2003; Jackson & Harris, 2003).

Organizations constantly scan their external environment for possible threats and opportunities and based on these factors management take necessary steps in adjusting organizational structure and strategies for successful change adaptation (Hannan & Freeman, 1977). Hrebiniak and Joyce (1985) stated that change adaptation has been defined in different ways, such as proactive and reactive approaches to environmental changes. The adaptive perspective is defined as the strength of an organization to adapt to environmental changes (Frishammar, 2006; Hannan & Freeman, 1977).

The adaptive perspective presents the view that organizational external environment is analyzable as it is formed on specific patterns and a strategy can be formulated based on these patterns to gain success (Frishammar, 2006). The organizational structure follows environmental characteristics (Tung, 1979), the external environment exists on the spectrum of stability to dynamism (Kennerley & Neely, 2003). Organizations adapt to environmental change to survive (Levinthal, 1991). When environment changes take place it either increases stability or decreases stability through an increase in different external factors for example increase or decrease in uncertainty (Sia, Teo, Tan, & Wei, 2004). The environment can become unstable for stable and vice versa these changes are linked with external environmental factors such as government policies, competitors, and technology (Zahra, 1993).

2.8 Organizational Failures

There is no clear indication when and how organizational failure occurs (Cameron, Sutton, & Whetten, 1988). Several terms are used in the literature linking organizational failures such as organizational mortality, organization death, organizational exit, bankruptcy, decline, and downsizing (Greenhalgh, Lawrance, & Sutton, 1988). There are three main organizational failure perspectives: (i) resource dependence perspective, (ii) cognitive perspective, and (iii) population ecology perspective. The concept of the "Resource Dependence Perspective" gained public awareness through the book by Jeffrey Pfeffer and Gerald Salancik "The External Control of Organizations: A Resource Dependence Perspective".

The resource dependence perspective is based on the availability and importance of resources (Davis & Cobb, 2010). To survive, the organization needs resources, and these resources may not be in control of an organization. Moreover, to get resources organization needs to interact with other organizations in the system as organizations are embedded in an environment comprised of other organizations. Therefore, they depend on each other for acquiring resources (Pfeffer, 2003). However, alone having resources is not enough, as the external environment can change in a matter of no time and valuable resources all of a sudden can turn into waste (Frishammar, 2006). Resource dependence theory addresses the complementary resources that can be received from an external environment for growth and survival of organizations (Barringer & Harrison, 2000).

The organization combines its internal resources with external acquired resources to create a bundle of resources that are idiosyncratic and difficult to imitate (Harrison, Hitt, Hoskisson, & Ireland, 1991). External environment put constraints on organization, these constraints are potentially removable through social support and resources (Pfeffer, 1981). Furthermore, the cognitive perspective argues that an organization's perceptions and interpretation of external environment are critical, as the external environment is classified by uncertainty and complexity (Frishammar, 2006).

The population ecology perspective has provided scholars a valuable instrument in understanding the organizational change phenomena from a macro perspective (Salimath & Jones, 2011). Population ecology theory presents an argument that change occurs at the population level and is a result of the process of organizational selection and replacement (Boeker & Carroll, 1988). The change adaptation is not an impossible concept rather a very challenging concept that requires in-depth analysis (Boeker & Carroll, 1988).

The external environment is not completely analyzable (Daft & Weick, 1984). This implies that organizations do not primarily focus on lessening uncertainty through scanning and information-processing activities, but rather focus on reducing 'equivocality'. Where equivocality refers to unclear, chaotic, and ambiguous situation (Frishammar, 2006). The population ecology focuses on the group perspective of similar organizations' survival within the specific environment (Hannan & Freeman, 1977). Furthermore, four main factors determine the chances of success or failure for organizations, (i) population density (Hannan & Freeman, 1988; Hannan, Barron, & Caroll, 1991; Peterson & Koput, 1991), (ii) business sector life cycle (Agarwal et al., 2002), (iii) age of organization (Bruderl & Schussler, 1990; Levinthal, 1991; Stinchcombe, 1965), and (iv) organization's size (Amburgey & Barnett, 1990; Hambrick & D'Aveni, 1988).

Organizational successful change adaptation is not an easy task as it requires many complex and challenging procedures. There are many unanswered questions such as why organizations fail in change adaptation? This failure is not limited to small and medium-sized firms as even experienced giant struggles when it comes to change adaptation. The literature discussed above consists of many models, theories, concepts, processes, and guidelines still a detailed model of change adaptation in terms of different organizational

structures, strategic posture in accordance with different types of environments (stable and dynamic) is somewhat missing. This research in its capacity focuses on the mechanism and factors through which the successful change adaptation processes progress.

SMEs in Pakistan is an important contributor to the country's economic development. SMEs has given employment opportunities to 80% of the non-agricultural workforce and contributed approximately 40% in the GDP (SMEDA-Pakistan, 2020). However, SMEs in Pakistan are facing challenges that need to address through effective strategy. To develop an effective strategy, organizational structure needs to be compatible with its external environment. Once the structure and strategy support the external environment only then an enterprise can survive and flourish.

The survival of an organization is dependent upon its capability to adapt to the changes generated in the external environment (Chakravarthy, 1982; Lewin, Weigelt, & Emery, 2004). To fill this gap in literature this research in its capacity has explored the association between organizational structure, strategic posture, differentiation, and integration with external environment stability and dynamism. Furthermore, based on the association of variables and comparison of the characteristics of research items the change adaptation models were developed.

CHAPTER 3

RESEARCH METHODOLOGY

3. Introduction

This chapter addresses the research methodology applied in this dissertation. The chapter begins with the research paradigm, unit of analysis followed by a research instrument, the population of the study, sampling technique, and sample size discussion. Research is a comprehensive process of finding new facts, solving problems, and expanding knowledge through a scientific process.

3.1 Research Paradigm

Research paradigms are the network of coherent ideas regarding the nature of reality. These paradigms give the researchers a way of thinking that underpins their research actions (Bassey, 1999). There are different types of paradigms, but this research is based on the positivist research paradigm. The positivist paradigm is based on the idea that social reality can be best understood through observation and reasoning. According to this paradigm, knowledge can be acquired through observations and experiment techniques. The followers of this paradigm are called positivistic thinkers and they use scientific methods as a means of generating knowledge (Orlikowski & Baroudi, 1991). Additionally, this paradigm is objective and describes reality as an objective entity (Eisner, 1993; Hope & Waterman, 2003; Nagel, 1986).

3.2 Small and Medium-Sized Enterprises (SMEs)

The unit of analysis of this study is the small and medium-sized enterprises (SMEs) operating in Abbottabad and Haripur small industrial estates. Since this research was limited in terms of human resources, financial resources, and time factor therefore, the large complex organizations were out of the reach. Secondly, 80% of non-agricultural labor works in SMEs in Pakistan (SMEDA, 2020) but the SMEs sector is struggling in terms of change adaptation as a result overall performance is not improving. SMEs sector in Pakistan has a

great potential but only a few SMEs are able to extract good performance. This research was carried to find out the optimal change adaptation process for two different types (Mechanistic-Organic) of SMEs operating in two different business environments (Stable-Dynamic).

Small and medium-sized enterprises (SMEs) are considered as active players in the development of national economic status. In Pakistan, SMEs are playing a vital role by providing job opportunities through fulfilling customers' needs (both in terms of end-users and enterprises). According to the latest Economic Survey of Pakistan in 2018-2019, the unemployment rate has decreased to 5.79 percent in 2017-18. The average growth rate of Pakistan's economy is 4.7% for the period FY 2014-2018. (Pakistan Economic Survey: 2016-17). SMEs are managed and governed by the Small and Medium-Sized Enterprises Development Authority (SMEDA) which is an independent institute that works under the Ministry of Industries and Production. SMEDA provides services to SMEs that operate in Pakistan at different regional levels, and its roles are as follow:

(i) The formation of a favorable and supporting monitoring environment.

(ii) Growth of the industrial sector.

(iii) To provide business development services for small and medium firms across different sectors (SMEDA, 2020).

3.2.1 Definitions of SMEs

The small and medium-sized enterprises' classification acknowledges by the OECD (Organization for Economic Cooperation and Development) is based on the number of personnel and quantitative measure. OECD categorized firms into three categories (micro, small, and medium-sized) based on the number of employees. Micro-enterprises consist of a maximum of five to ten employees, small firms consist of fewer than fifty employees, and medium-sized firms consist of 50-249 employees. Whereas, in the case of large enterprises a maximum of 250 employees (OECD, 2005: 17).

SMEs' definition varies between institutions. For example, Halkbank defines SMEs as a business employing 1-150 personnel. Whereas, The Union of Chambers and Commodity Exchanges of Turkey and KOSGEB, defines Turkish's SMEs as shown in Table 3.1.

Table 3.1. Turkish SMEs Definitions

Criteria	**Micro-Sized Enterprise**	**Small-Sized Enterprise**	**Medium-Sized Enterprise**
Number of Employees	<10	<50	<250
Annual Net Sales Income	< TRY 3 Million	< TRY 25 Million	< TRY 125 Million
Annual Financial Balance Sheet	< TRY 3 Million	< TRY 25 Million	< TRY 125 Million
Scale	**Number of Employees**	**Annual Turnover (TL)**	**Balance Sheet (TL)**
Micro	< 10	≤ 1 Million	≤ 1 Million
Small	< 50	≤ 5 Million	≤ 5 Million
Medium	<250	≤ 25 Million	≤ 25 Million

Source: The Union of Chambers and Commodity Exchanges of Turkey. (February 2020). Retrieved from https://www.tobb.org.tr/KobiArastirma/Sayfalar/Eng/SMEsinTurkey.php

Source: KOSGEB, Republic Of Turkey Small and Medium Enterprises Development Organization. (2012). Enhancing the competitiveness of SMEs in Turkey Country Report, KOSGEB: p. 3.

The definitions of small and medium-sized enterprises (SMEs) in Pakistan based on different institutes are as given below in Table 3.2.

Table 3.2. Pakistani SMEs Definitions

Institution	**Small**	**Medium**
SME Bank	The net worth of Rs.20 Million.	The net worth of Assets Rs. 100 Million
Punjab Small Industries Corporations	Immovable investment not more than Rs. 20 Million.	Not Applicable
Federal Bureau of Statistics	Fewer than ten employees.	Not Applicable
State Bank of Pakistan	A business entity that consists of a maximum of 250 employees in manufacturing sectors, 50 personnel in the service sector with the following conditions:	
	(1) Net assets up to Rs. 50 Million in service sectors.	
	(2) Net assets up to Rs. 100 Million in the manufacturing sector.	
	(3) Net sales up to Rs. 300 Million in the case of both sectors that is the manufacturing and service sector.	

Punjab Industries Department	Net assets of Rs. 10 Million.
Sindh Industries Department	An investment up to Rs. 10 Million in both sectors is the service and manufacturing sector.

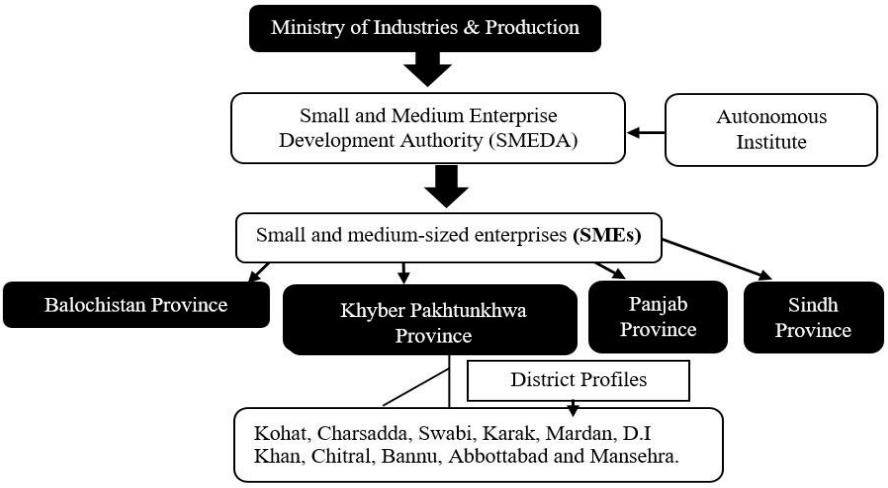
Source: Small and Medium Enterprise Development Authority of Pakistan. (SMEDA).

Retrieved from https://smeda.org/index.php?option=com_fsf&view=faq&catid=3&faqid=48

Source: Retrieved from https://www.abacademies.org/articles/dissection-of-small-businesses-in-pakistan-issues-and-directions-7682.html.

Figure 3.1 shows the governing structure of SMEs in Pakistan. Small and Medium Enterprises Development Authority – SMEDA works under the ministry of industries and production as an autonomous entity. SMEDA is a governing and facilitating entity for SMEs across the Pakistan four provinces.

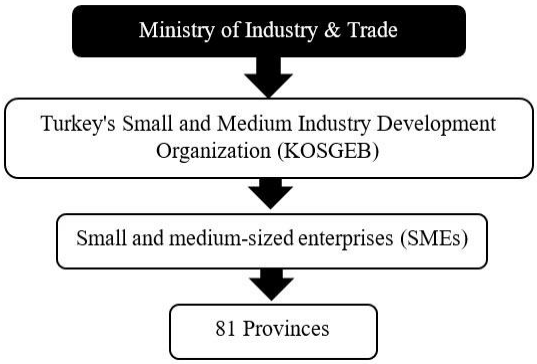
Figure 3.1. SMEs Governing Structure of Pakistan



Source: SMEDA Pakistan. (2019). SMEs Governing Structure of Pakistan. Retrieved from https://smeda.org/index.php?option=com_content&view=article&id=101&Itemid=195

Additionally, Figure 3.2 shows the SMEs' governing structure of Turkey. Small and Medium Industry Development Organization (KOSGEB) works under the ministry of industry and trade. KOSGEB is a governing and facilitating entity for SMEs across Turkey in its eighty-one provinces.

Figure 3.2. SMEs Governing Structure-Turkey



Source: SMEs Governing Structure-Turkey. (2019).
Retrieved from https://en.kosgeb.gov.tr/site/tr/genel/detay/347/about-kosgeb.

In Pakistan, SMEs are managed and govern by the Small and Medium Enterprises Development Authority – SMEDA, which is an independent institute (Zafar & Mustafa, 2017). Whereas, in Turkey, SMEs are managed and govern by the Small and Medium Industry Development Organization (KOSGEB).

3.3 Procedural Research Design

The procedural research design (Figure 3.3) is based on the inductive and deductive reasoning of empirical observation and theoretical concepts. The preliminary model was developed by combining these factors. The preliminary model shown in Figure 3.3 was then combined with research findings to develop a change adaptation model.

Figure 3.3. Procedural Research Design

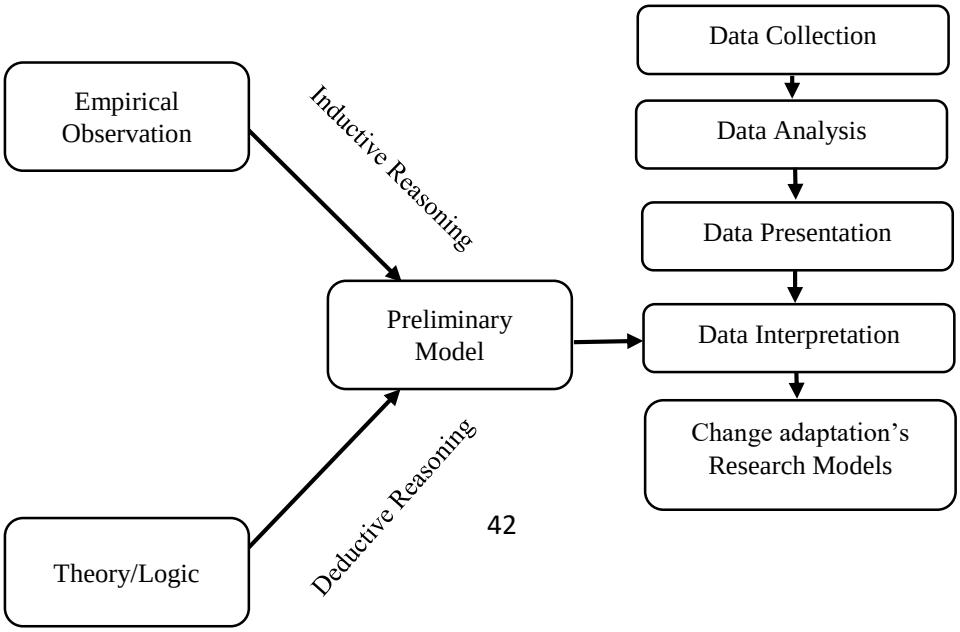
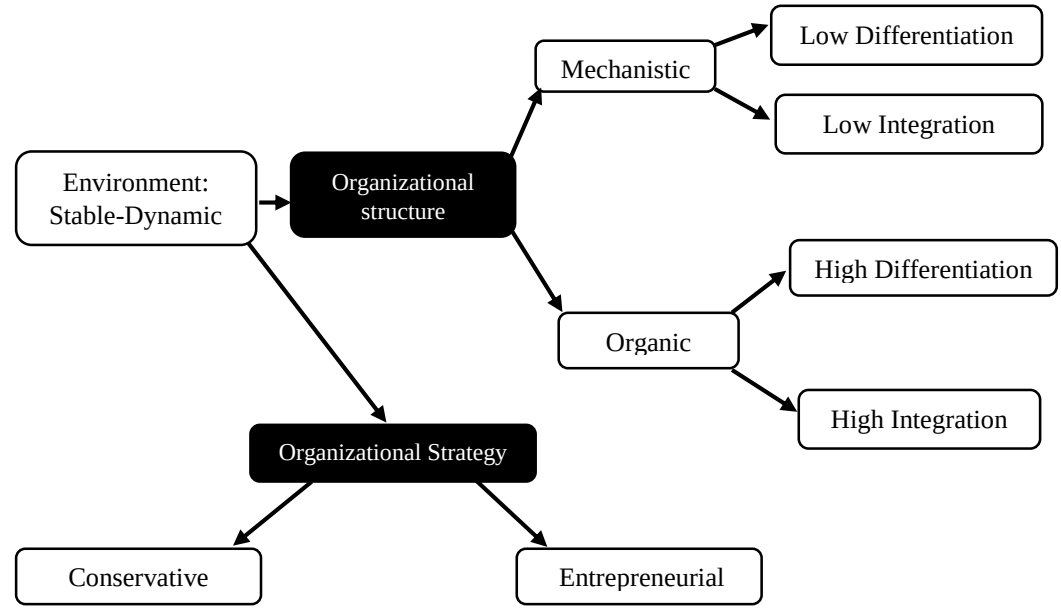
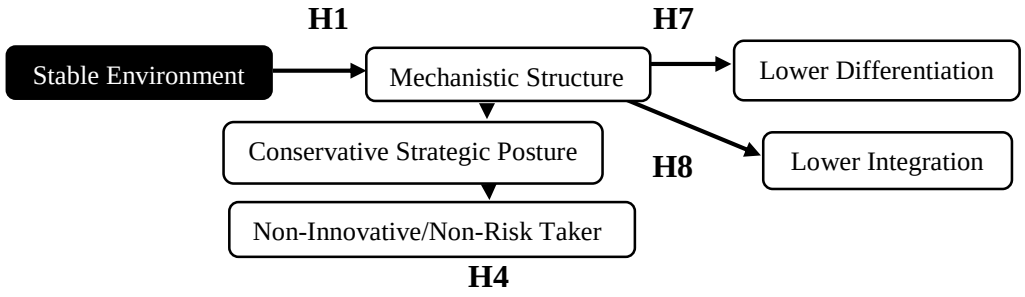
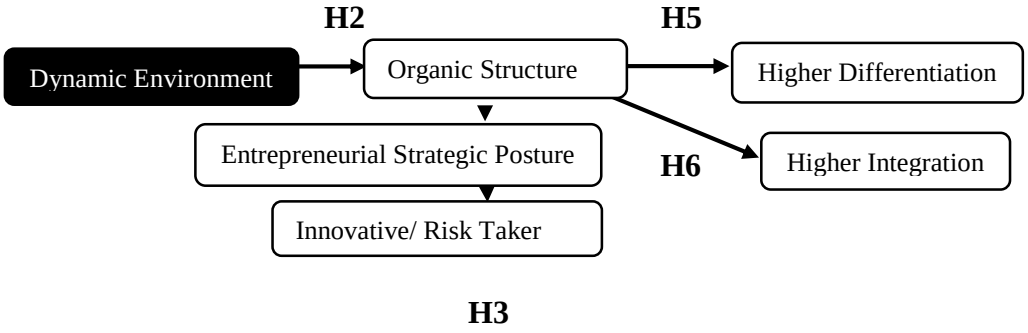


Figure 3.4 shows the detailed conceptual research model, the relationship between key research variables was established. Based on this study's empirical findings, along with previous studies, empirical and theoretical findings, the detailed change adaptation models were developed. The theoretical model of research show the proposed hypotheses as given below.

Figure 3.4. Detailed Conceptual Model of research







3.4 Data Collection Approach and Instruments

A survey technique was applied to explore the research variables based on the objectives of the research. Kraut (1996) defines the survey as a process through which different techniques are applied to solve a problem or to find answers to research questions through data collection regarding a different set of questions aimed at each variable of research. The survey technique involves the collection of primary data regarding research variables usually by a representative sample taken from the population.

The research instrument needs to be concise, clear, and use familiar language to avoid misunderstanding (Rea & Parket, 2005). Moreover, first part of the survey needs to present the purpose of research for a better response (Kraut, 1996). A standardized questionnaire was used in this research so that research results can be easily compared with previous studies conducted in the same area. The data was collected from two industrial estates namely Hattar-Industrial estate and Abbottabad small industrial estate both located in Khyber Pakhtunkhwa Province - Pakistan. Based on the sample size of 38 SMEs from Haripur and 27 SMEs from Abbottabad, the data was collected using the questionnaire.

Small and medium-sized enterprises (SMEs) are non-subsidiary, independent enterprises. SMEs employ less than a given number of employees that vary country by country but generally, the upper limit is 250 employees based on European Union standards while fewer than 500 by American standards (OECD SME and Entrepreneurship Outlook, 2005). In the context of Pakistan SMEs are classified as an enterprise with a maximum of 250 employees, with net assets worth up to Rs.25 million, and annual sales up to Rs.250 million (SMEDA-Pakistan, 2020). To test the hypotheses, a lengthy standardized questionnaire was used to collect data on research variables. Appendix-1 presents the questionnaire that is used in the study.

The Alpha coefficient values in both sets of questionnaires exceeding the minimum acceptable values suggested by Nunnally and Bernstein (1967) as shown in Table 3.3. The survey was conducted by the researcher from June 2019 to September 2019 in which production managers of SMEs from Hattar industrial estate and Abbottabad small industrial estate participated. Table 3.3 presents Cronbach's alpha-Internal consistency table used in the research.

Table 3.3. Cronbach's Alpha

$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Environmental dynamism was explored using Miller and Friesen's (1982) scale that consists of 5-items with a 7-point scale in two groups (stable environment and dynamic environment). The reliability of this scale was tested in SPSS and Cronbach's alpha value of 0.871 for a stable environment and 0.871 for a dynamic environment was obtained.

The enterprises' structural characteristics were assessed by the scale developed by Khandwalla (1977). This instrument consists of a 7-items group in two categories (mechanistic and organic) with a 7-point scale to measure the characterizes of the enterprise's structure. The reliability of this scale was tested in SPSS and Cronbach's alpha value of 0.831 for mechanistic structure scale and 0.944 for organic structure scale was obtained.

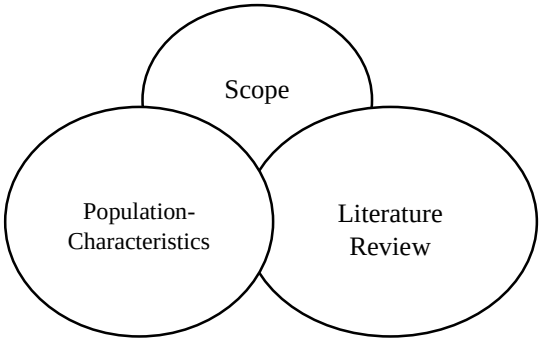
Strategic posture was measured through a ten-item, a seven-point scale driven from the work of Khandwalla (1977); Miller & Friesen (1982). This combination was used in previous studies such as (e.g., Dean, 1993; Miles & Arnold, 1991). This scale has two categories (i) conservative strategic posture and (ii) entrepreneurial strategic posture. The reliability of this scale was tested in SPSS and Cronbach's alpha value of 0.914 for conservative posture scale and 0.929 for the entrepreneurial strategic posture was obtained.

Structural differentiation and integration were measured using eleven-items on the scale of seven-point developed by Miller & Friesen (1982). The reliability of this scale was tested in SPSS and Cronbach's alpha value of 0.879 for low differentiation scale, 0.949 for low integration scale, and 0.738 for high differentiation, 0.825 for high integration was obtained. The questionnaire was distributed in English and questions were explained in Urdu by the researcher wherever it was needed to avoid confusion.

3.5 Population and Sample of Study

A population can broadly be defined as "a collection of elements about which we wish to make an inference (Scheaffer, Mendenhall, Ott, & Gerow, 2011). The population of this study consists of sixty-five small and medium-sized enterprises operating in Hattar industrial estate and Abbottabad small industrial estate (See Appendix 2 and Appendix 3). The sample technique selection is based upon the scope of the study, population characteristics, and recommendations made in the literature. We used the work of Short, Ketchen Jr, and Palmer (2002) as a base for deciding on our sampling technique as shown in Figure 3.5.

Figure 3.5. Sampling Technique Selection criteria



The sampling technique for this study is based on Tahai and Meyer's (1999) rankings which covered 20 years (1980-1999) of publishing/activity of the following journals; Academy of Management Journal, Strategic Management Journal, Administrative Science Quarterly, Journal of Management, Organization Science, and Strategic Management Journal. Short et al., 2002 used a total of 437 studies and these studies were coded into two categories, (i) lead author and (ii) lead author along with doctoral students. These studies were selected based on the guidelines of Kerlinger (1986) as he is renowned among strategic management and organizational performance researchers (e.g., Haleblian & Finkelstein, 1993; Lumpkin & Dess, 1995). Table 3.4 shows the work of Short et al., 2002.

Table 3.4. Studies on sampling decision regarding organization performance

	Time period			*t*-value (1980s vs. 1990s)	Significance
	1980–1999	1980–1989	1990–1999		
Number of studies	437	149	288		
A priori assessed representativeness	174 of 437 (40%)	56 of 149 (38%)	118 of 288 (41%)	.69	.49
Sample size/number of variables	70.63	48.71	82.05	1.35	.18
Reason for sample size					
Cost	9 of 437 (2%)	2 of 149 (1%)	7 of 288 (2%)	.83	.41
Error reduction	12 of 437 (3%)	2 of 149 (1%)	10 of 288 (3%)	1.48	.14
Statistical power	23 of 437 (5%)	5 of 149 (3%)	18 of 288 (6%)	1.41	.16
No reason	393 of 437 (90%)	140 of 149 (94%)	253 of 288 (88%)	−1.76	.08
Type of sample					
Available	183 of 437 (42%)	68 of 149 (46%)	115 of 288 (40%)	−1.14	.26
Purposive	206 of 437 (47%)	60 of 149 (40%)	146 of 288 (51%)	2.09	.04
Quota	0 of 437 (0%)	0 of 149 (0%)	0 of 288 (0%)	n/a	n/a
Random					
Simple	44 of 437 (10%)	15 of 149 (10%)	29 of 288 (10%)	0	.99
Stratified	16 of 437 (4%)	10 of 149 (7%)	6 of 288 (2%)	−2.08	.04
Systematic	0 of 437 (0%)	0 of 149 (0%)	0 of 288 (0%)	n/a	n/a
Cluster	2 of 437 (<1%)	0 of 149 (0%)	2 of 288 (<1%)	1.42	.16

Source: Short, J. C., Ketchen Jr, D. J., & Palmer, T. B. (2002). The role of sampling in strategic management research on performance: A two-study analysis. *Journal of Management*, *28*(3), 363-385: p.367.

Table 3.4 provides a summary of studies from 1980 -1999 in terms of the sampling technique used in different studies. In this period (1980-1999) mostly purposive sampling technique and availability sampling techniques were used. There are a variety of points that need to be taken into consideration to draw a sample from a population. For example, statistical power is needed for a particular technique (Hair, Anderson, Tatham, & Black, 1998). The purposive sampling technique was selected based on the scope of the study, and characteristics of the population.

Equation 1:

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision. A 95% confidence level and P = .5 (maximum variability) are assumed for Equation 1. The sample size was calculated based on formula and sample size was then discussed with experts in the field to find out that, is this sample size is enough to cover the population. The

experts that were contacted were from SMEDA-Pakistan, Chamber of Commerce & Industry, and researchers working on the SME sector in Pakistan from Hazara University. Furthermore, the selection of Hattar-Industrial Estate and Abbottabad Small Industrial Estate was based on the requirement of this study. This study requires the characteristics of firms operating in stable and dynamic environments. Therefore, Hattar industrial estate and Abbottabad industrial estate was selected based on the findings of the pilot study. Secondly, both Hattar industrial estate and Abbottabad Industrial estate were developed using a planned layout that greatly helps the researcher to gather the data.

Hattar Industrial Estate sample size was calculated using below formula:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{42}{1+42(.05)^2}$$

$$n = \frac{42}{1+42(0.0025)}$$

$$n = \frac{42}{1.105}$$

$$n = 38$$

Similarly, Abbottabad Small Industrial Estate sample size was calculated using same formula as Hattar Industrial Estate.

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{29}{1+29\ (.05)^2}$$

$$n = \frac{29}{1+29(0.0025)}$$

$$n = \frac{29}{1+0.0725}$$

$$n = \frac{29}{1.0725}$$

$$n = 27$$

3.6 Pilot Testing and Data Collection

The questionnaire was pretested to explore the reliability of instrument. Furthermore, based on experts' suggestions, minor modifications were made in the questionnaire. The results of the pilot study showed that Haripur's industrial estate was operating in a stable environment. Whereas, Abbottabad's small industrial estate was operating under a dynamic environment.

A pilot study played an important role in this research. The pilot study was first performed to find out problems in the questionnaire and after finalization, the questionnaire was used to find out the characteristics of environments. The Khyber Pakhtunkhwa (KPK) province has ten industrial estates namely: Kohat, Charsadda, Swabi, Karak, Mardan, D.I Khan, Chitral, Bannu, Abbottabad, and Mansehra Small and medium-sized industrial estates out of which, two were selected based on environmental characteristics and scope of the study. The data was collected from small and medium-sized enterprises operating in Khyber Pakhtunkhwa small industrial estates, (i) Hattar Industrial Estate, and (ii) Abbottabad Small Industrial Estate.

3.7 Data Analysis Tools and Tests

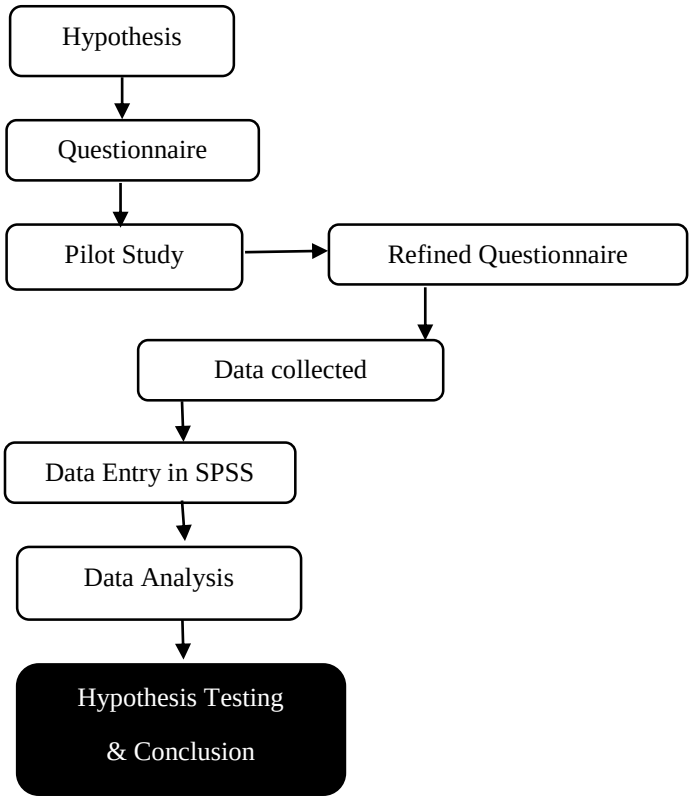
The SPSS - Statistical Package for Social Sciences version 21 tool was used to run the test results for the research. The Likert scale was used in the research therefore, the tests

were selected based on study scope and characteristics of the research instrument. The following tests were selected for the study.

1- Kolmogorov–Smirnov and Shapiro-Wilk test tests for normality testing.
2- The Mann-Whitney U non-parametric statistical tests for calculating mean differences between groups.
3- The Spearman rank-order correlation and standard statistics calculation such as mean, variance, standard division, etc.

Figure 3.6 shows the process of data collection, data analysis, and hypotheses testing. Data were collected using a standardized questionnaire with minor modifications after the pilot study. Afterward, the collected data was analyzed using SPSS, and hypotheses were tested based on the gathered data.

Figure 3.6. Hypotheses Testing and Data Collection Procedure



3.8 Research Locations

SMEs are non-auxiliary, autonomous enterprises that employ less than 250 number of workers in Pakistan or having paid-up capital up to Pakistani Rupees (Rs) 25 million & sales up to Rs. 250 million per annum (Legal Facilitation for SMEs -SMEDA, 2020; Zafar & Mustafa, 2017).

1 Turkish lira equals 23.77 Pakistani Rupee as of April 17, 2020, 11:52 UTC

The Khyber Pakhtunkhwa (KPK) province has ten industrial estates namely: Kohat, Charsadda, Swabi, Karak, Mardan, D.I Khan, Chitral, Bannu, Abbottabad, and Mansehra Small and medium-sized industrial estates out of which, two were selected based on environmental characteristics and scope of the study. Industrial Estate Hattar is situated 16 kilometers from Kot Najibullah. It was developed by the Government of Pakistan in 1985-86. It encapsulates a total area of 1,032 acres of land. The Small Industrial Estate of Abbottabad was established in 1995 and it consists of 20 Acres with a total number of 110 plots. The estate was developed by the government of Pakistan well inside the city of Abbottabad at Mandian (See Appendix 6, Appendix 7, and Appendix 8).

The unit of analysis for this study was SMEs operating in Haripur industrial estate and Abbottabad's small industrial estate. The reason for selecting these two specific locations was based on different characteristics. The first main reason was that this research was based on the two different environments (Stable and dynamic) and based on the pilot study's findings we have found that Haripur Industrial estate was operating in a stable environment and Abbottabad industrial estate was operating in a dynamic environment so these two locations suit our research objectives.

Secondly, we wanted to understand that does small and medium-sized firms operate in the same mechanism as large complex organizations. For this purpose we selected manufacturing firms so that we can compare study's findings with the work of Burns and Stalker (1961), and Lawrence and Lorsch (1967). Additionally, the change adaptation models generated from our findings can be used for large complex organizations. Since the basic mechanisms between small and large complex organizations are the same. The third

justification for the selection of these two locations was the design characteristics of these two industrial estates.

These two locations were established on a structure plan. Therefore, it was very convenient for a researcher to gather the required data as in Pakistan majority of industrial estates are not located in the same location. Additionally, unplanned industrial locations not only problematic in terms of data gathering but also creates issues in terms of cost and time factor. In this research, we have worked on the death rate and survival rate and to collect this data the researcher visited firms individually to explore their operational status as SMEDA Pakistan does not have any updated data available regarding the number of operational firms and number of firms that are being closed.

CHAPTER 4

DATA ANALYSIS

4. Classifications of Variables

The mean scores were used to categorize each variable (organization structure, strategic posture, differentiation, integration, and external environment). Table 4.1 shows the classification of mean scores for each variable against the threshold values.

Table 4.1. Threshold Values

Threshold values	**$\bar{x} \leq 3.9$**	**$\bar{x} \geq 4.0$**	**$3.9 < \bar{x} < 4.0$**
Environment	Stable	Dynamic	Hybrid
Org. Structure	Mechanistic	Organic	Hybrid
Strategic Posture	Conservative	Entrepreneurial	Hybrid
Differentiation	Low	High	Low/High
Integration	Low	High	Low/High

4.1 Test of Normality

Statistical errors are getting very common in scientific literature, a variety of statistical tests are based upon the assumption of normally distributed data such as regression, correlation, t-tests, and analysis of variance. Moreover, the tests that fall under the category of the normal distribution of data are called parametric tests, while other tests that don't require normal distribution of data are categorized as non-parametric tests.

Likert scale or Likert type scale has specific data analysis procedures, this is because the data is collected on a discrete scale rather than a continuous scale. Likert scale can never generate normally distributed data since it is a discrete data collection instrument rather a continuous. Additionally, based on the scope of the study the non-parametric statistical tests were used such as The Mann-Whitney U test, Spearman rank-order correlation, and Goodman and Kruskal tau along with different statistical techniques.

Table 4.2 and Table 4.3 present the Kolmogorov-Smirnov test and Shapiro-Wilk test statistics for both populations (Haripur Industrial estate and Abbottabad Small Industrial estate). Based on the results it was found that both Kolmogorov-Smirnov and Shapiro-Wilk test p-values are significant and this means that both data sets are not normally distributed therefore non-parametric tests were selected for data analysis.

Table 4.2. Test of Normality – Stable environment

Tests of Normality	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Stable Environment	.246	38	.000	.888	38	.001
Mechanistic Structure	.338	38	.000	.752	38	.000
Conservative Strategic Posture	.253	38	.000	.844	38	.000
Low Differentiation	.295	38	.000	.739	38	.000
Low Integration	.189	38	.001	.875	38	.001
a. Lilliefors Significance Correction						

Table 4.3. Test of Normality – Dynamic environment

Tests of Normality	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Dynamic Environment	.320	27	.000	.800	27	.000
Organic Structure	.179	27	.026	.844	27	.001
Entrepreneurial Strategic Posture	.272	27	.000	.815	27	.000
High Differentiation	.174	27	.034	.920	27	.039
High Integration	.256	27	.000	.842	27	.001
a. Lilliefors Significance Correction						

4.2 The Relation between Mechanistic Structure and Stable Environment

Table 4.4 shows the characteristics of firms operating in a stable environment. Based on the threshold values (Table 4.1) it was found that the firms were operating in a stable environment (as $\bar{x}$ =2.9737). Additionally, firms were operating with mechanistic structure

(as $\bar{x}$ =3.2218) and, firms were using conservative strategic posture (as $\bar{x}$ =2.8263) with low differentiation (as $\bar{x}$ =2.8509) and low integration (as $\bar{x}$ =2.8355).

Table 4.4. Mean, Standard Deviation, Variance and Alpha values- Haripur

	Mean	**S.D**	**Variance**	**Cronbach's alpha, α**
Stable Environment	2.9737	1.11226	1.237	0.871
Mechanistic Structure	3.2218	0.88668	0.786	0.831
Conservative Strategic	2.8263	0.54509	0.297	0.914
Low Differentiation	2.8509	0.62816	0.395	0.879
Low Integration	2.8355	0.80963	0.655	0.949

4.3 Correlation between Variables

Table 4.5 correlation results suggest that the higher the intensity of the mechanistic structure lower will be the integration, as the mechanistic structure has a moderate-positive statistically significant correlation (.694) with low integration. The more strategic posture becomes conservative it requires a more intense mechanistic structure as a conservative strategy has positive-moderate statistically significant (.599) correlation with mechanistic structure). Low differentiation has strong-positive statistically significant (.795) correlation with the conservative strategy.

Which means that when sub-units in department decreases it will make the strategy more conservative. Additionally, a conservative strategy has a moderate-positive statistically significant correlation with mechanistic structure (.599) this mean with a decrease in the level of differentiation the firm's structure will become more mechanistic. Furthermore, low integration has a strongly-positive statistically significant (.839) correlation with conservative strategy and conservative strategy has a moderately-positive correlation with the mechanistic structure and positive- strongly statistically significant (.795) correlation with low differentiation. The findings are shown in below Table 4.5.

Table 4.5. Correlations – Stable Environment

Spearman's rho			Stable Environment	Mechanistic Structure	Conservative Strategic Posture	Low Differentiation	Low Integration
	Stable Environment	Correlation Coefficient	1.000				
		Sig. (2-tailed)	.				
		N	38				
	Mechanistic Structure	Correlation Coefficient	.233	1.000			
		Sig. (2-tailed)	.160	.			
		N	38	38			
	Conservative Strategic Posture	Correlation Coefficient	.270	.599**	1.000		
		Sig. (2-tailed)	.101	.000	.		
		N	38	38	38		
	Low Differentiation	Correlation Coefficient	-.032	.173	.795**	1.000	
		Sig. (2-tailed)	.851	.299	.000	.	
		N	38	38	38	38	
	Low Integration	Correlation Coefficient	-.219	.694**	.839**	.674**	1.000
		Sig. (2-tailed)	.186	.000	.000	.000	.
		N	38	38	38	38	38

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.6 presents Goodman and Kruskal's test value of .780 for mechanistic structure with a stable environment as the dependent variable. This indicates that an increase in environmental stability results in a more mechanistic organizational structure. Furthermore, p-value is .000, which means $p < .0005$. Therefore, the association between a stable environment and mechanistic structure is statistically significant. Similarly, the stable environment is positively associated with low differentiation (.367, p=.000) and low integration (1.000, p=.000). This means that when the environment becomes stable the level of difference and integration decreases.

Table 4.6. Goodman and Kruskal tau, Chi-Square

Directional Measures			
Goodman and Kruskal tau	Value	Asymp. Std. Error[a]	Approx. Sig.
Mechanistic Structure	.780	.009	.000[b]
Low differentiation	.367	.017	.000[b]
Low integration	1.000	.000	.000[b]
a. Not assuming the null hypothesis.			
b. Based on chi-square approximation			
Dependent Variable: Stable Environment			

4.4 The Relation between Organic Structure and Dynamic Environment

Table 4.7 shows the characteristics of firms operating in a dynamic environment. It was found that the firms were operating in a dynamic environment (as $\bar{x}$ =5.1728) with an organic structure (as $\bar{x}$ =5.8148). Additionally, firms were using entrepreneurial strategic posture (as $\bar{x}$ =4.7407) along with high differentiation (as $\bar{x}$ =5.9877) and high integration (as $\bar{x}$ =4.5833).

Table 4.7: Mean, Standard Deviation, Variance, and Alpha values-Abbottabad

	Mean	**S.D**	**Variance**	**Cronbach's alpha, α**
Dynamic Environment	5.1728	1.50886	2.277	0.871
Organic Structure	5.8148	0.74152	0.550	0.944
Entrepreneurial Strategy	4.7407	2.04299	4.174	0.929
High Differentiation	5.9877	0.63704	0.406	0.738
High Integration	4.5833	1.03775	1.077	0.825

Table 4.8 presents the correlation results it was found that entrepreneurial strategic posture has a strong positive (.780) statistically significant correlation (p=.000) with organic structure. Furthermore, high differentiation has a moderate negative (-.580) statistically significant correlation (p=.002) with a dynamic environment.

Table 4.8. Correlations – a dynamic environment

Spearman's rho			Dynamic Environment	Organic Structure	Entrepreneurial Strategic Posture	High Differentiation	High Integration
	Dynamic Environment	Correlation Coefficient	1.000				
		Sig. (2-tailed)	.				
		N	27				
	Organic Structure	Correlation Coefficient	.321	1.000			
		Sig. (2-tailed)	.102	.			
		N	27	27			
	Entrepreneurial Strategic Posture	Correlation Coefficient	-.221	.780**	1.000		
		Sig. (2-tailed)	.268	.000	.		
		N	27	27	27		
	High Differentiation	Correlation Coefficient	-.580**	.015	.146	1.000	
		Sig. (2-tailed)	.002	.941	.466	.	
		N	27	27	27	27	
	High Integration	Correlation Coefficient	-.146	.121	.373	-.357	1.000
		Sig. (2-tailed)	.467	.549	.056	.068	.
		N	27	27	27	27	27

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.9 presents Goodman and Kruskal's test value of .822 for organic structure with the dynamic environment as the dependent variable. This indicates that an increase in environmental dynamism results in a more organic organizational structure. Furthermore, p-value is .000, which means $p < .0005$. Therefore, the association between a dynamic environment and an organic structure is statistically significant. Similarly, the association between high differentiation (.459, p=.000) and high integration (759, p=.000) is also positive and statistically significant which means that when environmental dynamism increases this causes an increase in the level of high differentiation and high integration.

Table 4.9. Goodman and Kruskal tau, Chi-Square

Directional Measures			
Goodman and Kruskal tau	Value	Asymp. Std. Error[a]	Approx. Sig.
Organic Structure	.822	.047	.000[b]
High differentiation	.459	.108	.000[b]
High integration	.759	.040	.000[b]
a. Not assuming the null hypothesis.			
b. Based on chi-square approximation			
Dependent Variable: Dynamic Environment			

4.5 Research Items Comparison

Table 4.10, Table 4.11, and Table 4.12 present the comparison of research variables items across the stable and dynamic environments. Furthermore, based on the mean scores each research item was explored.

4.5.1 Environment (Stable-Dynamic)

Table 4.10 shows the basic differences between stable and dynamic environments. The mean scores for a stable environment were well below the threshold value as reported in Table 4.1. The lower mean score shows the characteristics of stable and higher mean scores show the characteristics of a dynamic environment. The basic differences between the two environments can be linked with the rate of change in a stable environment mean score was $\bar{x}$=2.8158. Whereas, in the dynamic environment mean score was $\bar{x}$=5.5926. Secondly, fewer changes are needed in marketing practices in a stable environment as a mean score of $\bar{x}$=2.8158 was observed as compared to a mean score of $\bar{x}$=5.667 for dynamic environments.

Overall from these mean score, we can extract that in stable environment change patterns changes at a lower rate as compared to dynamic environments. The competitors' actions predictability in a stable environment is fairly easy (as $\bar{x}$=3.0000). Whereas, in dynamic environment competitors' action predictability is harder and complex (as

x̄=4.7407). Moreover, customers' demand predictability is fairly easy in a stable environment (as x̄=3.2368) as compared to a dynamic environment where customers' demand predictability is harder and complex (x̄=5.2963). The technology change in a stable environment is not as rapid as the mean score of x̄=3.000 was observed as compared to x̄=4.7407 in dynamic environments.

Table 4.10. Comparison of Stable and Dynamic Environment Mean Scores

	Items	Mean	Mean
Environment- Stable and Dynamic			
1	Change need in Marketing practices	2.8158	5.6667
2	Rate of change in product and services	2.8158	5.5926
3	Predictability of competitors' action	3.0000	4.7407
4	Customers' demand predictability	3.2368	5.2963
5	Rate of technology change	3.0000	5.4815

4.5.2 Structure (Mechanistic-Organic)

Table 4.11 shows the comparison of research items between mechanistic structure and organic structure. Based on the mean scores we can understand that in mechanistic structures the flow of communication is more formal as a mean score of x̄=2.2105 was observed. The communication flow is more informal in organic structure as a mean score of x̄=5.7037 was observed. The decision-making style in the mechanistic structure is non-participative as the mean score of x̄=2.5263 was observed.

Whereas, the decisions-making approach in the organic structure was participative as a mean score of x̄=5.7407 was observed. Mechanistic structures have a slow rate of change adaptation as a mean score of x̄=3.6579 was observed. Whereas, the organic structure has a rapid rate of change adaptation as a mean score of x̄=4.333 was observed. Moreover, the control mechanism in the mechanistic structure was formal as a mean score of x̄=3.5526 was observed as compared to organic structures where a mean score of x̄=5.7778 was observed.

Overall, the management approach in a mechanistic structure is centralized as a mean score of x̄=3.3684 was observed as compared to the mean score of x̄=5.9259 in the organic structure. In mechanistic structures, job freedom is controlled as a mean score of x̄=3.7368

(low innovation) was observed. Whereas, the mean score of $\bar{x}$=4.0741 (high innovation) was observed in the organic structure.

Table 4.11. Comparison between Mechanistic Structure and Organic Structure

Organizational Structure – Mechanistic-Organic			
6	Flow of communication	2.2105	5.7037
7	Managerial Style	3.2895	5.4815
8	Decision Making	2.5263	5.7407
9	The tendency to change management approach	3.6579	4.3333
10	Control Mechanism (formal/Informal)	3.5526	5.7778
11	Management Approach (Centralized - decentralized)	3.3684	5.9259
12	Job Freedom	3.7368	4.0741

4.5.3 Strategic Approach (Conservative-Entrepreneurial)

Table 4.12 shows a comparison between two strategic approaches: conservative and entrepreneurial. The mean score shows that research and development focus was lower in conservative strategic posture as a mean score of $\bar{x}$=2.0526 was observed. Whereas, research and development focus in entrepreneurial strategic posture was high as a mean score of $\bar{x}$=5.6667 was observed. The conservative strategy supports the low rate of innovation as a mean score of $\bar{x}$=2.9474 was observed. Whereas, entrepreneurial strategic posture supports the high rate of innovation as a mean score of $\bar{x}$=5.1111 was observed.

In conservative strategic posture, the change rate in products was low as a mean score of $\bar{x}$=2.7632 was observed as compared to the entrepreneurial strategic posture that has ($\bar{x}$=6.4815) high rate of product change. Furthermore, the conservative strategy uses a cautious approach as a mean score of $\bar{x}$=3.2368 was observed. Whereas, entrepreneurial strategic posture uses the bold approach as a mean score $\bar{x}$=4.4444 was observed. Conservative strategic posture is based on gradually environment exploration as a mean score of $\bar{x}$=2.5000 was observed. Whereas, entrepreneurial strategic posture is based on rapid selective (as $\bar{x}$=6.0741) to explore the environment.

Table 4.12. Comparison between Conservative and Entrepreneurial Strategic Posture

Strategic Approach - Conservative- Entrepreneurial			
13	R&D emphasis	2.0526	5.6667
14	Rate of new products and services	2.9474	5.1111
15	Change rate in new product and services	2.7632	6.4815
16	Trend responder-initiator	2.3421	5.3704
17	Follower/Pioneer Approach	3.6053	4.4074
18	The approach towards competition (Ignores-Response)	2.9474	5.5926
19	Nature of Projects (Low risk-High risk)	2.5526	5.7407
20	The approach towards Strategic risks (Cautions-Bold)	3.2368	4.4444
21	Environmental Approach (Gradually-Rapidly)	2.5000	6.0741
22	Strategic decisions (Cautions-Bold)	2.2105	5.7407

4.5.4 Differentiation (Low-High)

Table 4.13 presents the characteristics of low and high differentiation. In mechanistic firms, the differentiation was low as few departments were performing the tasks as a mean score of $\bar{x}$=1.6579 was observed. Whereas, in organic firms, the differentiation was high as more specialized sub-departments were performing specialized tasks as a mean score of $\bar{x}$=6.0741 was observed. In mechanistic firms the low differentiation, causes the firms to use similar technology to perform the tasks as a mean score of $\bar{x}$=1.8684 was observed. Whereas, organic firms the high differentiation enables the utilization of diverse technology to complete specialized tasks as a mean score of $\bar{x}$=5.8519 was observed. Low differentiation is suitable for similar products' production where specialized tasks are not required (as $\bar{x}$=2.1842). Whereas, high differentiation is suitable for specialized tasks ($\bar{x}$=6.0370).

Table 4.13. Comparison of Low Differentiation and High Differentiation

Differentiation- Low and High			
23	Similar/different line of products	1.6579	6.0741
24	Production technology (Similar-Different)	1.8684	5.8519
25	Target Markets Segments (Similar-Different)	2.1842	6.0370

4.5.5 Integration (Low-High)

Table 4.14 presents the characteristics of low and high integration. Mechanistic firms rarely used the interdepartmental committees as a mean score of $\bar{x}$=3.5526 was observed. Similarly, organic firms also rarely used interdepartmental committees as a mean score of $\bar{x}$=209259 was observed. The main difference between low integration and high integration based firms is the change adaptation approach. As in low integration based firms, the change adaptation approach is non-participative as a mean score of $\bar{x}$=2.8158 was observed. Whereas, in high-integration based firms the change adaptation approach is participative as a mean score of $\bar{x}$=4.9259 was observed.

Table 4.14. Comparison of Low integration and High Integration

Integration – Low and High			
26	Interdepartmental committees (Rarely-Commonly)	3.5526	2.9259
27	Task Forces (Rarely-Commonly)	3.0526	4.3333
28	Liaison Personnel (Rarely-Commonly)	1.6842	5.7407
29	Strategic decisions (Participative/non-participative)	3.2368	4.7037
30	Capital Budget Decisions (Participative/non-participative)	2.4211	5.8148
31	Change adaptation planning ((Participative/non-participative)	2.8158	4.9259
32	Departmental Level Decisions	2.9211	4.8889
33	Sub-departments decision compatibility	2.1316	5.5926

4.6 Mann-Whitney U Test

The Mann-Whitney U test, which is also known as the Wilcoxon rank-sum test, tests for differences between two groups on a single, ordinal variable with no specific distribution (Mann & Whitney, 1947; Wilcoxon, 1945).

Table 4.15, shows statistics regarding the Mann-Whitney U test and Wilcoxon signed-rank test, according to this table U value is 633 and the Z value is -0.9194 with p-value .357>0.05 as p>0.05 hence the Ho is not rejected while H1 is not supported.

Table 4.15. Stable Environment-Mechanistic Structure

Test Statistics	
Mann-Whitney U	633
Wilcoxon W	435.000
Z	-0.9194
Asymp. Sig. (2-tailed)	.357

Ho: The mean of the stable environment does not differ from the mechanistic structure.
H1: The mean of the stable environment differs from a mechanistic structure.

Table 4.16, shows statistics regarding the Mann-Whitney U test and Wilcoxon signed-rank test, according to this table U value is 720.5 and the Z value is -0.01039 with p-value .992>0.05 as p>0.05 hence the Ho is not rejected while H1 is not supported.

Table 4.16. Stable Environment-Conservative Strategy

Test Statistics	
Mann-Whitney U	720.5
Wilcoxon W	190.000
Z	-0.01039
Asymp. Sig. (2-tailed)	.992

Ho: The mean of the stable environment does not differ from a conservative strategy.
H1: The mean of the stable environment differs from a conservative strategy.

Table 4.17, shows statistics regarding the Mann-Whitney U test and Wilcoxon signed-rank test, according to this table U value is 682 and the Z value is -0.041035 with p-value .681>0.05 as p>0.05 hence the Ho is not rejected while H1 is not supported.

Table 4.17. Stable Environment-Low Differentiation

Test Statistics	
Mann-Whitney U	682
Wilcoxon W	344.000
Z	-0.41035
Asymp. Sig. (2-tailed)	.681

Ho: The mean of the stable environment does not differ from low differentiation.
H1: The mean of the stable environment differs from low differentiation.

Table 4.18, shows statistics regarding the Mann-Whitney U test and Wilcoxon signed-rank test, according to this table U value is 706 and the Z value is 0.16103 with p-value .872>0.05 as p>0.05 hence the Ho is not rejected while H1 is not supported.

Table 4.18. Stable Environment-Low Differentiation

Test Statistics	
Mann-Whitney U	706
Wilcoxon W	351.000
Z	0.16103
Asymp. Sig. (2-tailed)	.872

Ho: The mean of the stable environment does not differ from low integration.
H1: The mean of the stable environment differs from low integration.

Table 4.19, shows statistics regarding the Mann-Whitney U test and Wilcoxon signed-rank test, according to this table U value is 364.5 and the Z value is 0.00865 with p-value .992>0.05 as p>0.05 hence Ho is not rejected while H1 is not supported.

Table 4.19. Dynamic Environment-Organic Structure

Test Statistics	
Mann-Whitney U	364.5
Wilcoxon W	106.000
Z	0.00865
Asymp. Sig. (2-tailed)	.992

Ho: The mean of the dynamic environment does not differ from organic structure.
H1: The mean of the dynamic environment differs from the organic structure.

Table 4.20, shows statistics regarding the Mann-Whitney U test and Wilcoxon signed-rank test, according to this table U value is 324 and the Z value is 0.692 with p-value .490>0.05 as p>0.05 hence the Ho is not rejected while H1 is not supported.

Table 4.20. Dynamic Environment-Entrepreneurial Strategy

Test Statistics	
Mann-Whitney U	324
Wilcoxon W	147.000
Z	0.692
Asymp. Sig. (2-tailed)	.490

Ho: The mean of the dynamic environment does not differ from the entrepreneurial strategy.
H1: The mean of the dynamic environment differs from the entrepreneurial strategy.

Table 4.21, shows statistics regarding the Mann-Whitney U test and Wilcoxon signed-rank test, according to this table U value is 256 and the Z value is -1.8684 with p-value .061>0.05 as p>0.05 hence the Ho is not rejected while H1 is not supported

Table 4.21. Dynamic Environment-High Differentiation

Test Statistics	
Mann-Whitney U	256
Wilcoxon W	232.500
Z	-1.8684
Asymp. Sig. (2-tailed)	. 061

Ho: The mean of the dynamic environment does not differ from high differentiation.
H1: The mean of the dynamic environment differs from high differentiation.

Table 4.22, shows statistics regarding the Mann-Whitney U test and Wilcoxon signed-rank test, according to this table U value is 302 and the Z value is 1.0726 with p-value .284>0.05 as p>0.05 hence Ho is not rejected while H1 is not supported.

Table 4.22. Dynamic Environment-High Integration

Test Statistics	
Mann-Whitney U	302
Wilcoxon W	140.000
Z	1.0726
Asymp. Sig. (2-tailed)	.284

Ho: The mean of the dynamic environment does not differ from high integration.
H1: The mean of the dynamic environment differs from high integration.

This research has two main categories, the first category consists of a stable environment as a dependent variable and mechanistic structure, conservative strategy, low differentiation, and low integration as independent variables. Whereas, the second category consists of a dynamic environment as a dependent variable and organic structure, entrepreneurial strategy, high differentiation, and high integration as an independent variable. The results of the Mann-Whitney U tests shows the distribution difference between dependent and independent variables.

4.7 Hypotheses Testing

Table 4.23 presents the comparison of mechanistic and organic firm's structural scores in a stable environment and dynamic environment. Consistent with hypotheses 1, small and medium-sized enterprises' structure in a stable environment is significantly ($p>0.05$) more mechanistic than those of small and medium enterprises operating in a dynamic environment.

Furthermore, consistent with hypothesis 2, small and medium-sized enterprises' structure in a dynamic environment is significantly ($p>0.05$) more organic than those of small and medium-sized enterprises operating in a stable environment. Therefore, hypotheses 1 and 2 are supported.

Table 4.23. A comparison of a firm's structure in a stable environment and dynamic environment: Mean (SDs)

Variables	Stable Environment	Dynamic Environment
Structure	3.2218 (0.88668)	5.8148 (0.74152)
t-value Sig. (2-tailed)	15.836 (.000)	17.183 (.000)
Cronbach's alpha, α	0.831	0.944

Table 4.24 presents a comparison of strategic posture scores in a stable environment and a dynamic environment. Consistent with hypotheses 3, the strategic posture of small and medium-sized enterprises in a stable environment is significantly ($p>0.05$) more conservative than those of small and medium enterprises operating in a dynamic environment. Furthermore, consistent with hypothesis 4, the strategic posture of small and medium-sized enterprises is significantly ($p>0.05$) more entrepreneurial than those of small and medium-sized enterprises operating in a stable environment. Therefore, hypotheses 3 and 4 are supported.

Table 4.24. A comparison of strategic posture in a stable environment and dynamic environment: Mean (SDs)

Variables	Stable Environment	Dynamic Environment
Strategic Posture	2.8263 (0.54509)	4.3902 (.39795)
t-value Sig. (2-tailed)	-21.650 (.000)	25.770 (.000)
Cronbach's alpha, α	0.914	0.929

Table 4.25 presents the comparison of differentiation and integration scores in a stable environment and dynamic environment. Consistent with hypotheses 5, the small and medium-sized enterprises in a stable environment have a lower level of differentiation ($p>0.05$) than those of small and medium-sized enterprises operating in a dynamic environment. Additionally, consistent with hypothesis 6, SMEs operating in a stable environment have a lower level of integration ($p>0.05$) as compared to SMEs in a dynamic environment. Moreover, consistent with hypothesis 7, SMEs operating in a dynamic environment have a higher level of differentiation ($p>0.05$) and a higher level of integration ($p>0.05$) as compared with SMEs operating in a stable environment. Therefore, hypotheses 5 and 6 are also supported.

Table 4.25. A comparison of differentiation and integration in a stable environment and dynamic environment: Mean (SDs)

Variables	Stable Environment	Dynamic Environment
Differentiation	2.8509(0.62816)	5.9877(0.63704)
Integration	2.8355(0.80963)	4.5833(1.03775)
t-value Sig. (2-tailed) Differentiation	-3.0783 (.000)	4.275 (.000)
t-value Sig. (2-tailed) Integration	-13.307 (.000)	12.770 (.000)
Cronbach's alpha, α	Low-Differentiation: 0.879 Low-Integration: 0.949	High-Differentiation:0.738 High-Integration: 0.825

The following Table 4.26 shows all of the research hypotheses:

Table 4.26. Hypotheses summary

	Hypotheses	**Findings**
1	**Hypothesis 1:** Small and Medium-Sized Enterprises' structure in a stable environment are more mechanistic as compared to dynamic environments	**SUPPORTED**
2	**Hypothesis 2:** Small and Medium-Sized Enterprises' structures in the unstable (dynamic) environment are more organic (flexible) as compare to a stable environment.	**SUPPORTED**
3	**Hypothesis 3:** The strategic postures of SMEs working in a stable environment are more conservative (Non-Risk taker/non-innovative) than those of SMEs in dynamic environments.	**SUPPORTED**
4	**Hypothesis 4:** The strategic postures of SMEs in a dynamic environment are more entrepreneurial (highly innovative/ high risk- taker) than those of SMEs in stable environments.	**SUPPORTED**
5	**Hypothesis 5:** SMEs working in a stable environment have a lower level of differentiation as compared to organizations working in dynamic environments.	**SUPPORTED**
6	**Hypothesis 6:** SMEs working in a stable environment have a lower level of integrations as compared to organizations working in dynamic environments.	**SUPPORTED**
7	**Hypothesis 7:** SMEs working in dynamic environments have a higher level of differentiation as compared to working in stable environments.	**SUPPORTED**
8	**Hypothesis 8:** SMEs working in dynamic environments have a higher level of integrations as compared to working in stable environments.	**SUPPORTED**

4.8 Change Adaptation Model for Stable Environments

In a stable environment, change emerges gradually in marketing practices (as $\bar{x}$=2.8158). With lower demand of new products and services (as $\bar{x}$=2.8158). Along with lower customer demands and preferences (as $\bar{x}$=3.2368), and gradual changes in new production technology ($\bar{x}$=3.000). Therefore, firms required structure and strategy that suits these characteristics.

If firms adapt mechanistic structure, with low differentiation and integration along with conservative strategic posture firms, they can adapt change successfully. Mechanistic

structure firms adapt to change at a gradual rate (as $\bar{x}$=3.6579). Therefore, mechanistic structures are effective in a stable environment. Whereas, organic structure firms adapt to change at a rapid rate (as $\bar{x}$=4.333). Therefore, organic structure firms are effective in a dynamic environment. Secondly, a stable environment requires a gradual change in products and services (as $\bar{x}$=2.8158). Therefore, a firm requires more control mechanisms. Which mechanistic structure provides as the mechanistic structure has formal control mechanism (as $\bar{x}$=3.5526), with centralized communication flow ($\bar{x}$=2.2105) and with non-participative decision-making approach ($\bar{x}$=2.5263) along with lower job freedom ($\bar{x}$=3.7368) to restrict the rate of innovation.

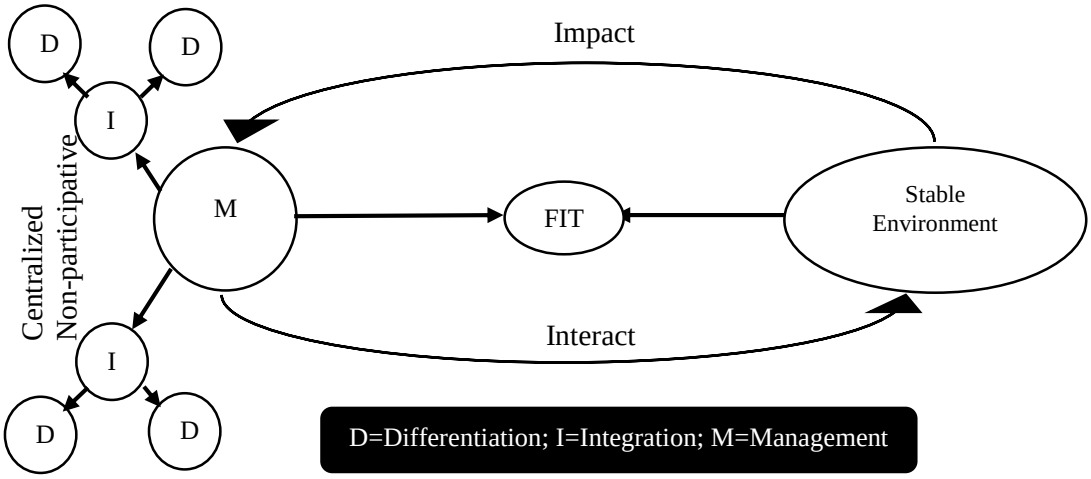
The stable environment demands lower product innovation (as $\bar{x}$=2.8158). Therefore, firms require a conservative strategy to successfully adapt to change. A conservative strategy does not focus on research and development (as $\bar{x}$=2.0526) with a low rate of innovation (as $\bar{x}$=2.9474). Therefore, the conservative strategy works on the principle of a lower rate of change in products and services ($\bar{x}$=2.7632). Moreover, conservative strategy suits the stable environment in terms of its environmental exploration approach which is gradual (as $\bar{x}$=2.5000) and non-risk taker (as $\bar{x}$=3.2368).

The demand for change in production technology is gradual in a stable environment (as $\bar{x}$=3.000) with a gradual change in product and services (as $\bar{x}$=2.8158). This means firm needs fewer sub-departments as specialized tasks are not required. Therefore, firm structure with low differentiation ($\bar{x}$=1.6579) is required to adapt to change successfully. Additionally, when differentiation is low it requires low integration as in mechanistic structure decisions are made through a non-participative approach ($\bar{x}$=2.25263). Therefore, low integration is required as when integration is low the decisions are made through a non-participative approach ($\bar{x}$=3.2368).

In accordance to these findings, the model shown in Figure 4.1 is prepared based on Table 4.6 and Table 4.10, Table 4.11, 4.13, and Table 4.14 findings:

Stable environment (positive association .780 (p=.000)) Mechanistic Structure
Stable environment (positive association .367 (p=.000)) Low differentiation
Stable environment (positive association .1.000 (p=.000)) Low integration

Figure 4.1. Mechanistic Firms-Stable environment Change adaptation model



To adapt change successfully in a stable environment firm needs to adapt a mechanistic structure with a conservative strategy. The stable environment demands a low rate of innovation and change patterns emerge at a gradual rate. Therefore, the mechanistic structure is suitable to adapt the change gradually through using a conservative strategy that suits low innovation demands. Secondly, the firm needs to have a low number of sub-departments as stable do not requires specialized units to produce innovative products and services. Therefore, low integration is needed since differentiation is low.

4.9 Change Adaptation Model for Dynamic Environments

In a dynamic environment changes emerge at a rapid rate. Therefore, firms require a flexible structure that allows the rapid change adaptation process. Furthermore, to manage the rapid change cycles in the external environment firm requires a bold strategic posture that favor risk-taking.

If firms adapts organic structure, with high differentiation and high integration along with entrepreneurial strategy firms, they can adapt change successfully. The dynamic environment demands rapid change adaptation process. As organic structure firms adapt to change at a rapid rate ($\bar{x}$=4.333). Therefore, organic structure firms are effective in dynamic environments. Secondly, a dynamic environment requires a rapid change in products and services ($\bar{x}$=5.6667). Thus, the firm requires a more flexible and participative structure. The

organic structure has an informal control mechanism ($\bar{x}$=5.7778), with decentralized communication flow ($\bar{x}$=5.7037) along with participative decision making ($\bar{x}$=5.7407) and with higher job freedom ($\bar{x}$=4.0741). These factors boost the firm ability to respond to dynamic environment challenges.

The dynamic environment demands higher product innovation ($\bar{x}$=5.6667). Therefore, firms require an entrepreneurial strategy to successfully adapt to change. As entrepreneurial strategy focuses on research and development ($\bar{x}$=5.6667) with a high rate of innovation ($\bar{x}$=5.1111). Entrepreneurial strategy work on the principle of a higher change rate in products and services ($\bar{x}$=6.4815). Moreover, entrepreneurial strategy suits the dynamic environment in terms of its environmental exploration approach which is rapid ($\bar{x}$=6.0741) and risk-taker- bold ($\bar{x}$=4.4444).

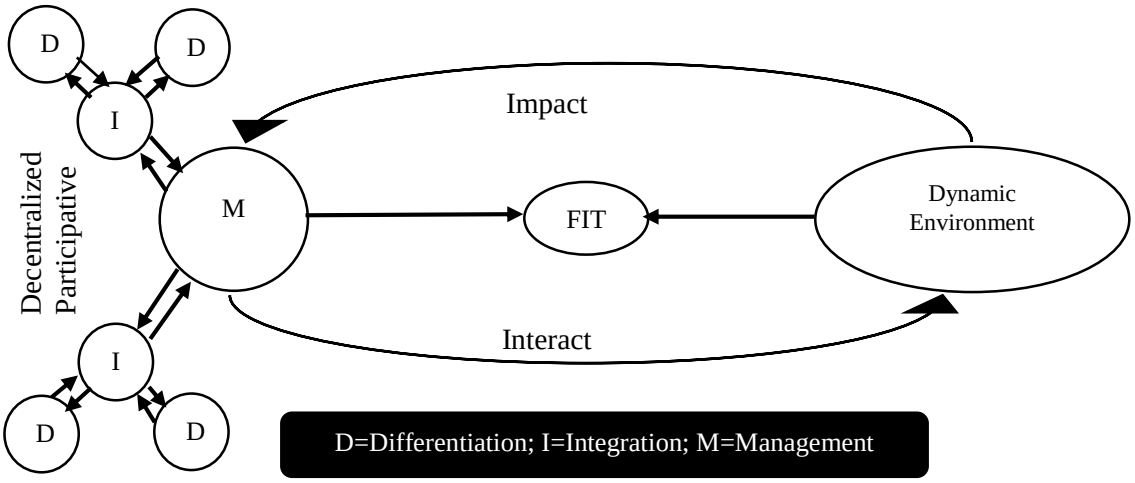
The change rate of production technology is rapid in a dynamic environment ($\bar{x}$=5.4815) with rapid change in products ($\bar{x}$=5.6667). This means the firm needs more sub-departments as specialized tasks are required. Therefore, a firm structure with high differentiation ($\bar{x}$=6.0741) is required to adapt to change successfully. Additionally, when differentiation is high it requires high integration as in organic structure decisions are made through a participative approach ($\bar{x}$=5.7407). Furthermore, based on the findings shown in Table 4.9 and Table 4.10, Table 4.11, Table 4.13, and Table 4.14 the model shown in Figure 4.2 was prepared:

Dynamic environment (positive association .822 (p=.000)) Organic Structure

Dynamic environment (positive association .459 (p=.000)) high differentiation

Dynamic environment (positive association .759 (p=.000)) high integration

Figure 4.2. Organic Firms-Dynamic environment change adaptation model



Dynamic environments demand a higher rate of innovation thus firms adapt organic structures to generate a high level of innovation in products and services. This flexibility is achieved through diversification of structure into sub-specialized units and integration mechanisms as reported by the research findings. Additionally, management uses a participative approach that allows subunits to participative, and this increases innovation. Furthermore, these research findings are in support of literature on large complex organizations (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Mintzberg, 1961; Miller & Friesen, 1984). Table 4.27 presents a comparison drawn from the research findings between the mechanistic structure and organic structure.

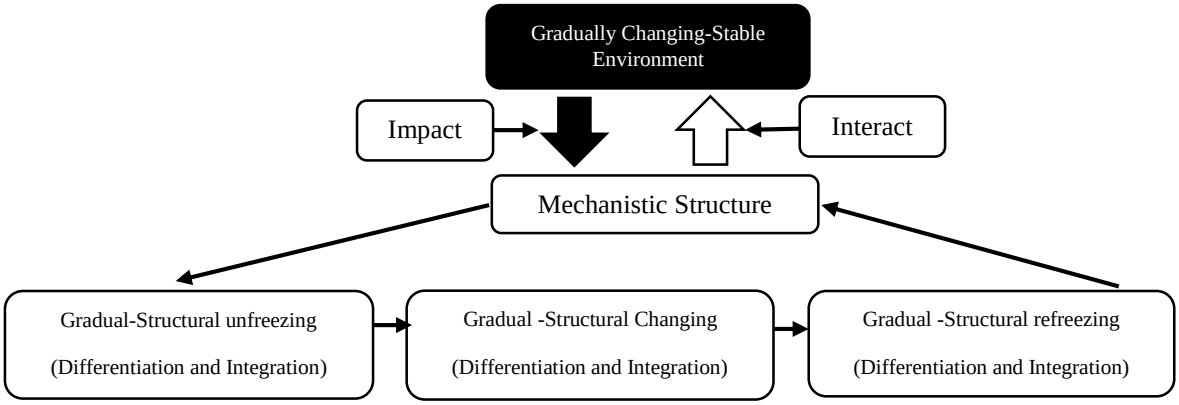
Table 4.27. Mechanistic Structure VS Organic Structure Characteristics

	Adaptation Rate	**Characteristics**	**Strategy**
Mechanistic Structure	Gradually-Slow	Low Differentiation and low integration	Conservative
Organic Structure	Rapid-Fast	High differentiation and high integration	Entrepreneurial

4.10 Change Adaptation Mechanism

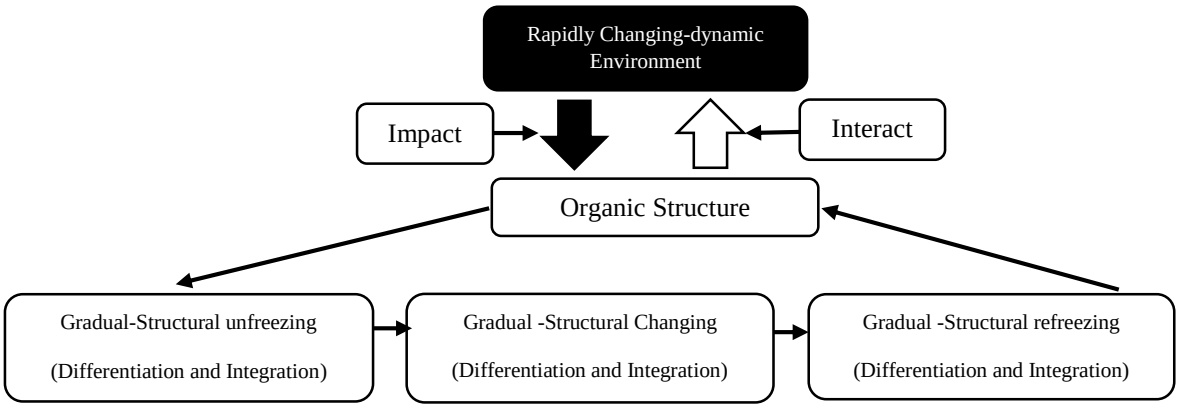
The model shown in Figure 4.3 based on the above statistical analysis and comparison and framework of Kurt Lewin. When a change emerges in a stable environment it can be either towards more stability or towards instability. When stability increases in the environment this causes a decrease in the number of sub-departments and integration devices as a stable environment is positively associated with a mechanistic structure (.780 p-value .000), low differentiation (.367 p-value .000) and low integration (1.000 p-values .000). Organizations first need to explore environmental change afterward based on change pattern it needs changes in the structure. Once the change in structure is performed it requires operationalization of structure for rematch or re-fit with the external environment.

Figure 4.3. Stable Environment Change Adaptation Mechanism



The second model is for a dynamic environment and is based on the above statistical analysis and comparison and framework of Kurt Lewin, when a change emerges in a dynamic environment it can be either towards more instability or towards stability. When dynamism (instability) increases in the environment this causes an increase in the number of sub-departments and integration devices as the dynamic environment is positively associated with an organic structure (.822 p-value .000), high differentiation (.459 p-value .000) and high integration (.759 p-value .000). Organizations first need to explore environmental change afterward based on change pattern it needs changes in the structure. Once the change in structure is performed it requires operationalization of structure for rematch or re-fit with the external environment.

Figure 4.4. Dynamic Environment Change Adaptation Mechanism



4.11 Distribution of Stable and Dynamic Environment across the Cluster based on the Frequency Distribution

Table 4.28 presents the firms based on the mean scores into six categories. Furthermore, organic firms begin from the 5th cluster. Whereas, mechanistic firms begin from cluster 1 till cluster 4. Whereas no mechanistic enterprise exits over the 4th spectrum. Furthermore, based on Table 4.10, Table 4.11, 4.13, and Table 4.14 we can understand why some enterprises are more rigid in control and strategy and why some enterprises are more innovative as compared to others. This is because each enterprise has its unique structural combination being a mechanistic structure that does not mean all enterprises will have a perfect mechanistic structure. In the cluster 1st - 2nd enterprises have more rigid control and were operating in environments that were more stable as compared to cluster 2nd - 3rd and 3rd - 4th. While on another side of spectrum enterprises in clusters 5th -6th is less organic as compared to the cluster 6th -7th. Therefore, the level of innovation differs across organic structure firms.

Table 4.28. Frequency Distribution

Cluster	1-2	2-3	3-4	4-5	5-6	6-7
Mechanistic Enterprises	12	26	7	0	0	0
Organic Enterprises	0	0	0	0	21	6
	S	S	S	X	D	D

S = Stable environment enterprises are dominant.

D =Dynamic environment enterprises are dominant.

X = Mixed - no disproportionate representation of stable or dynamic environment enterprises.

4.12 Death Rate and Survival Rate across Stable and Dynamic Environments

SMEs' death and survival rate were compared in Hattar industrial estate and Abbottabad Industrial estate. The results show that Hattar Industrial estate has a higher survival rate as compared to the Abbottabad small industrial estate. This means SMEs operating in Hattar industrial estate are more successful in change adaptation as compared to SMEs operating in Abbottabad small industrial estate.

Table 4.29. Stable Environment-Hattar death and survival rate

Statistics	Units	Area
Total SMEs (SMEDA)	113	Hattar
Operational SMEs 113-71	42	

Hattar Small Industrial Estate Haripur-Hazara - Sample Size

$n = 42/1+42(.05)^2$

$n = 42/1+42(0.0025)$

$n = 42/1.105$

The sample size required n= 38

Death Rate (DR) = [(Started SME – Closed SME)/started SME]*100

DR= [(113-71)/113]*100

DR = 32%

Survival Rate (SR) = (Closed SMEs/ Started Number of SMEs)*100

SR= (71/113)*100

SR = 62%

SMEs in Hattar Industrial estate has a death rate of 32%. Whereas, the survival rate of 62%. This means that when the environment is stable firms have more chances of successfully performing change adaptation processes as compared with dynamic environments.

Table 4.30. Dynamic Environment – Abbottabad death and survival rate

Statistics	Units	Area
Total SMEs (SMEDA)	59	Abbottabad
Operational SMEs 59-30	29	

Small Industrial Estate Abbottabad – Sample Size

$n = 29/1+29 (.05)^2$

n = 29/1+29(0.0025)

n = 29/1+0.0725

n = 29/1.0725

Sample Size n = 27

Death Rate (DR) = [(Started SME – Closed SME)/started SME]*100

DR= [(59-30)/59]*100

DR = 49%

Survival Rate (SR) = (Closed SMEs/ Started Number of SMEs)*100

SR= (30/59)*100

SR = 50%

SMEs in Abbottabad's small industrial estate has a death rate of 49%. Whereas, the survival rate of 50%. This means that when the environment is dynamic firms have lower chances of successfully performing change adaptation processes as compared with stable environments.

When an organization exceeds a certain number of sub-departments its structure begins to lose mechanistic characteristics and begins to adapt organic structure characteristics. Based on the findings of Table 4.10, Table 4.11, 4.13, and Table 4.14 and above statistical results. It can be argued that in a stable environment, enterprises cannot simply increase their innovation by increasing their sub-departments as the demand comes from the external environment. Furthermore, innovation is directly linked to the external environment. Although even in a stable environment innovation does exist and enterprises with mechanistic structures do innovate new products and services as the data of this study showed.

However, this rate of innovation in a stable environment is lower as compared to a dynamic environment. Additionally, in a stable environment, the rate of change is much slower than a dynamic environment's rate of change. Organic enterprises exist in a dynamic environment and due to the rapidness of changes in patterns, the response time is very limited. Therefore, rapid response is the key to survival. Figures 4.5 and 4.6 show this theoretical discussion.

4.13 Proposed Models for Stable and Dynamic Environments

Figure 4.5 shows the intensity of different factors in a stable environment. This model is based on the findings of Table 4.10, Table 4.11, 4.13, and Table 4.14. The changes in environmental patterns take place in a predictable order. Therefore, the mechanistic firms' awareness is much higher as compared to organic firms. Due to awareness about possible changes in the environment. The mechanistic firms have plenty of time to respond.

Furthermore, due to the slow-changing nature of the stable environments, the change adaptation rate becomes slower and this also impacts the adjustment rate and momentum rate. Additionally, the occurrence of the next change cycle is lower as compared to dynamic environments.

Figure 4.5. Rate of Change (ARTCA-AJRTCC)

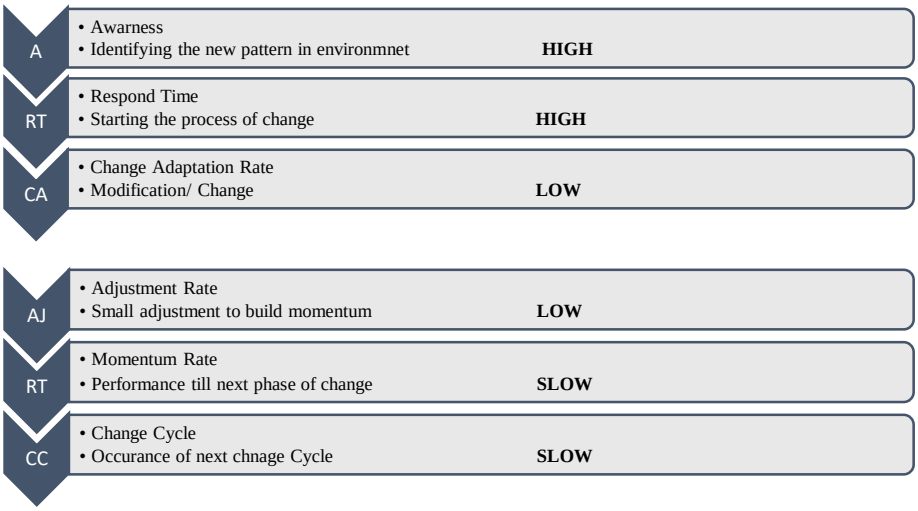
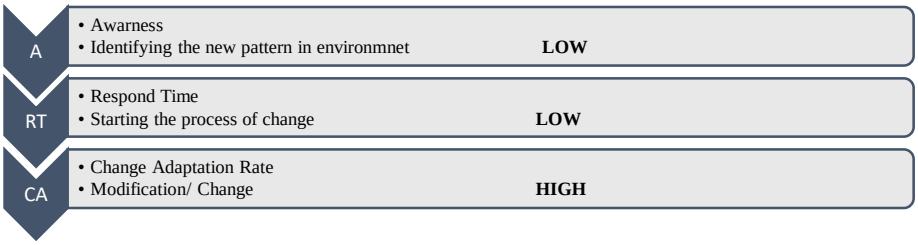
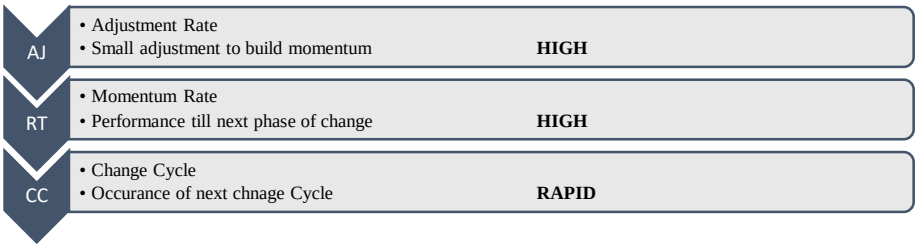


Figure 4.6, shows the organic firms' characteristics. This model is developed based on the findings of Table 4.10, Table 4.11, 4.13, and Table 4.14. The changes in the external environment patterns are so rapid that enterprises are not well aware of new patterns instead they rely on a reactive approach rather than a proactive approach. The rapidness of change in the external environment impacts the reaction time of the enterprises to respond. Therefore, rapid decisions are necessary. The change adaptation rate is high since the external environment is highly dynamic.

Figure 4.6. Rate of Change (ARTCA-AJRTCC)




AJ
• Adjustment Rate
• Small adjustment to build momentum
HIGH
RT
• Momentum Rate
• Performance till next phase of change
HIGH
CC
• Change Cycle
• Occurance of next chnage Cycle
RAPID

CHAPTER 5

CONCLUSION AND RECOMMENDATION

The study was conducted to explore the change adaptation processes of SMEs operating in stable and dynamic environments. Change adaptation is a critical aspect for today's business environment and not all organizations manage to perform effective change adaptation. To develop a comprehensive understanding of change adaptation this research used Lawrence and Lorsch's (1967) theory regarding structural differentiation and integration and based on their empirical and theoretical assumptions along with other relevant literature sources the hypotheses were developed.

Literature consists of different change adaptation models that are mostly based on a large complex organization. These models mostly ignore external environment characteristics. For example, Kurt Lewin's model does not explain the change adaptation approaches in accordance with the different types of organizational structure, strategic posture, and external environment. Furthermore, such models provide a basic understanding of change. We have tested eight hypotheses and performed a comparison between research variables to develop the core structure for change adaptation models.

To produce effective change adaptation models based on differentiation and integration concepts, it was needed to explore the relationship between environmental dynamism, organizational structures, and strategic postures. In the first part of the analysis, the hypotheses were tested, and afterward, individual research items were compared across the stable and dynamic environment. In the second part of the analysis hypotheses testing, results were combined with individual characteristics of research items to explore the mechanism of successful change adaptation.

5. Findings

The primary objective of the study was to explore the relationship between environmental dynamism and organization structure in terms of its level of differentiation and integration along with strategic posture. Furthermore, the secondary objective was to

develop change adaptation models based on different organizational structures, strategic postures, and external environments. The study was grouped into two categories, one was mechanistic enterprises operating in a stable environment and the second category consists of organic enterprises operating in a dynamic environment. It was found that a stable environment has a positive association with mechanistic firms, with low differentiation and integration. Whereas, a dynamic environment has a positive association with organic structure, high differentiation, and high integration. The centralized mechanistic structure is suitable for a stable environment and a decentralized organic structure is suitable for dynamic environments.

When in an external environment changes emerges, it can be either towards more stability or towards instability. In the first scenario, when the environment becomes more stable this reduces complexity and uncertainty. This decrease in complexity and uncertainty impacts organizational structure and management needs to reduce its level of differentiation and integration. In the second scenario, the external environment becomes more unstable as compared to its previous position. In this case, the management needs to increase its level of differentiation and integration to manage environmental complexity and uncertainty.

When organizations are operating in a dynamic environment (high uncertainty and high complexity) to develop a "fit" management increase or decrease the level of differentiation and integration. For example, when the external environment becomes more dynamic as compared to previous state organizations needs to increase its sub-departments to deal with the external environment. When the level of differentiation increases, the organization needs to increase its integration mechanisms. In the second scenario, when the complexity and uncertainty decrease this results in a reduction in a number of departments and integration devices to develop effective fit.

5.1 Differentiation and Integration Approach to Change Adaptation

In mechanistic firms, differentiation and integration take place in a centralized format. Therefore, the sub-department does not participate in managerial issues, such as strategic planning but rather simply perform their assigned task and deliver it to the concerned management section. Similarly, the overall structure in these enterprises is

directed from top management to the bottom level. In decentralized differentiation and integration, the sub-departments are actively involved with the management in planning and organization. These sub-departments take a role in strategy formulation and planning. Since the system is not centralized, it gives organization members more freedom in doing their tasks, and as a results enterprises become more innovative.

The mechanistic structure has hierarchical patterns and the processes of change adaptation pass through specific hierarchical patterns. The change adaptation process starts from the top management to the lower level. The flow of change is from top-level to bottom-level through a centralized approach. Since each sub-unit has to wait for its turn to adapt change. Therefore, the change adaptation process is slow as compared to the organic structures. In organic firms, the change adaptation processes start in a decentralized format. The priorities are set for each sub-unit or departments and change adaptation processes start in a parallel and simultaneous format. This is a reason that change adaptation rate various from department to department and the overall change adaptation process is rapid as compared to a mechanistic structure.

In mechanistic firms change is a singular-centralized approach that is hierarchical in order while in organic firms change is a multi-directional-decentralized approach with non-hierarchical patterns. The multi-directional-decentralized approach means multiple change adaptation processes are simultaneously taken place in parallel order. Appendix 4 shows two different organizational structures. In mechanistic firms, a change adaptation approach is centralized and gradually spread to the overall firm's structure through its hierarchical patterns. The lowest level of a firm's structure adapts the change in the last.

In an organic firm, the change adaptation approach is decentralized with multiple change adaptation mechanisms operating in a simultaneous and parallel order to speed up the change adaptation processes. A decentralized approach consists of multiple autonomous sub-departments. Each of these sub-departments consists of sub-units based on external environmental characteristics. These sub-departments have their resources and abilities to process the change adaptation needs and processes. These sub-departments also can communicate with adjacent sub-units through integration devices such as cross-functional teams. This decentralized change adaptation process is more complicated as compared to

centralized as a problem in one sub-department can cause the failure of an entire change adaptation system.

This is the reason organic firms operating in dynamic environments have a higher death rate and lower survival rate. The decentralized system gives power to departments to take a decision this also can create power misuse. Decentralized systems reduce the complexity as tasks are broken down into pieces. While on the other side, centralized systems focus on the unity of command, and the change adaptation process is completely controlled by the top management thus reduces the risk of misuse of power. The firms adapt to change in a systematic pattern and only after completion of one level the process moves down to the next level of the hierarchy. In a centralized approach, top management has greater control, and sub-departments has little power to make a decision. Therefore, the overall innovation level of the firm is low as compared to the decentralized approach.

5.2 Rate of Change

In a stable environment rate of change is slower than the rate of change in a dynamic environment. In a stable environment, external contingencies are well settled down and therefore, changes only come in stable patterns. Mostly these changes are routine changes that organizations are well aware in advance. Whereas, other changes are driven from expected sources. SMEs have a proactive approach since they are well aware of the characteristics of their external environment.

In a dynamic environment, the rate of change is much more rapid as compared to the stable environment since the external environment consists of factors that are rapidly changing such as technology, government policies, customers' demands, and change patterns are rapidly changing. Organizations in dynamic environments use a reactive approach to deal with the rapidness of change patterns. In such environments, changes are continuous and constant this requires continuous fit to refit the approach between organization structure and external environment.

5.3 Applicability of Research Findings for Pakistani SMEs

Innovation is critical regardless of the structural type of firms. Firms need to match their innovation rate with the external environment innovation demands. Firms need to adapt their strategies based on external environment characteristics. In a stable environment, it was found that firms were using a conservative strategy. The selection of conservation strategy in the Pakistani context does not mean the absence of innovation but refers to a low rate of innovation. In Pakistan, both stable and dynamic environments demand innovation but the rate of innovation is different.

In a stable environment, less innovation is required while in a dynamic environment high rate of innovation is required. Therefore, Pakistani SMEs need to identify the external environment in terms of product and services demands. If the external environment demands similar products firms need to acquire technology that can be used for similar product production. Whereas, when specialized products and services are required SMEs need to acquire specialized manufacturing technology. In a stable environment, Pakistani SMEs require more control over its workforce and its processes. Therefore, a mechanistic structure with a conservative strategy is ideal for managing a firm and for successful adaptation to change. The organic structure is suitable for Pakistani SMEs that are operating in a dynamic environment as organic structures are suitable for higher innovation.

A dynamic environment is more complex and thus it requires more innovative strategies through adaptation of new technologies as compared to a stable environment that requires a low level of innovation through standard production machinery. Thus dynamic environment needs more resources to operate effectively. If the firm has low capital and capabilities to acquire and utilize new production machinery dynamic environment is not suitable for such firms. Therefore, such firms need to start or shift their business to stable environments. Secondly, SMEs in a dynamic environment required to assess the external environment more frequently as compared to SMEs operating in a stable environment. SMEs in a stable environment requires a proactive approach to successful adapt change. Whereas, SMEs in dynamic environments require a reaction approach to successful adapt change as dynamic environments are challenging and unpredictable.

In a stable environment oil and ghee factories, rubber production factories, paper packing factories, minerals factories, metal rod industries, and pharmaceutical industries are more effective since they required standard technology and conservative strategies. These firms encounter a gradual change in the external environment and their products remain comparatively the same. For example, the process of producing oil consists of standard fat-melting machines, producing of iron rods consists of furnace and iron moldings machines, rubber production machines are standard with fewer technological advancement, paper packing machines are also standard as well as pharmaceutical firms that simply require a new formula to mix required ingredients using same machines.

Therefore, when a new product is required to produce these firms simply perform minor changes in the system rather than a complete transformation in production technology. Therefore, a stable environment is suitable for low capital firms in Pakistan as production technologies are not required to change rapidly. On the other side, in a dynamic environment, SMEs can gain a good profit if they have capital and resources to acquire the latest technology. In a dynamic environment metal product factories, artificial marbles factories, and furniture industries are more effective as compared to other firms. Metal product factories produce different modern window catches, sash window locks, hinges, ball-bearing drawer slides. These products are new to Pakistani markets and they required new technology and more investment. To successfully adapt change in dynamic environment firms requires to upgrade their production technologies. This requires high capital therefore if the firm resources are limited it will not survive in a dynamic environment.

Secondly, artificial marble factors are also doing good business these industries are manufacturing artificial marble which is cheaper and consists of a variety of designs and colors. This industry also requires the latest technology to keep itself in business. Therefore, firms constantly upgrade their machines to produce new designs and materials. The furniture industry is another good sector in a dynamic environment these firms produce metal furniture which has more designs and comes at a cheaper price. These metal furniture products are sold in disassembled parts and customers can easily assemble these parts at their homes. Therefore, if new SMEs want to operate in a Pakistani dynamic environment these types of firms can yield good profits but their change adaptation process requires higher resources in terms of financial factors, strategic planning, decision making, and differentiation and integration.

In Pakistan, the stable environment's survival rate is higher as compared to a dynamic environment. In a stable environment, the firm does not require to change production machinery rapidly as changes in the external environment are gradual and require a low rate of changes in the firm in terms of its structure and technology. On the other side, a dynamic environment requires constant change in the machinery as a higher rate of innovation is required. Thus in dynamic environments, SMEs require higher starting capital as well as higher change adaptation capital. Innovation demands new ideas and to convert new ideas into product new technologies are required.

In a stable environment, SMEs can adapt change through minor changes in their structure, strategies, and production technologies but in dynamic environment change adaptation requires a higher level of transformation in structure, strategic posture, and production technologies. A stable environment is suitable for low capital and investment firms whereas, a dynamic environment is suitable for firms with higher capital and investment.

Small and medium-sized enterprises (SMEs) working in Pakistan region of Khyber Pakhtunkhwa showed interesting results which supported the relevant literature and also study finding did new contributions towards the change management and strategic management literature. The finding of this study will open new possibilities of studying organizational structure with different external environment characteristics. This research generated different change adaptation models and mechanisms that can be used to understand the change adaptation process.

5.4 Key Understandings

Mechanistic structure and organic structures are equally effective structures in terms of change adaptation. The organic structure is optimal for a dynamic environment whereas, the mechanistic structure is optimal for stable environments. The basic difference between mechanistic structure and organic structure in terms of change adaptation is the rate at which both structures adapt to change. The stable environment rate of change is lower as compared to the dynamic environment. In a stable environment, patterns are changed at a constant rate whereas, in a dynamic environment, patterns are changed are a much higher

rate. The rate of predictability is higher in a stable environment as compared with the dynamic environment. Since the characteristics of both environments differ significantly. Rate of survival is higher in a stable environment and with mechanistic structure as change can be observed at early stages and enterprises have amply of time to adjust or change its internal factors to be ready for adaptation. Mechanistic structure enterprises complete change adaptation circles slower than organic structure enterprises since their structure takes more time to adapt changes as compared to the organic structure. This is due to the nature of the structures. Differentiation and integration are two important concepts in change adaptation processes. Organizations adjust their differentiation and integration levels based on environmental requirements to successfully adapt to the change. An increase in differentiation and integration means the external environment is becoming more dynamic. Whereas, a decrease in differentiation and integration mean the external environment is becoming more stable. Organizations do not adapt change in a single step, rather each sub-unit adapts to change at different rates and with different methods.

5.5 Change Adaptation Failure

The main issue regarding the change adaptation is why some firm fails whereas, others successfully adapt change. The basic reason for failure is the rate of structural change as when the firm rate of structural change is higher it means the firm is changing its structure faster than what is required as a result the match cannot be established between the firm and environment. Similarly when a firm adapts structural changes slower than what has required it also fails to establish a fit between firm structure and environment. Furthermore, the dynamic environment firm requires multiple fits to match the speed of environmental structural changes. Whereas, in a stable environment, the number of fits is lower than the dynamic environment as the rate of change is slow in a stable environment. Additionally, change is a continuous phenomenon, and not all change patterns are required to be adapted as the firm does not target every sub-unit in an external environment.

The 1970s energy crisis had impacted significantly the Western world, particularly the United States confronted significant petroleum product scarcities. This had impacted many businesses across the United States but most prominently G.M motors as it had closed around 15 of its production plants out of 22. G.M identified the change and begin to produce

smaller cars as compared to classic American fuel-guzzling bigger cars yet G.M motors slowly begin to fall apart as in June 2009 General Motors filed for bankruptcy in New York with $82 billion in assets and $173 billion in liabilities. It was the largest industrial bankruptcy in history. Based on this research finding we can relate G.M motors failure with the rate of change adaptation. The G.M motors begin to adapt the change but that change rate was not compatible with the environment change rate as we can assess their products and one thing is clear they were building good cars but at a slower rate.

5.6 Problems with Kurt Lewin 3-Stage Change Model

Lewin's change model was developed by Kurt Lewin back in the 1940s. In 1940s business environment was different from today's business environment. This model does not explain what percentage of unfreezing is required? As it can be possible organizations only need a change of 1% in structure. This model can be suitable for complete structural change but not for partial or half. Secondly, where the change should start and how it should start is also missing in the model. Furthermore, if the change starts after complete unfreezing this means completely stopping the flow of processing in an organization. To stop the structure of the firm it requires another parallel temporary structure. Therefore, the need for more interaction models was required and the current research model fulfilled this gap. The change adaptation model presented by this research is based on an interaction proactive and reactive approach.

5.7 Limitations of Study

The study was conducted to answer the research questions and to develop a comprehensive understanding of the change adaptation process through the medium of external environment type, organizational structural characteristics, and strategic posture. The finding of the study will be beneficial for academics and practitioners working in a similar area. Additionally, the study will be very useful for organizations in terms of designing successful change adaptation processes.

However, there are various limitations of this study which are as follow, only five variables regarding change adaptation were taken into consideration; environmental

dynamism, organizational structure, strategic posture, differentiation, and integration. Secondly, the study was limited to two specific small and medium-sized industrial estates operating in Haripur and Abbottabad (Khyber Pakhtunkhwa- Pakistan). Additionally, this study only explored stable and dynamic environments however, studies on hybrid environments can yield more fruitful results.

5.8 Generalization of Research Findings

Power distance and uncertainty avoidance are two important concepts regarding organization management. There are two important questions regarding organization management, (1) who has the power to make decisions, and (2) what procedures need to follow to achieve the end goal. The answers to the first question are linked with cultural norms of power distance and the answer to the second question is linked by the cultural norms of uncertainty avoidance. Additionally, individualism and masculinity, affect thinking ability about people in the organization (Hofstede, Hofstede, & Minkov, 2010). This study was performed in Pakistan however, the results are generalizable to the following countries based PDI-UAI matrix on similarities between national cultures and business structures.

The PDI-UAI matrix and models of organizations (See Appendix 5) provide the opportunity to explore the applicability of the research findings. The PDI-UAI matrix was categorized in four quarters based on the proximity of each country with Pakistan in terms of power distance and uncertainty avoidance. First-quarter consists of the Czech Republic, Taiwan, Morocco, Switzerland, and Italy. The second quarter consists of Brazil, Colombia, Turkey, Italy, and South Korea. The third quarter consists of Italy and Hungry and the fourth quarter consists of Germany, Lithuania, Luxembourg, and Italy. Additionally, the position of Italy is very interesting since it is the only country that is located in all four quarters.

5.9 Conclusions

The study was undertaken to explore the variables that are key to understanding change and change adaptation processes. It was found that environmental patterns have a direct impact on the enterprise's structural patterns and to develop a “fit”, small and medium-sized enterprises (SMEs) need a structure that matches the external environment

characteristics. For example, in stable environment firms can effectively adapt change using low differentiation and low integration with mechanistic structure along with conservative strategy. This combination gives firms greater abilities to respond to external environment change patterns.

The mechanistic structure provides management greater control over its workforce and processes. This allows management to control the change adaptation rate to a level that is compatible with the external environment rate of change. If a firm does not have a control mechanism each department will respond to change separately as a result the imbalance will form. Furthermore, effective change needs more than just a compatible structure it also requires an effective strategy that suits the structure as well as the external environment. Based on this research results the conservative strategy has all the essential factors to work effectively with the mechanistic structure for responding change in a stable environment. On the other side, organic structure with high differentiation, high integration along with entrepreneurial strategy is ideal for a dynamic environment.

In a dynamic environment, change rapidly emerges as a result firm requires an effective and rapid structure with an innovative strategy. The organic structure needs to be high in differentiation and integration and this level of differentiation and integration should be balanced with the external environment sub-environments. This combination allows the firm to adapt change from multiple points as the organic structure has a decentralized and participative approach that allows the firm to quickly make decisions and to work on the change adaptation processes.

Small and medium-sized enterprises (SMEs) results have shown consistency with the results generated by large complex organizations in terms of the relationship between environmental dynamism, organizational structure, strategic posture, structural differentiation and integration (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Mintzberg, 1979; Woodward, 1958). Therefore, we can predict that results generated from SMEs can be used to explain large complex organization change adaptation processes with the perspective of organizational structure, strategic posture, differentiation, integration, and external environment.

If you want to truly understand something, try to change it." Kurt Lewin

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APPENDIX

APPENDIX 1

QUESTIONNAIRE

Stable Environment	Intensity Scale	Dynamic Environment
Our business unit must rarely change its marketing practices to keep up with the market and competitors.	1 2 3 4 5 6 7	Our business unit must change its marketing practices extremely frequently (e.g., semi-annually).
The rate at which products/services are getting obsolete in the industry is very slow (e.g., basic metal like copper).	1 2 3 4 5 6 7	The rate of obsolescence is very high (as in some fashion goods and semiconductors).
The actions of competitors are quite easy to predict (as in some basic industries).	1 2 3 4 5 6 7	The actions of competitors are unpredictable.
Demand and consumer tastes are fairly easy to forecast (e.g., for milk companies).	1 2 3 4 5 6 7	Demand and tastes are almost unpredictable (e.g., high-fashion goods).
The production/service technology is not subject to very much change and is well established (e.g., in steel production).	1 2 3 4 5 6 7	The modes of production/service change often and in a major way (e.g., advanced electronic components).
Mechanistic Structure		**Organic Structure**
Highly structured channels of communication and highly restricted access to important financial and operating information.	1 2 3 4 5 6 7	Open channels of communication with important financial and operating information flowing quite freely throughout the business unit.
A strong insistence on a uniform managerial style throughout the business unit.	1 2 3 4 5 6 7	The very informal managers' operating styles allowed to range freely from the very formal to very informal.
A strong emphasis on giving the most say in decision making to formal line managers.	1 2 3 4 5 6 7	A strong tendency to let the expert in a given situation have the most say in decision making even if this means temporary bypassing of formal line authority.
A strong emphasis on holding fast to tried and true management principals despite any changes in business conditions.	1 2 3 4 5 6 7	A strong emphasis on adapting freely to changing circumstances without too much concern for past practice.
A strong emphasis on always getting personnel to follow the formally laid down procedures.	1 2 3 4 5 6 7	Procedures a strong emphasis on getting things done even if it means disregarding formal.
Tight formal control of most operations using sophisticated control and information systems.	1 2 3 4 5 6 7	Loose, informal control; heavy dependence on informal relationships and norms of cooperation for getting work done.
A strong emphasis on getting line and staff personnel to adhere closely to formal job descriptions.	1 2 3 4 5 6 7	A strong tendency to let the requirements of the situation and the individual's personality define proper on-job behavior.

Conservative Strategic Posture		**Entrepreneurial Strategic Posture**
A strong emphasis on the marketing of tried and true products or services	**1 2 3 4 5 6 7**	A strong emphasis on R&D, technological leaderships and innovations
No new lines of products or services	**1 2 3 4 5 6 7**	Very many new lines of products or services
Changes in product or service lines have been mostly of a minor nature	**1 2 3 4 5 6 7**	Changes in product or service lines have usually been quite dramatic
Typically responds to actions which competitors initiate	**1 2 3 4 5 6 7**	Typically initiates actions which competitors then respond to
It is very seldom the first business to introduce new products/services, administrative techniques operating technologies, etc.	**1 2 3 4 5 6 7**	Is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.
Typically seeks to avoid competitive clashes.	**1 2 3 4 5 6 7**	Typically adapts a very competitive, "undo-the-competitors" posture
A strong proclivity for low-risk projects (with normal and certain rates of return)	**1 2 3 4 5 6 7**	A strong proclivity for high projects (with chances of very high returns)
A cautions approach towards Strategic risks	**1 2 3 4 5 6 7**	A bold approach towards Strategic risks
Owing to the nature of the environment, it is best to explore it gradually via timid, incremental behavior	**1 2 3 4 5 6 7**	Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the enterprise's objectives
Typically adapts a cautious, Wait and-see posture to minimize the probability of making costly decisions	**1 2 3 4 5 6 7**	Typically adapts a bold, aggressive posture to maximize the probability of exploiting potential opportunities

Differentiation

How many distinctly different (i.e. unrelated) product lines or services does your enterprise market?		
Only one	1 2 3 4 5 6 7	More than 10 (e.g. conglomerate enterprise).
How similar are these product lines or services in terms of (i) the technology used to produce them and (ii) their markets'?		
Technology: very similar technologies (e.g. all produced with similar equipment).	1 2 3 4 5 6 7	Very dissimilar (e.g. customized production for one, mass production for another).
Markets: very similar in terms of required marketing strategy, types of customers, pricing, etc. (e.g. one product, one market).	1 2 3 4 5 6 7	Very dissimilar markets in terms of required marketing strategy (if selling both boxed cereals and industrial cement).

Integration: In assuring the compatibility amongst decisions in one area (e.g. marketing) with those in other areas (e.g. production), to what extent are the following 'integrative mechanisms' used?

Interdepartmental committees are rarely set up to allow departments to engage in joint decision making.	1 2 3 4 5 6 7	Interdepartmental committees are commonly set up to allow departments to engage in joint decision making.

Task forces are permanent bodies set up to facilitate interdepartmental collaboration on a specific project.	1 2 3 4 5 6 7	Task forces are temporary bodies set up to facilitate interdepartmental collaboration on a specific project.
Liaison personnel rarely connect the efforts of several departments	1 2 3 4 5 6 7	Liaison personnel are frequently connected efforts of several departments

To what extent is decision making at top levels in your enterprise characterized by participative, cross-functional discussions in which different departments, functions, or divisions get together to decide the following classes of decisions?

Rare use of committees or infrequent informal collaboration		committees and/or informal interdepartmental Frequent use of collaboration
Top Management rarely allows its members to participate in strategic decision making.	1 2 3 4 5 6 7	Top Management frequently allows its members to participate in strategic decision making.
Top Management rarely allows its members to participate in capital budget decision making.	1 2 3 4 5 6 7	Top Management frequently allows its members to participate in capital budget decision making.
Top Management rarely allows its members to participate in a change in adaptation planning.	1 2 3 4 5 6 7	Top Management frequently allows its members to participate in change adaptation planning.
Each department makes decisions more or less on its own, without regard to other departments.	1 2 3 4 5 6 7	There is a great deal of departmental interaction on most decisions.
Often there is a lack of complementarity between decisions made in one department and those in another.	1 2 3 4 5 6 7	Decisions of different departments tend to be mutually reinforcing.

APPENDIX 2

3.7.1 LIST OF SMEs IN INDUSTRIAL ESTATE HATTAR-HARIPUR

Count	**Industry (SMEs)**	**Units**	**Area**
1	Dall mills	1	I.E. Hattar
2	Soap/detergent powder industries	1	I.E. Hattar
3	Auto rickshaws and motorcycle factories	1	I.E. Hattar
4	Welding rods factories	1	I.E. Hattar
5	Beverages and mineral water factories	2	I.E. Hattar
6	Ice factories	2	I.E. Hattar
7	Carpet/carpet yarn factories	2	I.E. Hattar
8	Mineral product industries	2	I.E. Hattar
9	Detonators industries	2	I.E. Hattar
10	Motor vehicle batteries industries	2	I.E. Hattar
11	Textile mills	3	I.E. Hattar
12	Polyester/acrylic/texturized/viscose yarn/polyester staple fibre factories	3	I.E. Hattar
13	Matchbox industries	3	I.E. Hattar
14	Feed factories	4	I.E. Hattar
15	Textiles (power loom sector)	4	I.E. Hattar
16	Hosiery factories	4	I.E. Hattar
17	Marble industries	4	I.E. Hattar
18	Paper mills	4	I.E. Hattar
19	Natural Gases Cylinder factories	5	I.E. Hattar
20	Fruits and Vegetable Processing factories	6	I.E. Hattar
21	Wood furniture factories	6	I.E. Hattar
22	Biscuits factories	7	I.E. Hattar
23	Cement (title bond) based industries	7	I.E. Hattar
24	Oil and ghee mills	10	I.E. Hattar
25	Rubber and plastic factories	10	I.E. Hattar
26	Paper packages mills	11	I.E. Hattar
27	Rubber and plastic goods industries	11	I.E. Hattar
28	Mineral-based industries	15	I.E. Hattar
29	Metal Rods industries	18	I.E. Hattar
30	Pharmaceutical factories	19	I.E. Hattar
	Total SMEs (SMEDA)	**113**	
	Operational SMEs 113-71	**42**	

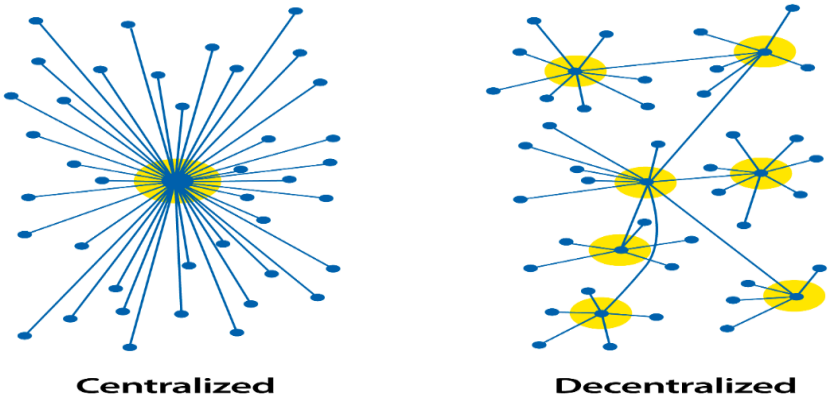
APPENDIX 3

3.7.2 LIST OF SMEs IN SMALL INDUSTRIAL ESTATE - ABBOTTABAD

Count	Industry (SMEs)	Unit	Area
1	Poultry Chicks factories	1	I.E. Abbottabad
2	Vegetable/Ghee & Oil factories	2	I.E. Abbottabad
3	Readymade Garments factories	2	I.E. Abbottabad
4	Polyester factories	3	I.E. Abbottabad
5	Ice factories	3	I.E. Abbottabad
6	Pharmaceutical factories	4	I.E. Abbottabad
7	Rubber & Plastic Goods factories	4	I.E. Abbottabad
8	Bakery Products, Sweets factories	7	I.E. Abbottabad
9	Metal Product factories	9	I.E. Abbottabad
10	Marble Tiles factories	10	I.E. Abbottabad
11	Furniture factories	14	I.E. Abbottabad
	Total SMEs (SMEDA)	59	
	Operational SMEs 59-30	29	

APPENDIX 4

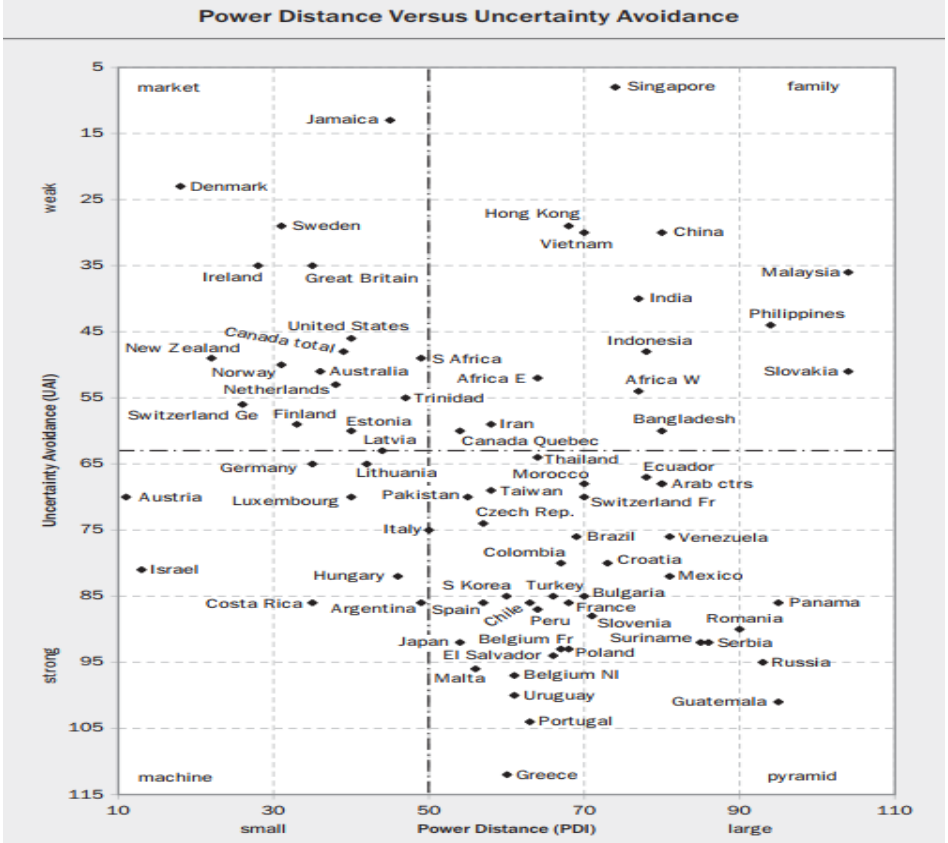
Change Adaptation Mechanism



The yellow dot represents the change adaptation process

APPENDIX 5

PDI-UAI Matrix and Models of Organizations

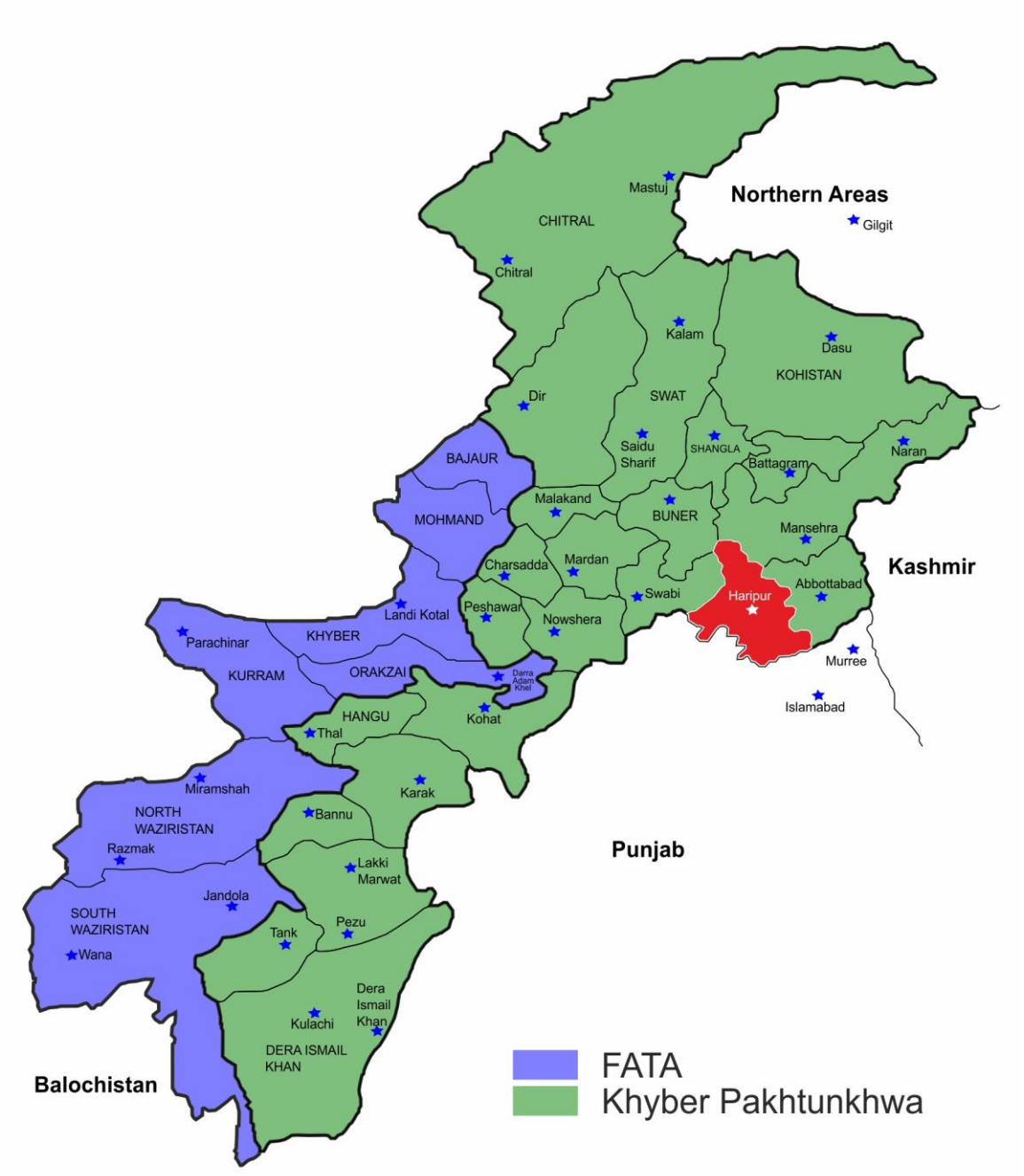


APPENDIX 6

MAP OF PAKISTAN

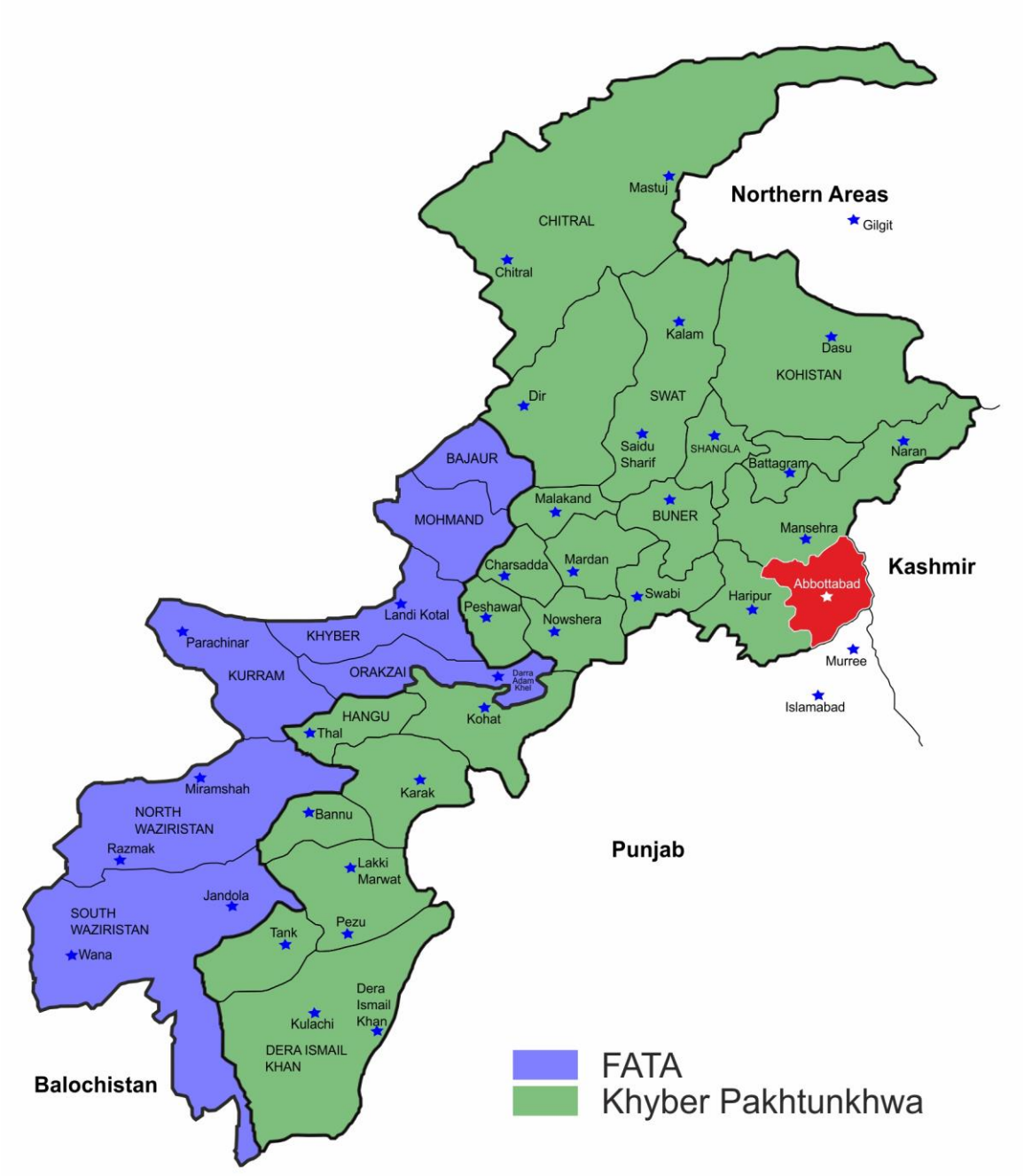
APPENDIX 7

HARIPUR- DISTRICT



APPENDIX 8

ABBOTTABAD- DISTRICT



There is Nothing so Practical as a Good Theory- Lewin