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Organizational Determinants as a Barrier of Balanced Scorecard Adoption for Performance Measurement in Pakistan

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Abstract
The prime objective of this study was to identify the status of Balanced Scorecard (BSC) adoption in Pakistan and to what extent different organizational factors serve as barrier in the strategic adoption of BSC as administrative tool to measure performance of organizations. Different organizational theories, strategic adoption, innovation diffusion theory and general system theory were reviewed and to develop theoretical framework these theories were considered as starting point. The literature related to these theories aided in the development of four hypotheses. All organizations of Pakistan irrespective of type, nature and location were selected to test the hypotheses. These organizations were selected by systematic random sampling and a sample of 287 was calculated from a sampling frame taken from Karachi Stock Exchange. After pretesting the adapted instrument was furthermore validated through Cronbach alpha and factor analysis. The impact of different factors as barrier was tested through correlation and regression analysis. It was found through analysis that all four organizational factors were very strong barriers in the adoption of BSC. The salient nature of organizational factors supporting the resource based view in organization for strategic decision for adoption.
Keywords: Organizational Performance, Balance Scorecard, organizational barriers.

1 Introduction

The business world is becoming complex in the 21st century because of rapidly changing environment and in this scenario organizations have to manage rapid change through adaption or/and adoption process to endure and prosperity. The process of adoption to change is also emerged in measuring organizational performance and in the last decade, the top management journals are publishing articles on the subject dealing how to develop techniques that enable organizations to have control on every single aspect of performance. In these publications management scholars have not only highlighted the importance of company's performance but have also devised many performance measurement systems (PMSs) like Activity Based Costing (ABC), Economic Value Added (EVA), Total Quality Management (TQM), Performance Prism (PP), Six Sigma (SS), Customer Relationship Management (CRM), Balanced Scorecard (BSC) etc. Among these systems and many others the BSC is probably the most popular, widely acceptable PMSs. In Management Tools and Trends survey conducted by Bain & Company (Rigby and Bilodeau, 2009), BSC is ranked sixth among top twenty five (25) management tools while it stands at the top of the list among performance measurement tools. In that survey broad range of industries across five continents has been covered. In USA, more than 60% of the Fortune 1000 companies have implemented BSC (Othman, 2008); in New Zealand 60% companies out of top 40 Stock Exchange listed companies are using BSC (Tapanya, 2004); the BSC adoption rate is 45% in corporate India (Anand et al., 2005); practice of BSC in Pacific Asia was 52% in 2008 (Rigby and Bilodeau, 2009); and overall is adopted by more than 40% of organizations around the world (Capelo and Dias, 2009).

No one can ignore the worldwide popularity of BSC as a management tool but still it is not adopted across different countries (Rigby and Bilodeau, 2009), for an instant, in Pakistan. A lot of literature is available about adoption of different management tools across diverse disciplines but resistance or rejection of all those has been investigated a little (Rogers, 2003). Same kind of ignorance is observed about adoption of BSC. No published article is available to identify barriers in the adoption of BSC. There are few studies in which different barriers are identified about adoption of innovation (Hadjimanolis, 1999, Madrid-Guijarro et al., 2009, Silva et al., 2008), TQM (Rahim and Whalen, 1994, Amar and Zain, 2002, Shaari, 2010), technology (Parente and Prescott, 1994, Rogers, 2000), E-Commerce (Kartiwi and MacGregor, 2007, Archer et al., 2008, Chitura et al., 2008, Johnson, 2010) etc. Through this study, an effort is initiated to identify the barriers (if any) within the boundaries of an organization in the adoption of BSC. If this tool is not enjoying the similar kind of popularity then the only phenomenon which becomes the essence for this study is the identification of potential organizational determinant which may serve as barrier in the adoption of BSC performance measurement by organizations.

2 Literature Review

2.1 Balanced Scorecard (BSC)

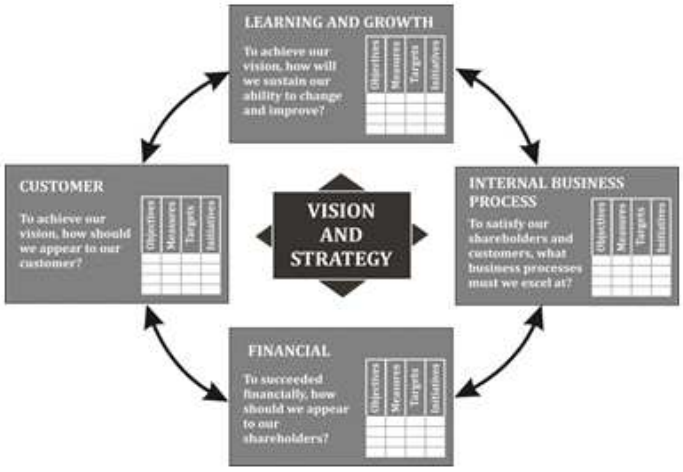
The BSC introduced by (1992) in the platinum jubilee anniversary edition of Harvard Business Review (1997)

and is amongst the fifteen (15) most vital management ideas ever launched by the magazine (HBR, 1997). The prominent feature of BSC is its multi-dimensionality which emphasizes financial and non-financial measures, tangible and intangible resources, internal and external focus, lagging and leading indicators and short-term and long-term objectives. All of these are derived from strategy, have balance and are coupled mutually in a sequence of cause-effect connections where a change in the first results changes in the second. Norton and Kaplan encapsulated the link between strategic objectives and measures by visually mapping called a *strategy map* (Kaplan and Norton, 1992). A strategy map articulates cause-effect connection between lagging measures and leading drivers.

The BSC is a dissimilar PMS in the way that it is not merely an impulsive collection of measures rather it has three significant aspects that make a distinction from other PMSs. The three aspects are: (1) derivation of key performance indicators (KPIs) from strategy, (2) balancing trait between KPIs and (3) the causality linkage between KPIs.

The first aspect is about strategic orientation of organizations. This is the vital prerequisite for organizations which want to adopt BSC. According to Kaplan and Norton (1996) conceptualization, strategy should be the core of BSC and to convert strategy into action scorecard's lagging and leading indicators must be examined by careful thought process to transform it as an effectual PMS. If organizations fail to do so then the PMS cannot be termed as BSC.

The second aspect of scorecard is the concept of balance. Kaplan and Norton (1996) had suggested the way to establish a balance. The balance is evitable if a scorecard consists of key performance indicators (KPIs) along four perspectives or dimensions: (1) financial perspective, (2) customer perspective (3) internal business process perspective, and (4) learning and growth perspective (Figure 1).



Source: (Kaplan and Norton, 1992)

Figure 1. Balance Scorecard

The third aspect of BSC is on the subject of causality links among KPIs enclosed by each perspective internally and crosswise other perspectives. As per (Kaplan and Norton, 1996), to achieve targets and better results portrayed in the financial perspective every single KPI of other three perspectives of BSC ought to be coupled as one in a pattern of cause-effect relationship. In each perspective, few KPIs may have cause-effect links among themselves however as a minimum one KPI in each perspective have to be connected to a KPI in other perspective. The links must be explicit and testable and same pattern is apparent in the strategic maps where the financial perspective serves as the final goal in a cause and effect chain derived from the other three perspectives.

2.2 *Performance Measurement*

If the question "what is the performance of your organization?" is asked to any individual of an organization then most immediate response one can expect from that individual will be in terms of profit, revenues, returns on capital or similar financial/accounting terminology. Commonly people respond in financial or accounting terms as these measures offers instant picture of the organization but if this inquiry lasts long then respondents may include other measures as well like efficiency, effectiveness, employee learning, turnover etc. (non-financial terminology). Performance is conceived diversely, however, most commonly it is described in terms of results that are multi-dimensional and are divided into quantitative (financial measures) and qualitative (non-financial measures) terms. The multi-dimensional characteristic of organizational performance (Venkatraman and Ramanujam, 1986, Murphy et al., 1996, Dess and Robinson Jr, 1984, Chakravarthy, 1986) is very helpful in building and improving confidence of stakeholders about effectiveness of organization.

BSC is a multi-dimensional PMS that has incorporated measurement of lagging and leading indicators as well as combined the tangible and intangible measures. These features of BSC are one of the important components which boosted its popularity and acceptance worldwide.

2.3 *Adoption of BSC as Performance Measurement Tool*

Financial measures like profit/revenues, return on investment (ROI), return on sale (ROS), return on equity (ROE), return on asset (ROA), net income (NI) etc. are worldwide accepted and practiced for performance measurement of organizations (Kennerley and Neely, 2002, Kaplan and Norton, 1992, Pandey, 2005, Anand et al., 2005). In spite of the widespread usage of these measures for performance measurement and dependence of many critical decisions on outcomes of these measures, these measures are not enough to determine organization's future in complex environment (Neely, 1999). These traditional measures are criticized by numerous scholars. This criticism is multifaceted: these measures are short-term oriented (Eccles, 1991, Neely, 1999, Malina and Selto, 2001, Aryani, 2009, Kaplan and Norton, 1992); these measures are unidimentional (Chakravarthy, 1986, Punniyamoorthy and Murali, 2008, Kaplan and Norton, 1992); these measures are lagging indicators and decisions based on lag indicators may guide organization on wrong track (Drucker, 2001, Ghalayini et al., 1997); and these measures lack predictive persona and promotes myopic decision making (Skinner, 1986). The deficiencies and limitations of these measurement systems have urged the need for new PMSs (Eccles, 1991, Neely, 1999).The organizations gain confidence because of a drive which gives sense that current management tools, strategies or frameworks are not more than perfect or at least supposed to be disappointing (Daft, 1978). This displeasure with existing management tools (Daft, 1978) or impracticable performance standards (March and Simon, 1958) or existence of substitute adoption strategies (Rogers, 2003, Zaltman et al., 1973) offers an incentive to adopt new tools (Damanpour, 1992, Kimberly and Evanisko, 1981). BSC is a modern management tool and worldwide organizations are adopting this tool as traditional PMSs are insufficient to meet the challenge (Kennerley and Neely, 2002, Pandey, 2005, Kaplan and Norton, 1992, Kaplan and Norton, 1996).

2.4 *Barriers for Adoption of BSC*

There are many management tools and frameworks acknowledged very swiftly whilst other stands in queue for longer period until these are welcomed by majority. The literature is not providing any solid evidence in this regard because it did not identify the reasons of failure or delay of adoption of new ideas (Rogers, 2003). The limited empirical evidences about barriers which restrict adoption are available but researchers have diverted opinion about what explicitly prevents organizations to adopt these modern tools (Frambach and Schillewaert, 2002). Organizational strategic decision to adopt or not to adopt new idea and practice is influenced by many factors and this argument is well supported by organizational theory as well as theory of strategic management. The factors either facilitate adoption or serve as barrier when those factors are not present or presence is not as certain level which can facilitate adoption. Rogers (2003) has identified two sets of variables called organizational factors and environmental factors. Similarly, Damanpour (1991) has also provided a list of variables which is classified as determinants and moderators. Kimberly and Evanisko (1981) have identified three sets of variables named as individual, organizational and contextual factors. All of the three have provided similar types of variables but all of the three scholars have distributed those factors into dissimilar groups and named them differently.

Based on types of those factors, as a starting point and assuming the fact that the proportion of organizational factors is greater than other factors, in this study the focus will remain on organizational factors. Organizational factors of a particular organization are those characteristics that are believed to be significant hindrance in decision making related to strategic adoption. These factors of the organization are assumed to be under its control and serve as barriers in the adoption of BSC. These factors are discussed in literature as predictors of adoption of new ideas and practices but their behavior is discussed as barrier in this study. The review of these factors on theoretical grounds is presented in the following section in detail.

2.5 *Organizational Complexity*

Organizational complexity refers the presence of specialized professionals in the organization (Damanpour, 1991) and that existence reflects differentiation within different departments of the organization. The presence of specialized professionals in the organization is not a sole characteristic that point outs organizational complexity (Dooley, 2002), though this characteristic is more indicative than any other. This concept is described in number of different manners. For example, interconnected concepts like specialization, professionalism and differentiation comprised technical organizational complexity (Zaltman et al., 1973). The four core dimensions like hierarchical levels, functional differentiation, occupational variety and spatial dispersion to perform and execute organizational tasks are comprised of structural organizational complexity (Mileti et al., 1977). Theorists stressed organizational complexity stems from relationship or connection among different units of the organization (Fioretti and Visser, 2006). The relationship and connection can possibly be observed in terms of concentration of decision making authority (centralization / decentralization), clarification and standardization of roles of each unit (degree of formalization), differentiation of specialized skills (specialization) or existence of professional knowledge (professionalism). The organizational future actions are dependent to continuity and consistent nature of relationship among different units. The unstable relationship or least interconnectedness of units trimmed down the organization's capacity to adopt administrative tools in response to environmental

demands (Hannan and Freeman, 1984); this incapability of organization is conceptualized by Hurley and Kaluzny (1987) as structural inertia. The structural inertia offers the reason for organization's inability to adopt (not adopt) new tools as with the expansion of organizations the complexity increases (Kaluzny, 1987). Therefore theoretically the possibility for an organization to adopt new tools diminishes or reduces due to increased organizational complexity. The fluctuation of organizational complexity between two extremes of high or low is dependent to the extent to which different factors like centralization, formalization specialization, and professionalism exist in the organization.

Centralization is the degree to which the decision making authority swings around few people within an organization (Aiken et al., 1980). With the increase in size the need to tradeoff between control (discretionary power) and effectiveness rise extremely and overcrowded flow of information also intensifies this need (Moch and Morse, 1977). That tradeoff resulted in the creation of new hierarchies and ultimately it increased complexity which serves as barrier for adoption. But if organization makes a decision in favor of strict control, least participation of employees in decision making or/and less number of hierarchy levels then it can reduce ambiguity and resolves conflict of adoption (Taalikka, 2002, Zaltman et al., 1973).

Formalization is the degree to which the job description, rules, procedures and policies available in written form for employees (Aiken et al., 1980, Rogers, 2003, Subramanian and Nilakanta, 1996) to reduce ambiguities i.e. to lessen complexity in roles and actions. The high degree of formality diminishes openness which discourages awareness and adoption of new tools because top management and employees practice inflexible policies, regulations and procedures and limit the curiosity of novel source of information (Zaltman et al., 1973). Less formalized organizations provides flexibility that facilitate adoption and individuals acknowledge novel ideas (Rogers, 2003). High formalized organizations are not likely to initiate adoption strategies but are better furnished to implement those strategies (Zaltman et al., 1973). The meta-analysis of Damanpour (1991) suggests that there is non-significant relationship between adoption and formalization while theoretical there is negative relationship (Zaltman et al., 1973, Zmud, 1982).

Specialization refers to the presence of individuals having specialized skills necessary for an organization (Damanpour, 1987, Kimberly and Evanisko, 1981, Subramanian and Nilakanta, 1996) or occurrence of diverse designations or job titles (Damanpour, 1991). The intensity of diverse specialized skills present in the organization is also termed as complexity (Dooley, 2002). Greater the presence of job titles in the organization greater will be the complexity. According to Kimberly and Evanisko (1981) when individuals with variety of specialized skills are available in the organization they share novel and wide-ranging information, ideas to enlarge knowledge base (Aiken et al., 1980). The exchange of new ideas among specialist facilitates adoption of management tools (Aiken et al., 1980, Damanpour, 1987, Damanpour, 1991, Kimberly and Evanisko, 1981, Taalikka, 2002). The meta-analysis of (Damanpour, 1991) showed the positive relationship between specialization and adoption strategies but contrary results are also reported in literature (Subramanian and Nilakanta, 1996). The increased diversity in skills and specialty of individuals promote possible conflict and variety of principles and perspectives might hinder in acceptance of adoptive strategies (Damanpour and Schneider, 2006).

Professionalism is the degree of professional capacity and knowledge of employees of organization and that knowledge comprise of both experience and formal education (Damanpour, 1987, Damanpour, 1991). Professionalism is responsible in bringing more activities like seminars, trade associations meetings or training sessions with professionals of outside the organization to create a bridge between organization and outside world. These activities encourage exchange of new ideas and intensify the wish for appreciation from same level of professionals (Daft, 1978). The disclosure of new ideas promotes the adoption process (Damanpour, 1987) i.e. professionalism is positively associated with adoption strategies (Damanpour, 1987, Sabet and Klingner, 1993). According to Daft (1978), low professionalism facilitates administrative innovation while reverse relationship is observed with technological innovation.

Apart from nature or intensity of organizational complexity, it is established fact that it has relationship with adoption strategies especially innovation adoption (Damanpour, 1987, Damanpour, 1991, Ettlie et al., 1984, Kimberly and Evanisko, 1981). The organizational complexity had shown positive relationship with adoption of administrative tools in hospitals (Glandon and Counte, 1995); theoretically reverse direction. In another study, organizational complexity had found significantly important for adoption of LAN technologies (Ellis et al., 1994).

H_1: High organizational complexity serves as a barrier in the BSC adoption as administrative tool for performance measurement.

2.6 *Slack Resources (SR)*

An organization's strategic origin is mirrored in the dynamics of its management of resources and utilization of those resources in the achievement of competitive edge in hyper-competitive environment (Mahoney, 1995). In this environment there are diverse roles of slack resources. The roles may be: buffering or cushioning against

internal & external shocks (Bourgeois, 1981, Nohria and Gulati, 1997, Sharfman et al., 1988); change agent or facilitator to instigate strategic change (Bourgeois and Singh, 1983). Scholars have described this concept as surplus resources (real or prospective) that provide cushion against unanticipated external environment fluctuations (Nohria and Gulati, 1997) or internal shocks and apprehensions (Bourgeois, 1981). There is another school of thought about slack resources that thinks it is an incompetence of an organization because organization remains unable in optimal utilization of its' resources (Leibenstein, 1969).This incompetency may influence negatively on organizational performance. According to (Leibenstein, 1969), slack quest those strategies and tools which are less effective and influential for lower staff.

Slack resources permit organization the experimentation (new product development) and adoption of new strategies in twofold. First additional resources offer finances for implantation and secondly it absorbs potential shocks in case of failure of new strategies or failure to achieve potential benefits of strategies (Kimberly and Evanisko, 1981). Greater the availability of slack resources, more likely will be the adoption of administrative strategies (Damanpour, 1991, Nohria and Gulati, 1996, Kimberly and Evanisko, 1981). According to meta-analysis of (Damanpour, 1991) a weak relationship between innovation adoption and slack recourses is observed; amazingly not accordance to theory (Subramanian and Nilakanta, 1996). This intensity of relationship between slack resources and adoption of new ideas and practices is dependent to type of slack measured.

H_2: Lack of slack resources serve as barrier in the BSC adoption as administrative tool for performance measurement.

2.7 *Knowledge Dearth (KD)*

The knowledge (awareness) depicts that how much familiarity decision maker has about benefits, functionality, core principles, implementation prerequisites and cost associated with new idea or practice adoption (Zaltman et al., 1973, Johnson, 2010, McCardle, 1985). Knowledge about new idea or practice is basically getting hold of information and compare the potential benefits with inherit threats adoption of new ideas (Rogers, 2003). Organizations having superior perceptive about organizational needs become more responsive to information acquisition and as a result probability to become potential adopter. Decisions about adoption of novel ideas are dependent deeply on know-how and knowledge of those ideas (McCardle, 1985). Therefore, the role of knowledge in all phases of adoption process is very important and helpful. When decision makers are exposed to new ideas and practices and if there is absence of tacit knowledge then this knowledge deficit can be a barrier for adoption. Discrepancies in knowledge related to new ideas and practices under consideration undermine the possibilities of adoption (Archer et al., 2008).

Most of the adoption strategies are based on the awareness of needs and the tools that can satisfy those needs. The perceived demand for new idea or practice influence the search for information needed for adoption. The literature is filled with debate and still indecisive to establish the right order about knowledge and need, i.e. knowledge about new idea or practice arrives first which crafts a need for adoption or need happens first which demands search of new idea or practice that have potential to fulfill that need (Zaltman et al., 1973, Rogers, 2003). In any case of this debate, once the organizations become aware of incapability of current system, they search novel management tools and develop a favorable frame of mind for those tools. The awareness with reference to availability of new management tools stimulates the need among individuals in the organization to adopt those tools for a particular essential need within an organization or among individuals which can boost searching process that enhances the awareness about novel management tools.

H_3: Knowledge dearth serves as a barrier in the BSC adoption as administrative tool for performance measurement.

2.8 *Supportive Domain*

The literature has highlighted the fact that there are some factors helpful in creating an environment and can be perceived by individual of an organization as supportive to fasten the adoption process. The central approach about supportive domain is conceptualized as perception that individuals shared about actions, practices, and measures of an organization (Patterson et al., 2005). Consistent efforts are in progress from different scholars to identify the set of characteristics of supportive domain that have influence on adoption and implementation of different ideas, systems and practices (Malik and Wilson, 1995, Patterson et al., 2005). A lot of characteristics that are identified but in this study these characteristics are integrated into three sets and these sets are organizational culture, organizational learning and organizational resistance for change.

2.8.1 Organizational Culture (OC)

A rich literature is available in which relationship between organizational culture and adoption of new ideas and practices is discussed (Frambach and Schillewaert, 2002, Claver et al., 1998). The successful organizations have the capability to captivate for new ideas and practices as the culture offers a platform critical for adoption - the organizational adoption of new ideas is enfolded by organization's culture (Claver et al., 1998).

The dominant prerequisites of organizational culture like shared values, encouragement for creativity, inclination to take risk and openness have impact on adoption of new ideas and practices by two means (Luu and

Venkatesh, 2010). First, through the process of socialization individuals become aware of about what behaviour is expected and acceptable in the organization. Secondly, through behavioural exhibition of values and beliefs which are rooted in organizational structures and in management practices, policies and procedures and have impact on adoption of new ideas in workplace. Providing enough resources (financial or human) is one indicator of such behaviour and individuals perceive this demonstration as important and shaped their actions to act accordingly. The degree to which current problems are solved and supported in new manners is affected by organizational culture as it foster individual's ability to experience new thing, thinks differently and adopt new practices. When this culture prevailed in the organization the results are evident in the form of adoption of new systems. The lens of organizational culture through which organization's vision is demonstrated and facilitating in developing an environment essential for adoption strategies (Claver et al., 1998).

2.8.2 Organizational Learning (OL)

Being resourceful and capable at strategic level is decisive in devising strategies necessary for sustainable competitive advantage for an organization. The knowledge-based perspective is an excellent initial point for exploring the relationship between organizational learning and adoption of new ideas and practices. Several studies argued that learning capabilities in organizations similar to human are missing and also OL is not collection of learning of all individuals of an organization rather it can be said precisely that an extension or addition of individual learning. In spite of the fact that organizations have not brains similar to human but still have memories and systems of cognition. These systems are instrumental in defeating the barriers regarding adoption and implementation of new ideas (Fichman and Kemerer, 1997) as organization learn by knowledge exhibited by new as well as old members of organization.

A large number of empirical findings suggested that OL insufficiency or lacking OL is a barrier in adoption of novel practices (Sturdy, 2004). OL is a source of providing clarification and resolution of issues of adoption and implementation of new ideas and practices in organizations. Those organizations experiment more with novel ideas which show the evidence of learning potentials and have ability to boost their capacity to learn (Fichman and Kemerer, 1997). The propensity to adopt new ideas or practices is high for those organizations which have less pressure for getting more know-how (learning) about new practices because these organizations may have that know-how or can acquire easily and economically (Fichman and Kemerer, 1997). The organization's ability to adopt new ideas or practices is mainly dependent on organization's pre-existing familiarity about those ideas or practices which the organization intended to adopt (Cohen and Levinthal, 1990). Prior learning about new practices facilitate individuals for acquisition and retention of new knowledge as it offers ordered cognitive schemas to individuals who can utilized it to store new knowledge and ease the adoption process (Cohen and Levinthal, 1990).

OL is very critical for adoption of new ideas or practices because adoption is not an easy and paved path free from bugs, ambiguities, errors or misconceptions and a well-built organizational memory permits organizations to surmount such obstructions (Fichman and Kemerer, 1997). Organizations facing too much pressure for boosting organizational memory and at the edge of communication networks due to less connectivity with existing adopters are meager to adopt new idea or practice.

2.8.3 Organizational Resistance (OR)

Members of an organization exhibit some sort of behaviour which tries to preserve status quo when there is some activity which exerts pressure for changing that status quo and due to that activity members sense risk (Hall, 2008). Organizational resistance is the pattern of behaviours of decision makers portrayed in terms of rejection, denial, restraining or dismantling the new ideas or practices initiation (Agocs, 1997). The exhibition of resistive behaviours is: rejection of participating in collective problem-solving activities, denial to search for consensus, restraining to sponsor new initiative, damaging new practices and/or any more suppressive acts. The organizational development (OD) literature refers resistance to change for any implementation of new practice from top management is exhibition of behaviors from members of organization in individual capacity or collectively in the form groups like managers of any level (middle or lower) or supervisors or union workers (Agocs, 1997). The organizational resistance (OR) is also expressive in terms of developing structures and operations not aligned with new practices or withholding resources.

The resistance to change is viewed as psychological phenomenon because of which people resist either they are habitual or they perceived intensity of risk associated very high. The habit-risk collectively strengthens the resistance for new ideas or practices and diminishes the intention to adoption of those ideas and practices.

H_4: Weak supportive domain serves as a barrier in the BSC adoption as administrative tool for performance measurement.

3 Research Methodology

BSC literature reflects that most of the research under this stream is done either through field studies, online questionnaire surveys or case studies (Anand et al., 2005, Braam and Nijssen, 2008, Hoque and James, 2000,

Tapanya, 2004). Following the same track of prior studies, current study has also adopted a quantitative research approach and questionnaire based cross-sectional survey design is chosen for this study. The surveys are preferable practice because positivist researchers favour definite quantitative data analysis for rigorous and precise measures.

3.1 Target and Surveyed Population

The target population for this study is all organizations of Pakistan irrespective of type (manufacturing, services), nature (textile, automobile cement etc.), ownership (public, private), and location. There is no single comprehensive and central source is available which can be utilized to get the list of all business entities operating in Pakistan. The best possible list available currently is list maintained by stock exchanges where information of listed companies is updated regularly as well as that list of companies is available to common man. The sampling frame for this study is list of population elements available on the website of Karachi stock exchange (KSE). There were total 782 organizations listed on KSE (till date January 15, 2013). The KSE is selected because it is larger stock exchange as compared to Lahore and Islamabad. In addition to this, companies from all Pakistan are listed in KSE and also a large number of companies which are listed in Lahore or Islamabad are also listed in KSE. The current study is about identifying those factors, if any, have influence and restrict the adoption of BSC as administrative tool for performance measurement at organizational level. As the answer to this query reflects the intentions of organization to adopt or not to adopt, therefore organization is the unit of analysis for this study. In each organization, a key decision maker of the organization can give answer to questions about adoption of BSC and that individual may be CEO, member of board of directors, head of any major department. Sample organizations are selected through systematic random sampling technique and those organizations are select by sorting the list alphabetically and a constant interval ($782/258 \approx 3$) is determined to select the particular organization. Total 258 organizations (sample size) are chosen through a formula provided by Krejcie and Morgan (1970).

3.2 *Data Collection Method*

According to information available in the sampling frame the organizations are well dispersed geographically and accessibility is main issue. The mailed survey mode is used for data collection. Two hundred and fifty eight (258) survey forms were dispatched through Pakistan Postal Service. With each survey form a detailed and comprehensive cover letter was also sent to all respondents along with assurance of anonymity provided in crystal clear statement. In this type of data collection mode, low response rate is an issue but it is minimized by follow-up phone calls which were made after two weeks of dispatching data collection instrument (questionnaire). In follow-up phone calls, each respondent was asked about receiving of survey form or/and ambiguities regarding survey theme or statement of any question of survey.

3.3 *Data Collection Instrument*

The literature of adoption of innovation or factors that serve as barriers is full of those surveys in which questionnaire is used as an instrument. In most of times researchers tried to develop new questionnaire as each questionnaire is contextual which is based on purpose of study. In this study, when literature is explored, not a single study is available matching the purpose of current study. To some extent, studies were available that measuring the barrier for adoption of innovation, technology, IT/IS etc. Those studies were considered as starting point and the measures of different constructs were taken without any modification while some were adapted. List of all measures and main sources are given in Table -1.

Table 1 Constructs & Sources

Measure	Main Source	Action	Items
Adoption	(Moore and Benbasat, 1991)	Adapted	4
Centralization	(Hage and Aiken, 1967b), (Aiken and Hage, 1971)	Adopted	4
Formalization	(Hage and Aiken, 1967a), (Deshpande and Zaltman, 1982)	Adopted	7
Specialization	(Olson et al., 2005), (Subramanian and Nilakanta, 1996)	Adopted	5
Financial Slack	(Nohria and Gulati, 1996)	Adopted	3
Human Slack	(Lokshin et al., 2009)	Adopted	3
Time Slack	(Nohria and Gulati, 1996), (Lokshin et al., 2009)	Adopted	2
Knowledge Dearth	(Hong and Kim, 2002)	Adapted	8
Organizational Culture	(Hurley and Hult, 1998)	Adapted	5
Organizational Learning	(Cho, 2000), (Hurley and Hult, 1998)	Adapted	5
Organizational Resistance	(Hong and Kim, 2002)	Adopted	3

The scale used to measure above constructs was five-point Likert scale. Different types of options were provided according to the statements of question like “strongly agree to strongly disagree” or “extremely frequently to extremely infrequently” or “extremely aware to not at all aware” but in all cases the order is maintained the same i.e. 1 for lower level and 5 for highest level. The method adopted for size of the organization is total number of employees.

3.4 *Pre-Testing*

To get assurance, to some extent, whether the questionnaire can produce desired information or not according to researcher's aspiration and aligned with literature, pre-testing was done. By pre-testing not only individual items was evaluated but also the sequence of item was also tested. Total five organizations were selected for pre-testing from sampling frame which were located in researcher's city. After incorporating the findings of pre-testing, questionnaire was finalized for survey.

To find out the association between each factor and BSC adoption, Pearson correlation technique is adopted. To find out the degree of relationship each factor on BSC adoption as well as to verify the proposed model and hypothesis, regression analysis is adopted.

4 Results and Data Analysis

4.1 *Response Rate*

Total 258 survey forms were sent and within first week a small number of phone calls were received from different organizations. In few calls the queries about survey and BSC were made and they asked assistance in filling the survey form. In some calls, callers refused to participate in the survey either the concerned respondent is not in the country or organization's policies do not allow participation in such activities. Few callers appreciated the effort and offers full support by sending this survey form to similar organizations of the industry. After follow-up phones calls and resending survey forms in few cases, 67 forms were received within two weeks – in total one month was allocated for data collection. Even though all promising efforts were made to improve the response rate, but still a response rate of 26% was observed. Although the response rate is low but encouraging and is consistent with this kind of study in which an individual form top management is involved. The literature is providing the evidence that the response rate remains low (on average 36%) when respondents are from top management of an organization and mode of data collection is either online, email or postal mail (Baruch, 1999, Van der Stede et al., 2005). This response rate will remain low further when study is conducted in Asia especially in south Asia (Azhar, 2008, Zhang et al., 2000) because companies of this region are still tentative to exchange information (Phillips, 1981).

4.2 *Profile of Respondents*

Majority of the respondents are male (91%) (Table –2). Mostly respondents (73%) of the survey are highly qualified i.e. master degree holders and few of them are also holding MPhil degree (9%). In the surveyed sample, majority of the respondents (60%) are married. Majority of the respondents of the sample are above 30 i.e. 56% and reasonable representation (34%) of age group of above 40 is available in the sample.

Experience of respondents are recorded in terms of two categories i.e. number of years a respondent is getting old in current position and total number of years respondents have served in different organization at managerial positions. Respondents having experience less than five years at current position are in majority (75%). The sample is populated with those respondents i.e. 82% who have experience ranges from 1 to 10 year. It is quite discouraging that major portion (37.31%) of the respondents has not disclosed their current position in the organization to understand the pattern of influence of decision maker. The available distribution reflects that senior management was involved in responding the survey form.

Table 1 Respondent's Profile

Characteristic	Dimension	Frequency	%
Gender	Male	61	91.00
	Female	6	9.00
Education	Graduation	12	17.90
	Master	49	73.10
	MPhil	6	9.00
Age	25–30	6	9.00
	31-40	38	56.70
	41-50	19	28.40
	51-60	3	4.50
	Above 60	1	1.50
Tenure in	Less than 2 Years	19	28.4
Current Position	2–5 Years	31	46.3
	5–10 Years	11	16.4
	10-15 Years	5	7.50
	More than 15 Years	1	1.50
Tenure in	Less than 5 Years	20	29.90
Management	5–10 Years	35	52.23
	10-15 Years	5	7.50
	15-20 Years	6	9.00
	More than 20 Years	1	1.50
Company Size	100-150	8	11.9
	150-300	18	26.9
	Above 300	41	61.2

The majority of the respondents (67%) of the survey are involved in manufacturing activity while rest of the respondents is engaged in services sector. The majority of the respondents are from two main cities i.e. from Lahore (37%) and Karachi (22%) while a considerable number of respondents (22%) have not shared their location. The major sector that has shown the involvement in the survey is textile i.e. 12% and if weaving and spinning sector is also considered a part of textile section then this ratio increased up to 20%. In services the sector who has participated significantly (12%) is banking sector. The group sharing major representation (61%) of respondents of the survey is consisted of those organizations having more than 300 employees.

All respondents (67) are non-adopters of BSC, i.e. none of the respondents has adopted BSC. The intention to adopt BSC in near future is also asked and mean score for intention to adopt is 2.668 (SD=0.924). The mean score is also indicating the fact that respondents have low intention to adopt BSC in near future.

4.3 *Normality Test*

To test the normality, two measures Skewness and Kurtosis are determined and values for each construct meeting the cut-off criteria and establishing the fact that data is normally distributed.

4.4 *Reliability and Validity*

The reliability of each construct and sub-construct is presented in Table-3. The results reflect that the instrument used in this survey is reliable.

Table 2 Reliability

Measures	Number of Items	Alpha (α)
Adoption	4	0.938
Centralization	4	0.933
Formalization	7	0.886
Specialization	5	0.909
Slack Resources	8	0.807
Knowledge Dearth	8	0.921
Organizational Culture	5	0.901
Organizational Learning	5	0.918
Organizational Resistance	3	0.870

For construct validity of the instrument both convergent and discriminant validity is established by factor analysis. In factor analysis, all items measuring same construct loaded on a single factor with high factor loading ranging from 0.600 to 0.900 which establishes convergent validity or convergence of all items to their respective theoretical defined constructs (Hair et al., 2009, Barrett et al., 2005). Similarly, not a single case is there where cross factor loading is greater than 0.30 and all items loaded on their respective factors and it indicates the existence of discriminant validity (Hong and Kim, 2002). The other statistics about factor analysis are presented in Table – 4 which confirms the unidimensionality of each construct. The high values of item-to-total correlation are also supporting the convergence validity and internal consistency of constructs.

Table 3 Summary of Factor Analysis

Construct	Sub Construct	KMO*	Total Variance Explained	Eigen Values	Variance Explained (%)
Organizational Complexity		0.865	74.30 %		
	Formalization			9.297	21.09
	Specialization			2.282	19.75
	Centralization			1.847	16.92
	Professionalism			1.433	16.54
Slack Resources		0.704	82.20 %		
	Financial Slack			3.458	28.89
	Human Slack			1.896	28.89
	Time Slack			1.222	24.40
Knowledge Dearth		0.867	64.97 %		
				5.198	64.97
Supportive Domain		0.868	75.67 %		
	Organizational Learning			6.805	28.85
	Organizational Culture			1.912	27.36
	Organizational Resistance			1.121	19.46
BSC Adoption		0.795	84.62 %		
				3.385	84.62

4.5 *Organizational Factors as Barrier and Hypotheses Testing*

Four hypotheses are coined and to test these hypotheses and to find the intensity of factors which restrict the adoption of BSC, correlation and regression analyses are used. The Table – 5, illustrates that adoption of BSC is significantly correlated and has positive relationship with slack resources ($r = 0.546$, $p < 0.000$), knowledge dearth ($r = 0.480$, $p < 0.000$) and supportive domain ($r = 0.483$, $p < 0.000$). The relationship of adoption of BSC is significant and has negative relationship with organizational complexity ($r = -0.670$, $p < 0.000$). The regression estimates help to determine the intensity of resistance each factors may offer. To test the intensity of organizational factors serve as barrier in the adoption of BSC, organizational factors like organizational complexity, slack resources, knowledge dearth and supportive domain are taken as predictors while BSC adoption is taken as criterion variable. The output indicates that 63% ($R^2 = 0.630$) variation in adoption of BSC is explained by organizational predictors. The value of adjusted $\bar{R}^2$ reflects that a large amount of variation in BSC adoption is due to predictors. The high value of $F(4, 62) = 29.036$ with $p < 0.000$ approves the significance of the model i.e. these organizational predictors have influence on adoption of BSC and can offer hurdles in the adoption.

Table 5 Correlation Matrix

	Variables	N	Mean	SD	1	2	3	4	5	6	7	8	9
1	Adoption	67	2.668	0.923	1								
2	Centralization	67	3.339	0.974	-0.581	1							
3	Formalization	67	3.437	0.714	-0.552	0.565	1						
4	Specialization	67	3.149	0.741	-0.520	0.552	0.475	1					
5	Slack	67	2.604	0.664	0.546	-0.380*	-0.280**	-0.321*	1				
6	Knowledge Dearth	67	2.383	0.708	0.511	-0.323*	-0.236**	-0.407*	0.402*	1			
7	Organizational Resistance	67	3.358	0.822	-0.499	0.382*	0.336**	0.285***	-0.329**	-0.349*	1		
8	Organizational Learning	67	3.254	0.875	0.675	-0.361*	-0.330**	-0.451	0.529	0.423	-0.441	1	
9	Organizational Culture	67	3.406	0.917	0.597	-0.216***	-0.229***	-0.456	0.433	0.382*	-0.310***	0.688	1

*p < .000 (2-Tailed) * p < .005 (2-Tailed) ** p < .01 (2-Tailed) *** p < .05 (2-Tailed)*

In Table-6, the B-value (unstandardized beta) indicates the degree of relationship while sign of B-value reflects the direction of relationship of predictors have with adoption of BSC. The Table-6 illustrates B-values of all four organizational factors: organizational complexity (B= –0.640, t<0.000), slack resources (B=0.291, t< 0.021), knowledge dearth (B=0.262, t<0.021) and supportive domain (B=0.432, t<0.006) and values highlights that these values are different from zero and therefore have significant effect on BSC adoption and serve as barrier (t-values for all predictors are <0.05); three are positively related while fourth predictor is negatively associated with adoption of BSC. All predictors are offering obstacles in the adoption of BSC and to check which predictors offering extra impediment, higher β-values are considered as indicative of this fact. In this case the organizational complexity (β= –0.479) is serving as big hurdle followed by supportive domain (β=0.236), slack resource (β=0.209) and knowledge dearth (β = 0.201).

Table 4 Regression Analysis

	B	Std. Error	β (beta)	T	Sig.	Collinearity Statistics Tolerance	VIF
(Constant)	1.898	.702		2.704	.009		
Organizational Complexity	–.640	.109	–.479	–5.846	.000	.834	1.198
Slack Resources	.291	.123	.209	2.373	.021	.723	1.384
Knowledge Dearth	.262	.110	.201	2.373	.021	.782	1.279
Supportive Domain	.432	.152	.236	2.853	.006	.823	1.215

4.6 *Regression Analysis and Basic Assumptions*

Basic assumptions of regression analysis are tested and all of them are met. There is no issue of multicollinearity as variance inflation factor (VIF) and the reciprocal of VIF i.e. tolerance level is within the range i.e. VIF < 10 (tolerance > 0.10) (Hair et al., 2009). Existence of Autocorrelation is not found as the value of Durbin-Watson test is 1.890 which is within range (1.5 < d < 2.5). Through graphical examination of Normal P-P plot and scattered plot the assumption of homoscedasticity met because, if across horizontal line the error terms are evenly distributed and are scattered randomly then the assumption is met (Hair et al., 2009). The graph between standardized residuals (*ZRESID) and standardized predicted values (*ZPRED) through SPSS is plotted along with histogram and probability plot of error terms (Figure - 2). The output histogram and shape of probability plot predicts the normality of error terms. The assumption of normality of all constructs is met as values of Skewness & Kurtosis is within accepted range. The minimum sample size required for applying regression analysis is 50 observations (Hair et al., 2009) which are as per requirement in this study. If it is observed in terms of ratio of observation to variables then it should be at least 5:1 but ideally it must be greater than 15:1 (Hair et al., 2009). For this assumption, the current study has no solid arguments but if a variable used for regression analysis is considered which is created by

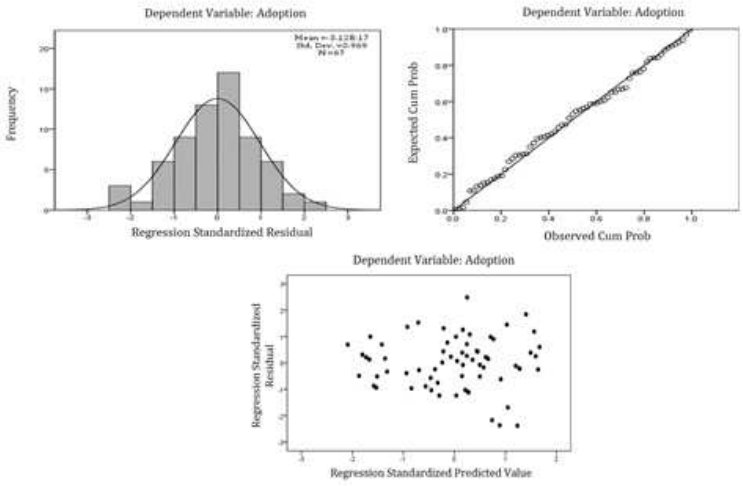


Figure 2. Normality of Error Terms

summated scored then this assumption is also met. For example, in first model in which adoption of BSC is taken independent variable and organizational factors (organizational complexity, slack resources, knowledge dearth and supportive domain) are taken as predictors then the assumption is fulfilled as the total observations are 67 (> 15:1).

4.7 *Hypotheses Testing*

Hypothesis (H_1) states that high organizational complexity serves as a barrier in the BSC adoption as administrative tool for performance measurement. From regression analysis, organizational complexity is a significant predictor (B = – 0.640, t <0.000, β = –0.479) of adoption of BSC adoption. Organizational complexity is negatively correlated with adoption of BSC (r = –0.670, p < 0.000). These values support the hypothesis that high organizational complexity is a barrier in the adoption of BSC. **Hypothesis (H_2)** states that lack of slack resources serve as barrier in the BSC adoption as administrative tool for performance measurement. From regression analysis, slack resources are significant predictor (B = 0.291, t <0.021, β = 0.209) of adoption of BSC adoption. In addition to this slack resources are positively correlated with adoption of BSC (r = 0.546, p < 0.000). These values support the hypothesis that lack of slack resources is a barrier in the adoption of BSC. **Hypothesis (H_3)** states that knowledge dearth serves as a barrier in the BSC adoption as administrative tool for performance measurement. From regression analysis, knowledge dearth is a significant predictor (B = 0.262, t <0.021, β = 0.201) of adoption of BSC adoption. In addition to this knowledge dearth is positively correlated with adoption of BSC (r = 0.480, p < 0.000). These values support the hypothesis that knowledge dearth is a barrier in the adoption of BSC. **Hypothesis (H_4)** states that weak supportive domain serves as a barrier in the BSC adoption as administrative tool for performance measurement. From regression analysis, supportive domain is a significant predictor (B = 0.432, t < 0.006, β = 0.236) of adoption of BSC adoption. In addition to this supportive domain is positively correlated with adoption of BSC (r = 0.483, p < 0.000). These values support the hypothesis that weak supportive domain is a barrier in the adoption of BSC.

5 Discussion

A sample of 287 organizations was calculated from a list of organizations listed in KSE. A response rate of 26% is observed. The profile of respondents reflects that the respondents of the survey to great extent are representatives which have enough information about organization and their perception which they have shared by participating in the survey is a useful source to answer the research questions. According to the results no response exists where adoption of BSC is reported therefore all respondents are non-adopters of BSC consequently the factors which serve as barrier for non-adopters cannot be testable for adopters of BSC.

5.1 *Organizational Factors as Barriers*

After searching and reviewing the earlier studies on barriers for adoption of novel ideas and practices especially on innovation, no clear information is available about whether barriers totally prevent adoption or does merely hamper or slow down the initiation or adoption of new idea or practice.

The relationship of organizational complexity with adoption of new ideas and practices is reported negative in literature but inconsistent behaviour of complexity is also observed which is mainly due to type of idea and practice to be adopted. The organizational complexity is negatively associated with novel administrative practices while is positively associated with technological novel ideas. The BSC is taken as administrative tool and its relationship with organizational complexity is negative (beta-value = –0.640, t < 0.000, r = – 0.670, p < 0.000), which is consistent with the result reported in literature. The mean value of organizational complexity is 3.215 (SD = 0.692) reflects that organizational complexity is high which consequently create a barrier for adoption of BSC. The high organizational complexity reflects the structural inertia which inhabits adoption of BSC. The inertia reduces communication and coordination among different departments of the organization and influence the relationship between these departments. The organizational complexity is a multi-dimensional construct and measured in terms of centralization (Mean = 3.339, SD = 0.975), formalization (Mean = 3.437, SD = 0.714), specialization (Mean = 3.149, SD = 0.741) and professionalism (Mean = 2.929, SD = 1.037) and these components are predictors of relationship among departments. High values of centralization and formalization reduces complexity while other two factors increase complexity. In case of high centralization decision making authority is concentrated to few hands and when few decision makers are convinced that new administrative idea is not compatible or strategic fit with current organizational setting they make a quick decision by rejecting the new idea or by giving signal in terms of showing no interest. They even more quick decision about those ideas which they have already rejected previously. High formalization with too much written rules, policies and procedures hamper and demotivate managers to violate or go against well rooted and in practice rules and instigate and adopt new system in the organization. In literature high level of specialization promote adoption of new ideas as they bring expertise in the organization. In spite of this the presence of too many professionals in the organization slowdowns or even eliminates coordination among professional and ultimately the centralized decision making authorities play its role to diffuse the situation either giving decision in one of the favour of

professional or totally rule out the adoption of new idea. Thus the level or intensity of these factors determines whether these are barriers or not. From findings it is clearly evident that these factors are barrier in the adoption of BSC.

The slack resources are positively and strongly correlated with adoption strategies and consistent to previous studies results of similar nature are reported. According to findings both slack resources and adoption of BSC has positive and relative strong relationship (beta-value = 0.291, $t < 0.021$, $r = 0.546$, $p < 0.000$). Excessive resources in the shape of finance or human which can easily be pulled out from routine operations of organization encourage organization to take risk and experiment by adoption of new system like BSC. The financial slack resources are measured in terms of profit and generally the tendency to report profit is always lower while to report loss in business is on higher side when questions are asked about this in questionnaire. This natural tendency drops the mean value of slack resources necessary for adoption. The mean value of organization slack is = 2.604 (SD = 0.664) and it describes less availability of slack and similar kind of results are observed with sub-construction i.e. financial slack (Mean = 2. 751, SD = 0.866), human slack (Mean = 2.413, SD = 0.919) and time slack (Mean = 2.649, SD = 0.933). The adoption of BSC is very much similar to adoption of novel idea and adoption of new idea requires slack resources for buffering in case of failure and therefore non-availability of slack resource diminishes the possibility of adoption of BSC and subsequently serves as a barrier.

Another organizational factor is knowledge dearth or awareness of novel ideas and the results of this factor are very interesting. The general perception about BSC is that organizations are not aware of about this tool and this lack of awareness is a big contributor in none adoption of BSC. The knowledge dearth is ranked lowest (beta-value = 0.262, $t < 0.021$, $r = 0.480$, $p < 0.000$) than all other organizational factors that have influence on adoption of BSC as barrier. The mean value of knowledge dearth reflects that awareness level is not very high (mean = 2.382, SD = 0.708). The possible justification for these kinds of results is very difficult but one can say that until and unless the organization's top management makes its mind for adoption of BSC by determining necessary slack resources and support for different departments, the knowledge or awareness about BSC does not matter.

Last variable related to organizational factors is supportive domain. The adoption of new system is very much dependent to different aspects like culture, organizational learning and resistant to face by organization. The results about these aspects are very much similar to previous results. When the culture of the organization encourages experimentation, risk taking and team work the adoption of new system like BSC because easier. Similarly learning novel methods or processes and introduction of new techniques to make process efficient facilitates adoption. In addition to this if organization feels that no resistance is offered from employees if they implement new system or employee welcome new system introduced by organization then adoption of new system become more probable. The findings are also similar in nature. The relationship between supportive domain is positive and very strong (beta-value = 0.432, $t < 0.006$, $r = 0.483$, $p < 0.000$). The supportive domain is not a single measure rather it is a multi-dimensional construct and integrated results provide supportive pedestal for BSC adoption. The mean value for supportive domain is 3.339 (SD = 0.503) while sub constructs have values: organizational culture (Mean = 3.254, SD = 0.875), organizational learning (Mean = 3.406, SD = 0.917) and organizational resistance to change (Mean = 3.358, SD = 0.822). All values reflect that integrated scores of these factors are high but still adoption of BSC is not happened. The possible reason for this may be that these factors are supportive for post-adoption stage and not as much critical for initiation of BSC adoption. If the initiation of adoption of BSC is not made by top management then the role of these supportive parameters cannot be affective and observable.

The roles of all four organizational factors are found as barrier in the adoption of BSC i.e. high organizational complexity, less slack resources, lack of knowledge (awareness) and least supportive domain inhabit adoption of BSC in Pakistan.

5.2 *Conclusion*

Based on findings, it is established that organizational factors are very much predictors of BSC adoption. The explanatory power of each predictor is very significant and the sign (positive or negative) provides the direction of influence. According to these findings it is ascertained that high organizational complexity, lack of slack resources, lack of awareness about BSC and weak organizational supportive domain serve as barrier in the adoption of BSC.

5.3 *Implications*

In this study, there are some theoretical implications based on this study: First of all, the factors which serve as barriers for an organization is identified which are not available in the BSC adoption literature. Secondly, different organizational factors are currently used as barriers for BSC adoption with an assumption that if factors do not facilitate adoption of BSC then certain intensity level or even absence of those factors may serves as barrier. Lastly, the role of each factor with adoption of BSC is evaluated at main construct level and to make in-depth analysis the interaction of sub-construct with adoption of BSC should be understood.

Through this study, managers of different organizations can understand those factors which serve as barrier in the adoption of BSC. No doubt currently the organizations have not adopted BSC but in near future if top management has made their minds for adoption of BSC or any new system then they cope better with these factors before initiation of BSC adoption.

5.4 *Limitations*

To make this study comprehensive every achievable effort is set forth so that every section of the study independently establish its worth. But in spite of meticulous efforts some limitations which are out of control of researcher are observed. The response rate is very low although sufficient for statistical testing but for making more generalization it should be improved. The most of the questions included in the survey are about identifying factors facilitating adoption of BSC instead of barriers for BSC adoption. Though an effort is made and few barriers are acknowledged but as a whole the findings of the survey is providing an indication identified factors are facilitators instead of barriers of BSC adoption.

5.5 *Recommendations for Future Research*

The research has set a tone and to make that tone more comprehensive and crystal clearly theoretically few recommendations are given for future research. Only factors related to internal environment are taken for this study. It is recommended that other factor related to external environment may be included. Equivalent representation of organization from all type of industries is very much necessary to establish the authenticity of barriers identified in this study. Single technique is used to collect data i.e. quantitative approach is used. As adoption of BSC is a strategic decision so comprehensive participation of top management is indispensable and for that purpose qualitative approach like interview method should also be included to get more familiarity about barriers.

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