"Measurement of Individual Performance during Adoption of Enterprise Resource Planning Systems: A study of organizations in Islamabad, Rawalpindi".
A Survey in Pakistani Context

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1- Performance evaluation.

2- Employees - Rating of Personnel assesment.

"Measurement of Individual Performance During Adoption of Enterprise Resource Planning Systems: A study of organizations in Islamabad, Rawalpindi".

A Survey in Pakistani Context

By

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A thesis submitted in partial fulfillment of the requirements for the Degree of Master of Philosophy/Science in Managent with specialization in Technology Management at the Faculty of Management Sciences
International Islamic University Islamabad.

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IN THE NAME OF ALLAH,THE MOST BENEFICENT AND MERCIFUL

DEDICATION

I dedicate my efforts to my beloved Father and Mother.
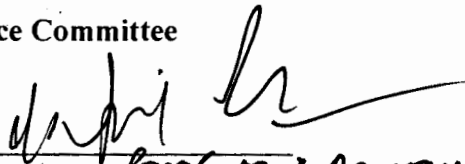
(Acceptance by the Viva Voice Committee)

Title of Thesis: Measurement of Individual Performance during adoption of Enterprise Resource Planning Systems: A study of organizations in Islamabad, Rawalpindi".A Survey in Pakistani Context.

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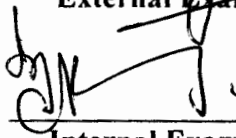
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IV

ABSTRACT

Enterprise Resource Planning Systems is a widely used system all over the world in organizations. Although, many of these implementation are failure just because of the reason that organizations do not become successful in adopting the right strategies. This study provides an extensive analysis of the factors towards increasing performance of individuals. Sample of 204 employees from organizations of Pakistan were taken. This study focus on the relationship between performance and variables like Motivation, Control & Coordination and Perceived change management and mediating relationship of Technology Acceptance Model constructs. User Involvement shows partial mediation with all independent variables on dependent variable. Surprisingly, the effect of Perceived Usefulness was not found significant as a mediator in any case.

ACKNOWLEDGEMENTS

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ABBREVIATIONS

Enterprise Resource Planning (ERP)

Material Resource Planning (MRP)

Manufacturing Resource Planning (MRP II)

Technology Acceptance Model (TAM)

Perceived Ease of Use (PEU)

Perceived Usefulness (PU)

User Involvement (UI)

Perceived Usefulness for understanding Enterprise Resource Planning (PUERP)

User Involvement for understanding Enterprise Resource Planning (UIERP)

Performance on Enterprise Resource Planning (PERP)
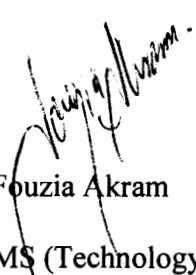
Motivation on Enterprise Resource Planning (MERP)

Control and Coordination on Enterprise Resource Planning (CCERP)

Perceived Change Management on Enterprise Resource Planning (PCMERP).

DECLARATION

I here by declare that this thesis , neither as a whole nor as a part thereof has been copied out from any source. It is further declared that I have prepared this thesis entirely on the basis of my personal effort made under the sincere guidenance of my supervisor.No portion of the work presented in this thesis has submitted in support of any application for any degree or qualification of this or any other university or institute of learning.

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FORWARDING SHEET

The thesis entitled "Measurement of Individual Performance during adoption of Enterprise Resource Planning systems: A study of Organizations in Islamabad, Rawalpindi" submitted by <u>Miss Fouzia Akram</u> in partial fulfillment of M.Phil degree in Management with specialization in Technology Management has been completed under my guidance and supervision. I am satisfied with the quality of student's research work and allow him to submit this thesis for further process of as per IIU rules & regulations.

Date:_____   Signature:_____

                                        Name : _____

CHAPTER - 1

INTRODUCTION

This is the era of advancement in information technology. The drive to be more successful and modern makes business complex and difficult to run. Moreover, Globalization has increased this competition and pressure in the business world. In this globalize world, it is truly vital that businesses master the techniques of integration and communication (Al-Mashari, 2001; Palaniswamy and Frank, 2000; Siriginidi, 2000a). One way to it is thorough enterprise resource planning systems. (Mabert et al., 2000). Kumar and Van Hillegersberg, (2000) define "Enterprise Resource Planning System" as a configurable information system that integrates information based processes within and across functional area in an organization. (Planiswamy and Frank, 2002) recognized that better cross functional integration is a critical success factor. Basically Enterprise Resource Planning is a centralized system. It gives common boundary to various departments of the organization. It includes a set of business application used to carry common business functions.

When speaking of Enterprise Resource Planning and its implementation within businesses, one of the major concerns that arise is employee performance (Al-Mashari and Zairi, 1999; stefanou, 1999; Aladwani, 2001). Now the question is, does ERP contribute positively towards employee performance, which in turn improves organizational performance or does it has a negative effect which leads to downfall?

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Some researchers have observed that using Enterprise Resource Planning as a universal tool in businesses may be flawed because generally people in underdeveloped countries tend to view Information Technology development as a threat to their already established ways of doing things (Levy and Powell, 2000).

This affects employees performance because from the initial stages employees fail to understand the business benefits that may result from Enterprise Resource Planning. Apparent shortcomings of Enterprise Resource Planning and employee's performance are because of the failure to demonstrate business benefits to them. While the general management side may fail to understand Information Technology issues or relevance (Armstrong and Sambamurthy, 1999; Melville et al., 2004) and poor user relations (Ward and Elvin, 1999; Weill and Vita, 2002).

When an external force is applied in the organizations, the most expected and immediate reaction is resistance. Having said that it is vital to know that Enterprise Resource Planning in an organization always attempts to revolutionarize and helps to create lively business environment which improves efficiency and increase profitability. That it why it is important to overcome the resistance which manifests in various forms, even though many companies fail to deal in depth with the magnitude of the organization wide changes requires implementing Enterprise Resource Planning successfully. The truth is everyone is afraid of change. Alteration leads towards multitude adjustment but proper measures are necessary for survival.

When Enterprise Resource Planning is analyzed as an outcome of human actions and interactions, a body of literature that is known as "SST" (Social Shaping of Technology) must be taken into consideration (Williams. R and Edge. D, 1996). When this theory is considered, it is clear that understanding of choices and social influences are important. So, understanding of human factor cannot be downplayed in order to successful implementation of Enterprise Resource Planning. Everything depends upon human perception, if employees take this change positively, it can be a solution to many problems. However, if taken negatively, unwanted results emerge.

1.1. OBJECTIVE OF RESEARCH

The research question is explored by the following objectives:-

- To study dimensions of individual Performance.

- To investigate the factors determining the influence of each dimension of performance.

- To provide a comprehensive discussion on the managerial implications on findings that is of value of the researchers and practitioners.

- To identify the factors of the performance that fit into the cultural settings of the Pakistan.

- To focus on the role played by the technology acceptance model (technology acceptance model) construct the whole phenomenon.

1.2. RATIONALE OF THE STUDY

This study is an attempt to explain the role of three major variables mentioned in the literature *i.e.* motivation, control & co-ordination and perceived change management on the performance while considering the mediating role of technology acceptance model construct (perceived usefulness & user involvement). Motivation, control & coordination and perceived change management can not be separated from the performance of the individuals who are working in the organization and performance of the organization as well. At the same time perceived usefulness and user involvement also have impact on their role on the performance of the organization and individual performance. The main focus of the study is "how the combination of these variables affects the outcome of the study". It will help all those organizations to understand better about strategies of successfulness, if they wish to implement Enterprise Resource Planning. Further, it will also help managers of the organizations to better understand the functions of the system for better performance of the individuals. Focus of this study is "how and why motivation, control & co-ordination and perceived change management are related to performance". This will be achieved through hypothesizing and testing the mediating role of the technology acceptance model constructs *i.e.* perceived usefulness and user involvement in the relationship of independent and dependent variables.

1.3. PARADIGM

This study contributes to the successful strategies during implementation of enterprise resource planning for individuals. In this study, individual performance has tried to link the antecedents for the performance mentioned in the study that are motivated intrinsically and extrinsically, motivation, control & co-ordination and perceived change management through perceived usefulness and user involvement. How an individual who is motivated intrinsically and extrinsically, control & co-ordination by the management and it also handles the change in the environment that comes during the implementation of enterprise resource planning, his/her performance will be positive or negative either increase or decrease. Another value in addition to this research is that it is known fact, that constructs of technology acceptance model *i.e.* perceived usefulness and user involvement has their effects on performance during implementation of enterprise resource planning but commutative and link of three antecedents *i.e.* motivation, control & co-ordination and perceived change management have been established first time, before that they were just known as critical success factors during and after implementation of enterprise resource planning. But after establishing this link with the joint effect of technology acceptance model constructs opens a new door to the managers and researchers of 21st century.

1.4. FINDINGS

To summarize the finding of this study, hypothesis (1) predicts that "motivation is positively related to the organizational performance". According to this study *positive relationship* between motivation and performance was significantly proved through analysis. Hypothesis 2 was significant but unfortunately it is inverse to the predicted direction, so Hypothesis 2 was not confirmed. Hypothesis 3 predicted that perceived change management and Performance have same positive directions but unfortunately the results were insignificant, so Hypothesis 3 was also not confirmed. Hypothesis 4 was confirmed, as after involving the user mediation, the result found weak, which shows partial mediation between motivation and performance for this hypothesis. Hypothesis 5 was also confirmed as after involving the mediation, the results were found weak and significant, so it proves the partial mediation between control & coordination and Performance. Hypothesis 6 was also confirmed and found weak relationship after mediation and significant results, so it was also confirmed as it shows positive relationship between perceived change management and Performance. Hypothesis 7 was not confirmed, as the results after the involvement of perceived usefulness as mediator was not found weak but insignificant and does not fulfill the requirements of mediation between motivation and Performance so it was not confirmed. Hypothesis 8 was also not confirmed unfortunately as the results after involving the mediation of perceived usefulness were not found weak and also insignificant which does not fulfill the requirement of mediation. Hypothesis 9 was partially conformed as the result after involvement of mediator was found little bit weak and also insignificant. So Hypothesis 9

was also not confirmed Hypothesis 10 was confirmed as it predicted the same positive direction between user involvement and performance and the results were also significant. Hypothesis 11 was also confirmed by showing the same predicted positive direction between perceived change management and Performance and it also shows significant results.

1.5. CONTENTS OF STUDY

This study has divided into six chapters. Chapter-1 is introductory that discusses the background of the study, rationale of the study, research question, significance and contribution of the study. Chapter-2 lights upon the literature of enterprise resource planning Systems. Emphasizes has been given to the different periods of the enterprise resource planning and how it evolves from the MRP (Material Resource Planning) and its different modules have also been discussed. After that importance of technology acceptance model is discussed and tried to establish the relationship of its constructs to the performance after implementation of enterprise resource planning to the independent variables that are motivation, control & coordination and perceived change management. It is very important to find out the gaps of the literature adding value to the current study. Followed by the Chapter-3 which is based on the Research Methodology. All the factors, variables and links have been discussed which leads towards development of the hypothesis. Types of study, description of instruments and measurement of concepts have also been discussed. Chapter-4 discusses the results of the research. Results of the questionnaire survey, demographic data responses, correlation among variables and

research model evaluation have been discussed. Followed by Chapter-5, conclusion has discussed. Important findings along with limitations and future directions has discussed in this Chapter. Last Chapter of the study presents Bibliography.

CHAPTER - 2

LITERATURE REVIEW

Since late 1960's and early 70's, companies are growing in size and flourishing their business activities day by day extensively, it is not affordable to maintain their large size inventories manually. Need leads towards Material Requirement Planning (MRP) which introduced a new world Material Planning Process (Umble et al, 2003). Material files, production scheduled specific material bills, counting of utilized products were being facilitated by material requirement planning. Then everything in a linear order either ordering, modifying making or canceling etc all comes in formal mechanism in changing manufacturing environment.

All such steps become a new horizon for productivity and quality (Oden, Langenwalter and Lucier, 1993).After that certain techniques were also added in enterprise resource planning to move the system more effective and easy to use. Certain modules were developed to aggregate the organizational data. All requirements of organizations were incorporated in Material Resource Planning Systems i.e. planning, customer order, sales demand and forecasting etc. So user started to think about it as network system. All these developments become the basis of the development of another system known as MRP2

2000s	Extended Enterprise Resource Planning
1990s	Enterprise Resource Planning systems
1980s	Manufacturing Resource Planning (MRP II)
1970s	Material Requirements Planning (MRP)
1960s	Inventory Control Packages

Figure 1. Evolution of Enterprise Resource Planning (Rashid et al., 2002)

As requirements of businesses increase, the organizations tried to take the advantage of system efficiency and effectiveness over financial matters. So financial management system and financial accounting system were evolved to run the organizational system (Umble et al., 2003). Now the companies have more integrated systems. With the passage of time, there are many more areas like human resource management, communication systems, planning systems, product design systems and many other sub-systems comes into existence and the term enterprise resource planning was developed in 1990's.Enterprise resource planning (ERP) systems are ''the most important development in the corporate use of information technology (IT) in the 1990s'' (Davenport, 1998, p. 122). Dreams of organizations are now into reality. Integrated software packages like human resource information systems, customer information, supply chain information and financial and accounting system were available (Umble et al., 2003).But the issue of successful implementation and failed implementation is going side by side with extended development of enterprise resource planning. For the rest of the potential organizations

enterprise resource planning implementation has to face many serious problems including organizational, social and economical issues.

The acceptance and use of enterprise resource planning system influence and firm's financial performance outcomes (Hunton et al., 2003; Poston and Grabski, 2001). enterprise resource planning system is very important strategy to gain business advantages and of good quality services (Chuan et al., 2007). Enterprise resource planning system is known for streamlining the business processes and it creates the big transaction structure which put together important functions of different departments through a unanimous platform. Organizations reach to the higher competitive edge and digital era. So enterprise resource planning is a solution of the in sequence infrastructure of today's businesses (Chuan et al., 2007).Further enterprise resource planning is expected to grow continuously as the largest information system (Wang et al., 2006).But if enterprise resource planning fails then its results are more disastrous if we think about the cost implemented on its and its budget overruns. Then enterprise resource planning has to be terminated at this time by the organization as no other solution could be present at that time which creates bankruptcy (Davenport, 1998; Markus et al., 2000).

Successful enterprise resource planning implementations based on the management ability to respond to the varying environment and take appropriate steps to overcome such situations. As (Gefen, 2004) argues strongly on active management during implementation phase. There are number of studies who have examined the effect of firm's absorptive capacity and its usage (Zahra and George, 2002). User can understand

enterprise resource planning by the consultation of its experts. While in the business set up, the concept of getting compatibility getting by the experience has also been identified in order to explain the behavior of companies. As a result (March, 1991) uses the theory of organizational learning, considers that knowledge leads to a wider. But it is also considerable that when organizational members possess greater knowledge, they can absorb new knowledge effectively (Dell and Crayson, 1998). In the context of enterprise resource planning systems, when user is able to generalize knowledge then it can be internalize knowledge as well. According to (Cohin and Laventhil, 2007) absorptive capacity is not only the capability to understand and assimilate external knowledge, but the ability to exploit and commercialize it (Tiemessen, Lane and Crosan, 1997).

So it can be said that if a user has the ability of applying knowledge then it have the ability of use and share enterprise resource planning knowledge as well. Human Factor is very important in implementation of enterprise resource planning. If the employees are involved in the system during implementation then they will show positive attitude towards its implementation as an important key factor (Helm et al., 2003).Literature shows many critical success factors for enterprise resource planning implementation. (Gyampah and Salam, 2004) considers that better acceptance of the system based on shared beliefs. (Ford, 1985) emphasizes on better communication of the user side with others. While for some researchers as (Yen and Sheu, 2004) culture impact the potential organizations for implementation accordingly. (Lander et al., 2004) focuses on trust-building mechanism as key issue of success between employees of the organization. Successful enterprise resource planning implementation is the procedure of huge

intricacy as there are many factors which involve and influence this process. They can create positive effect on enterprise resource planning implementation and project outcome and if not handles properly then reason can be of the project failure. Infact the critical success factors may affect on one another .They may have their joint effects on the whole scenario as well as on individuals as shown in different researches. The adoption of the enterprise resource planning may base on, "how the organization handle the change between environment of organization and individual (Cheng et al., 2006).

There are many authors who have also explained many critical success factors for successful enterprise resource planning implementation *i.e.* top management support, change management culture and program (user training and education) and project management (Nah at al., 2003).While according to (Marshal et al., 2003) it includes also communication, process management, training and education control & co-ordination.
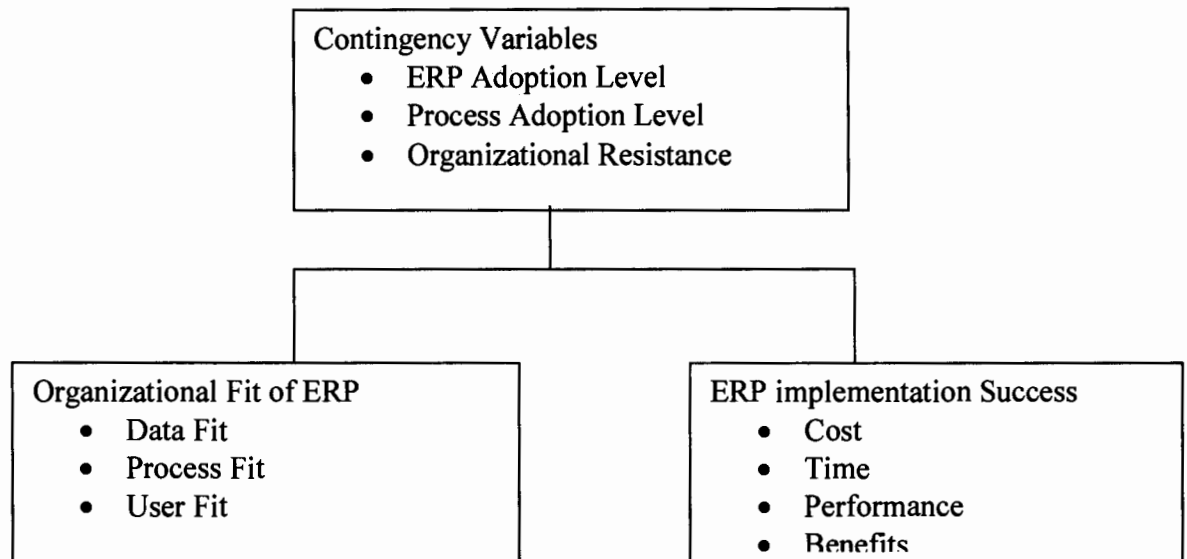
Fig. 2 A conceptual model of Enterprise Resource planning success (Hong and Kim, 2002).

Major factor of successful implementation is to get desired level of Information Technology. Technology acceptance model considers the basic research on Information Technology Systems. Technology acceptance model deals with the perceived usefulness and perceived ease of use. Technology acceptance model identifies that use of computer can be estimated by the behavioral intension of using the system, where the perceived usefulness and personal attitude together determined by the intension to use the system. Researchers have tried to find out the belief that lies under the technology acceptance model constructs. (Vankatesh and Davis, 1998) argued that effective organizational interventions create a new favorable environment for information technology and

increase user acceptance. Technology acceptance model considers that its variables are the key to determine its usage. (Davis, 1989) argued that research on technology acceptance model should cover its effects on other variables such as ease of use, user acceptance, attitude *etc*. Infact the study of core technology acceptance model variables and variables which affects it and enhances our study and makes us more knowledgeable to deal with organizational problems and find out its solution. The variables which play their role for the acceptance of information technology are related to its characteristics and environment in which they deal and vary according to users as well (Moon and Kim, 2001). (Legris et al., 2003) found that technology acceptance model research should be beneficial if it is done under business environment.

Hypothesis 10: perceived usefulness is positively related to Performance.

Hypothesis 11: User Involvement is positively related to Performance.

Implementation of enterprise resource planning can be said as the transfer of knowledge (Park et al., 2007). But on account of complicated process, there are so many complex modules, so employees of organization feel hesitation to adopt it which is the main reason that why successful implementation can not be achieved. According to (Cohin and Laventhil, 1990) the absorptive capacity is the organizations members' capacity. So effective transfer of knowledge entails through and close path between knowledge sources and its receivers (Dyer and Singh, 1997). Few studies have examined the effect of individual performance on enterprise resource planning Systems. (Koh et al., 2007)

has worked extensively on individual capacity of enterprise resource planning Systems. He finds out that transfer of the knowledge from the enterprise resource planning consultants to the employees of the organization have played significant role.

2.1. MOTIVATION

The importance of motivation in achieving organizational goals is significant in nature. Lack of motivation creates many project failures. Motivation provides different edges for successful enterprise resource planning implementation. Two concepts of the motivation deal very well in the literature i.e. intrinsic motivation and extrinsic motivation as (Saraph, 1989) have argued that people performed well if they are intrinsically motivated to do that. Motivation is the reason or reasons for engaging in a particular behavior. Motivation is one of the major factors which are the reason of failure or success of enterprise resource planning Systems in organizations. (Detert et al., 2000) theoretical framework focuses on cultural values to identify the role of human behaviors in implementation of enterprise resource planning. Organizational believe to work for the internal and external motivation of employees, give reasoning to good functioning of the enterprise resource planning Systems and its knowledge. Basically the concept of motivation according to some renewable authors is "how organizations motivate individuals internally to perform well and to improve their performance and externally by the reward and compensation systems" (Jones, Cline and Ryan 2004).Thinking to perform well is based on internal motivation rather than external motivation which lead to

Hypothesis 1: Motivation is positively related to Performance.

2.2. CONTROL & COORDINATION

There are many papers which directly address the issue of critical success. There are so many critical factors for implementing of enterprise resource planning systems. Many articles describe only one critical success factors while others describe a list of them. Also influences of these factors might depend on the company situation. If the employees are motivated enough and top management is handling everything with full command then commutative influence will be more controlled and co-ordinated for all these factors. (Reimers, 2002) have described most of the critical success factors mentioned in the literature i.e. support/ commitment by top management, team configuration/ teamwork, personnel 1,customization; "Vanilla" approach, consultation/ consultants, business vision/ goals/justification, project management (schedule and plans; deliverable dates), commitment to change, training , phased vs big bang , range of functionality/project scope , project team empowerment , communication, legacy system/ integration , project manager; champion1, implementation time , client acceptance , monitoring and feedback troubleshooting , employee's retention , user involvement , project incentives , incentive alignment , vendors and decision making .So we can say that there is no single step for implementation of enterprise resource planning successfully rather there is a bunch of tasks which needs high attention separately.

Hypothesis 2: Control & Co-ordination will be positively related performance of individuals.

2.3. PERCEIVED CHANGE MANAGEMENT

During implementation of enterprise resource planning Systems, top management faces many problems and negative attitude towards it. The goal of the top management in this scenario is that to build positive attitude and reduce negative attitude. If top management fails to achieve this then user acceptance will not be possible to create. Top management should also co-ordinate with the middle management on the lines of co-operation and sharing of knowledge so that burden of top management may be reduced significantly. Infact top management must send clear signals to various parts of the organization about the importance of a project (McGowan and Madey, 1998) which will create a mindset for all employees that something is very important for their progress and performance. The active involvement, vision, and direction of high level executives provide the impetus needed to sustain the implementation of enterprise resource planning (O'Leary, 2000). So if top management involvement makes such influences on the whole "Changed Environment" of enterprise resource planning. So we can say that effective communication is a key to handle perceived change management in organization. Effective handling of perceived change management describes the extent to which employees and top management understand one another. As in well inter organizational relationships, top management must share their experiences and understanding to their

middle management and vice versa and then middle management to lower management gradually. Thorough information and knowledge sharing in the change management process is a requirement for effective enterprise resource planning implementation.

Hypothesis 3: perceived change management is positively related to the performance of individuals.

2.4. USER INVOLVEMENT

Technology acceptance model and its constructs is the central focus of interest for the successful implementation of enterprise resource planning Systems. One of the key measures of implementing enterprise resource planning is "how many users are satisfied and working with it easily". The technology acceptance model basically deals with employee's behavior and information technology usage (Davis, Bagozzi and Warshaw, 1989). Technology acceptance model is particularly customized for user acceptance of information systems with the aim of explaining the behavioral intention to use it. It proposes that perceived usefulness and perceived ease of use (PEU) are of key significance in predicting the behavioral intention to make use of systems. Organizations apply this technology to improve employees and organizational performance. Then they must understand on what cost employees are using it. The greater adoption of enterprise resource planning Systems from the user's perspective, the greater is the extent of employees to understand the new challenges to face them and make sufficient use of technology. Successful implementation of enterprise resource planning needs cross-

functional co-operation (Motwani et al., 2005).Every department shares each others information. So employees can use enterprise resource planning more usefully if they are fully involved in it. It provides support to the following Hypothesis:-

Hypothesis 4: User Involvement will mediate the relationship between motivation and Performance.

Hypothesis 5: User Involvement mediates the relationship between control & coordination and Performance.

2.5. PERCEIVED USEFULNESS

For successful enterprise resource planning implementation and positive behavior of employees towards the system to reduce their resistance, perceived usefulness may be considered as one of the important factors. For this purpose many variables have been constructed by the researchers i.e. perceived fit (PF), perceived compatibility (PC), perceived ease of use (PEU), perceived usefulness (Cheng and Zhange 2007). (Nah, 2004) used PC, PF, PEU and perceived usefulness used these variables to find out the behavioral attitude of users for enterprise resource planning Systems. Our main focus of study in this research is "perceived usefulness" which is major construct of technology acceptance model (TAM). While Davis defined perceived usefulness as ''the degree to which a person believes that using a particular system would enhance his or her job performance'' and defined perceived ease of use as ''the degree to which a person

believes that using a particular system would be free of effort." technology acceptance model describes that use of computer is based on the intentions and attitude of users towards its perceived usefulness. Technology acceptance model describes that perceived usefulness and perceived ease of use are the major determinants of technology constructs. (Davis, 1989) found and argued that research on technology acceptance needs to deal with how other variables affect core technology acceptance model variables, such as usefulness, ease of use, attitude and user acceptance. Performance is a process in which some kind of external movement or change is produced by internal events. (Arunthari and Hasan reveal "Attitude is determined by a set of behavioral beliefs about the outcome of behavior. It refers to the person's evaluation that the potential outcome will be 'positive or negative or' good or bad and the likelihood that performing a given behavior will result in a given outcome". (Fishbein and Ajzen, 1975) further point out that a positive attitude creates positive behavior and negative attitude creates negative behavior. If an employee has a view point that implementation of enterprise resource planning is beneficial for organization and his/her own performance then it will encourage to the successful implementation of enterprise resource planning. Moreover, user involvement and perceived usefulness will be created with the help of motivation, control & co-ordination and perceived change management then employee will also lead to create positive behavior towards its implementation. This literature provides support to the following hypothesis:-

Hypothesis 7: Perceived usefulness will mediate the relationship between motivation and positive Performance.

Hypothesis 8: perceived usefulness mediates the relationship between control & coordination and Performance.

Hypothesis 9: perceived usefulness mediates the relationship between perceived change management and Performance.

Enterprise resource planning implementation success always requires fully cross-functional synchronization and collaboration. As a result, enterprise resource planning implementation success is heavily dependent on human factors such as project and users efforts and commitments. The implications of this concept mainly depend on the importance effect and on the firm's acceptance of new technologies. Thus, when individual can perceive their better performance and ease of use then it becomes more useful to carry out a business successfully. The importance of performance depends on the perceived ease of use and user involvement. The firms with less experience value the perceived usefulness to greater extent (Ortega, Martinez and Hoyos, 2006). (Mallat et al., 2006) suggested that the effect of system usefulness on user intention is based on situations where a system is used, even though perceived usefulness and perceived ease of use are the primary predictors concerning beliefs about use intentions.

While (Wu and Wong, 2005) describes that ease of use and usefulness are major significant factors that plays a vital role for the increased use of technology. However, general impression of employees is also a key factor. Those impressions describes by

Arunthari and Hasan as " inventory accuracy and visibility", "cost saving", " personal reduction", " improved internal integration between systems", "enhanced visibility of data and greater accessibility of data", "new and increased business processes", " increased responsiveness" creates positive attitude which in turns create increased user adoptability towards enterprise resource planning Systems.

Effective performance has several fundamental characteristics. Individual action should be accumulative as team actions are determinant of performance. Teams are required to perform in every type of environment, in order to perform high co-ordination and cohesion is very necessary (Zaccaro et al., 2001; Nygren et al., 1996). Top management should define a clear vision and objective in order for successful enterprise resource planning implementation (Holland and Light, 1999).The main objective of the good or "controlled" leadership to get required results from the sub-ordinates or from the team members or from the organization employees. Infact successful implementation needs strong leadership, commitment and participation by top management (Davis et al., 1989; Oden et al., 1993).

Present infrastructure, processes, found in all organizations where enterprise resource planning is not implemented shows that it was very difficult to implement enterprise resource planning and to get required results in the present scenario (Umble at al., 2003). Even if someone supposes that implementation of enterprise resource planning is very easy and most flexible even then it requires its own processes, logic, environment and changes according it. So, re-engineering, the key business processes to support the organization's goal is very necessary (Manahan, 1998).As re-alignment works with most

functional and operational areas so it effects the organization as a whole. Further many top executives see the implementation of enterprise resource planning with technological aspect and do not consider the basic changes that should be done before and during implementation so the result comes as total failure on individual performance and organizational performance. In order to remove these pitfalls this change should be business driven not information technology (Chew et al., 1991).On the basis of this strong relationship, it can be concluded that there exists strong positive relationship with perceived change management and performance.

Whenever any organization think to implement enterprise resource planning, its ultimate requirement is to get the effective level of usage (Gyampah, 2007).Any system cannot be considered successful if it not reach to the desired level of usage (Markus and Keil, 1994). (Davis, Bagozzi and Warshaw 1989) noted ''computer systems cannot improve organizational performance if they are not used'' .So any success can be used by the implemented project if the users try to use it and motivated towards it. Acceptance by the users of information technology is very important concept that is important for the researchers to study (Venkatesh and Davis, 2000).User involvement is one of the technology acceptance model construct. Technology acceptance model serves as the base of the research on the behavior of the users of the information systems. (Limayem and Evaristo, 1995; Luarn and Lin, 2004; Igbaria, Zinatelli, Cragg, and Cavaye, 1997; Straub, Venkatesh and Davis, 1996). (Gyampah, 2007) has argued and relates the acceptance of the technology with three factors i.e. 1: user involvement 2: argument for the change of technology and last is degree of using the current legacy systems. Better understanding of

these factors would lead to the better strategies for the user involvement. (Chow and Leitch, 1997) have explained further factors that include the user involvement, change and prior usage. Theories that based on decision making and organizational change focuses on the situational involvement and intrinsic involvement (Hartwick and Barki, 1994). "Situational involvement is the extent of participation in various activities related to technology development and implementation while intrinsic involvement refers to the extent to which the object in question has personal relevance, psychological significance and significant consequences for the individual"(Gyampah, 2007).

Perceived usefulness is also one of the important technology acceptance model construct. People who are motivated to gather the system requirements, design and information are more likely to believe on the system usefulness (Robey & Farrow, 1982). Intrinsic involvement relates perceived usefulness and persons who believes that new systems are useful for their performance on their jobs (Hartwick & Barki, 1994; Jackson et al., 1997).So the people who are more motivated towards the information systems are more likely to use the systems in order to improve their performance over the job.

This Research Model is shown in Figure 3.Each component of this model is related to the performance of employees. In addition, capacity for understanding individual performance is assumed to affect the performance of the organization *via* perceived usefulness and user involvement by assimilating and applying performance.
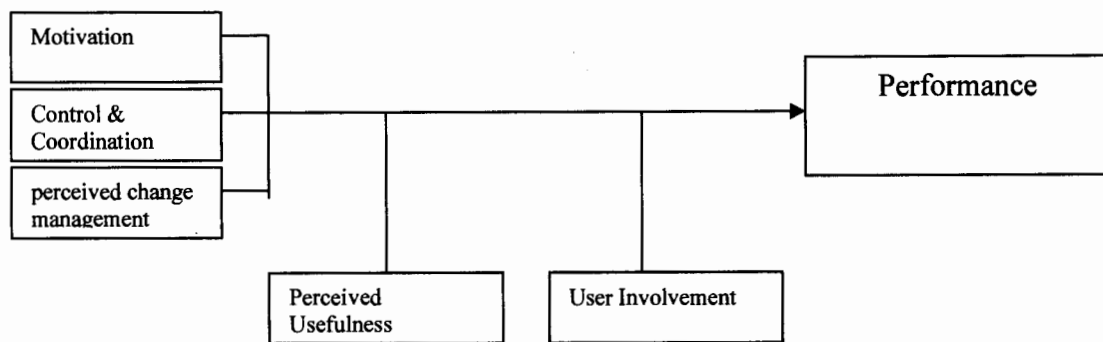
Figure 3: Theoretical Framework

2.6. RESEARCH QUESTIONS

While this study focused on the relationship between performance and variables like motivation, control & coordination and perceived change management and mediating relationship of technology acceptance model constructs. It also answers to the following questions:-

- What are the possible implications that can be drawn from the study to assist top and middle level of management who are concerned to the performance of employees during implementation of enterprise resource planning and successful implementation.

- What are some special factors that should be discussed or taken into consideration in the cultural settings of Pakistan.

- How the relationship between the antecedents and existing consequences which affect the organizational performance and reduce the individual resistance.

- How does technology acceptance model constructs play their role and mediate the relationship with the antecedents and consequences.

CHAPTER – 3

RESEARCH METHODOLOGY

It is hypothetical testing study. Sample of the study consists of employees working in different National and Multinational organizations in the private and public sector of Pakistan. Data have been collected from 8 different types of organizations which illustrate different sectors e.g. different multinational and national banks, NADRA, PTCL and other well reputed private and public sector organizations. All data is being collected by convenient sampling and from two big cities of Pakistan i.e. Islamabad and Rawalpindi. Survey was personally administered to every member of the organization whom questionnaire was given. Research access was obtained through the personal contacts of the thesis writer. Research questionnaire explains the scope and need of the study and it assures confidentiality of the answers of the respondents. Thesis writer approached to every participant and requested for his/her voluntary services to fill the questionnaire. Total 230 questionnaires were administered in all organization which includes 150(out of them 145 were returned with percentage of 96) in different banks while 30 (all returned with rate of 100 percent) in NADRA, 30 in PTCL (out of them 22 were received with the rate of 70.3%) and 20 others in different private companies (9 were received with the rate of 45%).Overall from the total 230 administered questionnaire 204 were received with the response rate of 88.6%.

3.1. INSTRUMENTATION

Park, Huh & Yang (2007) conducted a study to measure perceived absorptive capacity of individual users by using questionnaire. As I have used structured questionnaire for data collection. The contents and format were developed through literature review. Most measurement items were adopted from previous studies, thereby ensuring great level of reliability and validity.The questionnaire for this study consists of four demographic factors like age, gender, education, type of organization. Alongwith demographic questions the research instrument comprises of 29 questions to measures performance. The Scale is taken from the Study "Perceived absorptive capacity of individual users in performance of enterprise resource planning (ERP) usage: The case for Korean firms" by Jong-Hun Park, Hyun-Ju Suh, Hee-Dong Yang (2007) which is not the exact replication but it is the test of their model in Pakistan. All the measures are reliable and validated. The Model drawn from the study has given us an opportunity to test this model in Pakistani scenario. All the items have measured on seven likert scale.

3.2. MEASURES

All responses were acquired by a "self report" measures in which the responses were taken from a seven point likert scale ranged 7= significantly agree, 6= oftenly agree, 5= agree, 4= neutral, 3= disagree, 2= oftenly disagree, 1= significantly disagree. Higher responses show higher level of construct for a variable. English is most commonly known

language in Pakistan and it is also the medium of instructions. So the questionnaire was in English. Further, research is conducted with the people highly educated. So questionnaire was easily understandable to everyone and no hesitation observed in filling the questionnaire in other languages rather than the national language.

3.3. MEASUREMENT OF VARIABLES

3.3.1. PERCEIVED USEFULNESS FOR UNDERSTANDING ENTERPRISE RESOURCE PLANNING SYSTEM

Six items have developed to measure perceived usefulness for understanding enterprise resource planning Systems. Two items measured the general knowledge, specific knowledge, prior knowledge not only the company who has adopted enterprise resource planning (PUERP1, 2) but with four items about enterprise resource planning consulting firms and their specific and general knowledge (PUERP3, 4, 5, 6).

3.3.2. USER INVOLVEMENT FOR UNDERSTANDING ENTERPRISE RESOURCE PLANNING SYSTEM

Five items has developed for computer self efficacy and technical self efficacy (UIERP1, 2, 3, 4, 5) while two items have developed for personnel self efficacy (UIERP6, 7) for understanding towards enterprise resource planning Systems.

3.3.3. EFFECT ON INDIVIDUAL PERFORMANCE BY ENTERPRISE RESOURCE PLANNING

Two items have developed for the creation of the performance towards enterprise resource planning (PERP1, 2), three items have developed for understanding of enterprise resource planning among and between departments (PERP3, 4) while one item is developed to measure task efficiency after implementation of enterprise resource planning (PERP, 5).

3.3.4. EFFECT OF MOTIVATION ON USING ENTERPRISE RESOURCE PLANNING

enterprise resource planning System implementation success can be measured on four dimensions: user satisfaction, individual impact, organizational impact and intended business performance improvement(Zeng et al, 2003).Five items have developed as an effect of motivation on understanding towards enterprise resource planning(MERP1, 2, 3, 4, 5).

3.3.5. CONTROL & CO-ORDINATION AND PERCEIVED CHANGE MANAGEMENT ON USING ENTERPRISE RESOURCE PLANNING

Two items have developed for the control & coordination (CCERP1, 6) while four items have developed for perceived change management about adjustment of resources and personnel in charge recruitment, qualification, re-education (PCMERP2, 3, 4, 5).

CHAPTER – 4

RESULTS AND DISCUSSIONS

Table-1 shows descriptive statistics and correlation among variables used in the study. Mean and standard deviations were given in the table. Reliability and validity tests were conducted for each variable. Reliability of each variable was tested to ensure their stability using Cronbach's alpha technique. The mean for the motivation is 4.98(S.D = 1.13) mean for control & coordination is 5.38 (s.d = 1.20) mean for perceived change management 5.04 (s.d = 1.22) mean for perceived usefulness is 4.33 (s.d = 1.22) mean for User Involvement 4.94 (s.d = .74) while mean for Performance 4.79 (s.d = .87). I found support for my hypothesis 1, 3, 10, 11 which relates to the motivation and Performance where $(r = .368^{**}, P < 0.01)$, $(r = .216^{**}, P < 0.01)$, $(r = .414^{**}, P < 0.01)$, $(r = .216^{**}, P < 0.01)$ respectively. All these correlations are in predicted direction. I found positive association and highly significant association of all my independent variables with User Involvement and in predicted direction as supported by literature review. While I found positive but less significant association of independent variables with perceived usefulness.

Variables	Mean	S.D	Age	Gender	Edu bkgrnd	Org type	Motivation	Cntrl & Coord	Percvd Change Mgt	Perceived Usefulness	User Involvement	Performance
Age	2.28	.94										
Gender	1.60	.50	-.129									
Edu bkgrnd	2.09	.79	.121	-.558**								
Org type	2.36	.79	.028	-.180**	.255**							
Motivation	4.98	1.13	.030	.346**	-.161*	.075						
Cntrl & Coord	5.38	1.20	.241**	.192**	-.034	.207**	.359**					
Percvd Change Mgt	5.04	1.22	.162*	.192**	.003	.133	.470**	.744**				
Perceived Usefulness	4.34	1.22	.325**	-.253**	.079	.128	.110	.068	.038			
User Involvement	4.94	.74	.311**	-.031	-.040	.158*	.383**	.379**	.253**	.518**		
Performance	4.79	.87	.196**	-.036	-.036	-.068	.368**	.003	.216**	.414**	.260**	1

4.1. REGRESSION ANALYSIS

Several regression analysis were performed to test the hypothesis and organization, educational background and type of organization were used as control variables .I found one way analysis of variance and found significant results in case of these three variables. All demographic variables were regressed on with outcome and mediators for their impact but in case of gender, no significant result was found. All other demographic variables found significant results. So I decided to control all demographic variables

except gender. For that purpose I created seven dummy variables in order to create the effect of these demographic variables *i.e.* age1, age2, age3 for age, edbk1, edbk2 for educational background, torg1, torg2 for type of Organization. Table-2 shows all regression analysis in which all main effects of motivation, control & coordination and perceived change management have been determined.

Table 2: Main effects of Variables

Predictors	User Involvement			Performance			Perceived Usefulness		
	β	R²	ΔR²	B	R²	ΔR²	β	R²	ΔR²
Step 1									
Control Variables		.20			.26			.32	
Step 2									
Motivation	.40	.31	.11	.25	.30	.04	.02	.32	.00
Control & coordination	.32	.27	.07	-.11	.27	.01	.04	.32	.00
Perceived Change									
Management	.22	.23	.03	.10	.26	.01	.10	.32	.00
User Involvement									
Step 1									
Control Variables					.26				
Step 2									
User Involvement				.25	.31	.05			
Perceived Usefulness									
Step 1									
Control Variables					.26				
Step 2									
Perceived Usefulness				.37	.34	.09			

n = 204, control variables were age, educational background, type of organization

+ $p < .10$

* $p < .05$

** $p < .01$

*** $p < .00$

In Table-2, all main effects of the study have been measured in these regression analysis all independent variables have been regressed on outcome while User involvement and Perceived usefulness were also regressed on outcome. Motivation showed results with Performance (β= 0.25) while with User involvement (β=0. 40) and with perceived usefulness (β= 0.02).Control & Coordination showed results with Performance (β= -0.11) while with User involvement (β=0. 32) and with perceived usefulness (β=0.04).perceived change management showed results with Performance (β= 0.10) while with User involvement (β=0. 22) and with perceived usefulness (β= 0.10).After analysis of these main effects, first Hypothesis motivation is positively related to Performance is confirmed. Meanwhile the predicted direction was found with (β= 0.25, $p<0.01$) and it explained variance (0.30) with (Δ in variance .04).The second Hypothesis regarding Positive relationship of control & coordination with Performance is not confirm while (β= -0.11, + p < .10) and it explained variance (0.27) with (Δ in variance .01). The third hypothesis perceived change management is positively related with Performance is also not supported by β= 0.10, p = .164 and variance is .26 with (Δ in variance .01). My next hypothesis regarding positive relationship with User Involvement and Performance is also supported by β= .25, $p<0.001$ and it explained variance .31 with (Δ in variance .05). .05 change in variance shows with beta .25 high level support to the Hypothesis-10.Hypothsis-11 is about positive relationship with perceived usefulness and Performance was also supported by β= .37, $p<0.001$ and it explained variance 0.34 with

(Δ in variance .09).As these are the main effects but there are some other effects that are measured in this study in order to find out the exact relationship among them so that they can best explain the mediating relationship of variables among them. First of all independent variables have been regressed on user involvement and then in the next step again all these independent variables have been regressed on perceived usefulness. In order to find the relationship among motivation and User Involvement, regression has run which shows β= .40 p<0.001 and it shows variance .31 and Δ in variance .09.control & coordination shows the relationship with User Involvement with the beta of .32, p<0.001 while variance is .27 and change in variance is .07.While perceived change management shows relationship with beta of .22 with significance level < .01 and variance is .23 and Δ in variance .03.After that to find out the effects of these independent variable on the perceived usefulness, again regressions were run separately. First it was with motivation and results showed that β= .02 p=0.833 while variance is .32 with change in variance is .00.control & coordination showed the relationship with Perceived usefulness with β= .05, p = .486 and it explains variance .32 and change in variance (.00). Third perceived change management was regressed on perceived usefulness and β= .06, p = .389 with variance .32 and change in variance .02. All these major effects of the study now explain more the mediating effect which will be discussed in the next topic.

4.2. MEDIATOR ANALYSIS

In this study 6 hypothesis shows the mediation that User Involvement and Perceived usefulness Mediate the relationship between motivation, control & coordination and

perceived change management. To test this Mediation I follow the techniques which is mentioned in the literature by Barron and Kenny, 1986.According to this technique, the conditions for the mediation are

- Path (a) between independent and mediator should be significant.

- Path (b) between mediator and dependent variable should also be significant.

- After controlling the both paths then main effects between independent and dependent variable should be zero for full mediation and weaker for partial mediation.

4.3. EFFECTS ON INDEPENDENT VARIABLES TO THE DEPENDENT

Next table shows the main effects on independent variables with the dependent variables in the upper portion while the lower portion of the table shows the mediation effects. In order to follow the technique mentioned above first I regressed all three independent variables on the outcome one by one. Dummy variables being held constant for all these regressions. Results for this analysis shows that the relationship of motivation and User Involvement is significant with $\beta = .40$, $p<0.001$ while it shows variance with .31 and Δ in variance .11.The relationship between control & coordination and User Involvement is also significant as $\beta = .32$, $p<0.001$ with variance .27 and Δ in variance .07.While the association between perceived change management and User involvement is significant as well with $\beta = .22$, $p<0.01$ with variance .23 and Δ in variance .03. The relationships between another outcome perceived usefulness and all independent variables were found out by the same regression pattern. Motivation and perceived usefulness shows insignificant relationship with $\beta = .21$, $p=.833$ and variance is .32 with Δ in variance

.00.control & coordination also shows insignificant relationship with Perceived usefulness with ß= .04, p=.436 while variance is .32 with Δ in variance .00. Another relationship between perceived change management and perceived usefulness is also insignificant with ß= .05, p=.386 while variance is .32 and change in variance is .00. In the lower portion Table-2 relationship of User involvement and perceived usefulness have been showed with outcome (Performance). The relationship of User Involvement and Performance is significant with ß= .25, p<.001 while variance is .31 and change in variance is .05. While the relationship between perceived usefulness and Performance is also significant with ß= .37, p<.001 with variance 0.34 and change in variance .09.

Table: 3 Mediator analyses

Main effects	User Involvement			Performance			Perceived Usefulness		
	β	R²	ΔR²	B	R²	ΔR²	B	R²	ΔR²
Step 1									
Control Variables		.20			.26			.32	
Step 2									
Motivation	.40	.31	.11	.25	.30	.04	.02	.32	.00
Control & coordination	.32	.27	.07	-.11	.27	.01	.04	.32	.00
Perceived Change									
Management	.22	.23	.03	.10	.26	.01	.10	.32	.00
Mediation of User Involvement **Step 1**									
Control Variables					.26				
Step 2									
User Involvement				.25	.31	.05			
Step 3									
Motivation				.16	.33	.01			
Control & Coordination				-.22	.34	.03			
Perceived Change									
Management				.04	.31	.00			
Mediation of Perceived Usefulness **Step 1**									
Control Variables					.26				
Step 2									
Perceived Usefulness				.37	.34	.09			
Step 3									
Motivation				.24	.39	.04			
Control & Coordination				-.13	.36	.01			
Perceived Change									
Management				.08	.35	.01			

n = 204, control variables were age, educational background, type of organization

+ $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

4.4. MEDIATION OF USER INVOLVEMENT

As shown in the lower portion of Table-3 for mediation in first step, control all dummy variables and entered them and in the second step mediator of user involvement was entered then in the third step motivation, control & coordination, perceived change management. These variables were regressed on Performance one by one to see the mediating effect of User Involvement. Hypothesis-4 states that User involvement mediates the relationship between motivation and performance. After controlling the effect of User involvement, certain changes have observed in main effect. As it shows β= .25, p<.001 with variance .30 and Δ in variance .04 for this relationship was found weak (β= .16, p= +.10) with variance .33 and Δ in variance .01, that proves that user involvement mediates the relationship between these two variables. Hypothesis-5 about that user involvement mediates the relationship between control & co-ordination and performance is also supported by the facts. The main effect is β= -.11, p<.10 with variance .27 and Δ in variance .01 which already shows the inverse relationship but it again found weak by β=-.22, p<.001 with variance .33 and Δ in variance .03.Hypothesis-6 reveals that user involvement mediates the relationship between perceived change management and performance as the main effect is β= .10, p=.164 with variance 0.27 and change in variance .01 was found weak by β= .04, p= .52 with variance .31 and change in variance .00.Although the relationship was not found significant which does not prove the hypothesis of main effect but results show that partial mediation works in this scenario as in the direction of effect.

4.5. MEDIATION OF PERCEIVED USEFULNESS

As shown in the lower portion of Table-3 for mediation in first step, control all dummy variables and entered them and in the second step mediator of perceived usefulness was entered then in the third step motivation, control & coordination, perceived change management. These variables were regressed on Performance one by one to see the mediating effect of perceived usefulness. Hypothesis-7 states that perceived usefulness mediates the relationship between motivation and Performance and found insignificant because it did not fulfill the requirement of mediation as mentioned by Barron & Kenny, 1996.The main effect was ß= .10, p=.164 with variance .26 and change in variance .01 was found that beta increased to .24 with variance .39 and change in variance .04 which does not prove the hypothesis. The next hypothesis states that perceived usefulness mediates the relationship between control & co-ordination and performance. This can be checked to see the main effect ß= -.11, p <.10 with variance .27 and change in variance .01 was found that beta again increased to -.13 with variance .36 and change in variance .01, which does not prove the hypothesis. Hypothesis-9 states that perceived usefulness mediates the relationship between perceived change management and performance was proved partially as the main effect is ß= .10, p = .164 with variance .26 and change in variance .01 was found weak ß= .08, p = .246 with variance .35 and change in variance .01.

4.6. SUMMARY OF RESULTS

To summarize the results of this study, Hypothesis-1 predicted the positive direction and the result was also significant. So Hypothesis-1 is confirmed by regression. Hypothesis-2 is significant but it is inverse to the predicted direction unfortunately, so Hypothesis-2 was not confirmed. Hypothesis-3 predicted the same positive direction but unfortunately the results were insignificant so Hypothesis-3 is also not confirmed. Hypothesis-4 was confirmed as after involving the mediation of user involvement the result was found weak which shows partial mediation for this hypothesis. The next Hypothesis-5 was also confirmed as after involving the mediation the results were found weak and significant so it proves the partial mediation. Hypothesis-6 was also confirmed by founding weak relationship after mediation and significant results. Hypothesis-7 was not confirmed as the results after the involvement of perceived usefulness after mediation was not found weak but significant which does not fulfill the requirements of mediation. The next Hypothesis was not confirm, unfortunately as the results after involving the mediation of user involvement was not found weak and also not significant which does not fulfill any requirement of mediation mentioned by Barron & Kenny, 1996. Hypothesis-9 was partially conformed as the results after involvement of mediator was found little bit weak and also insignificant, so Hypothesis-9 was also not confirmed. Hypothesis-10 was confirmed as it predicted the same positive direction and the results are also significant. Hypothesis-11 was also confirmed by showing the same predicted positive direction and significant results.

4.7. THEORETICAL FINDINGS.

4.7.1. Hypothesis-1 predicted the positive direction and the result was also significant. So Hypothesis-1 was confirmed by regression. So it can be conclude that if the employees motivate during the implementation phase, their performance will increase.

4.7.2. Hypothesis-2 was significant but it is inverse to the predicted direction unfortunately, so Hypothesis-2 was not confirmed i.e. control & coordination has inverse with performance of the employees and organization.

4.7.3. Hypothesis-3 predicted the same positive direction but unfortunately the results were insignificant so Hypothesis-3 was also not confirmed i.e. perceived change management has no relationship with the performance of the employees.

4.7.4. Hypothesis-4 was confirmed as after involving the mediation of user involvement the result was found weak which shows partial mediation for this hypothesis i.e. user involvement play its role as a mediator between motivation and performance. So it can be used as a mediator for the better performance.

4.7.5. Hypothesis-5 was also confirmed as after involving the mediation the results were found weak and significant so it proves the partial mediation i.e. user involvement also shows partial mediation between control & coordination and performance as the relation were found week but significant.

4.7.6. Hypothesis-6 was also confirmed by founding weak relationship after mediation and significant results. So it can be concluded that user can be use as

a mediator between perceived change management and performance and employees can perform better.

4.7.7. Hypothesis-7 was not confirmed as the results after the involvement of perceived usefulness after mediation was not found weak but significant which does not fulfill the requirements of mediation i.e. perceived usefulness surprisingly has no relationship with performance of the employees as mediator.

4.7.8. Hypothesis-8 was not confirm, unfortunately as the results after involving the mediation of user involvement was not found weak and also not significant which does not fulfill any requirement of mediation i.e. perceived usefulness has no role as a mediator between control & coordination and performance.

4.7.9. Hypothesis-9 was partially confirmed as the results after involvement of mediator was found little bit weak and also insignificant, so hypothesis-9 was also not confirmed i.e. perceived usefulness has again no relationship as a mediator between perceived change management and performance so it can not be used as a mediator between these two variables in order to increase performance.

4.7.10. Hypothesis-10 was confirmed as it predicted the same positive direction and the results are also significant i.e. user involvement has its direct impact on performance and performance of the employees will be better after involving the user involvement.

4.7.11. Hypothesis-11 was also confirmed by showing the same predicted positive direction and significant results i.e. perceived usefulness has its direct impact

on performance and performance of the employees will be better after involving

the perceived usefulness.

CHAPTER – 5

FUTURE RECOMMENDATIONS

There has been a significant impact of enterprise resource planning from the time it is implemented in the organization. The members of the organization become facilitated by coming to a central point. An idealistic way is provided which is usually not possible without enterprise resource planning in a traditional society. The involvement of enterprise resource planning is necessary because it facilitates the modifying business process which is not possible without it. Information which is not meant for sharing is disseminated during enterprise resource planning implementation. The impact of enterprise resource planning on Managers is truly noteworthy. It also has great impact on department's interaction. A group discussion may be held in case of any dispute that might arise in any of the departments of the organization which is known by the higher authority. In other words it helps organization in adopting and adjusting to the whole procedure with a mechanism. Besides the procedure, enterprise resource planning also provides room for employees and IT professionals, and on the other hand it creates enormous job opportunities. enterprise resource planning brings refinement to the functions of the organizations. Information is collected in a "centralized" place and the right information is disseminated to the right person at the right time. Responsibility, confidence, authority, freedom and trust between employees, which are mutually

beneficial for the organization at individual and collective level, are provided by enterprise resource planning. Awareness is brought to every employee, and therefore roles are executed confidently. User involvement, Perceived usefulness, user, and three main variables (motivation, control & coordination and perceived change management) as user satisfaction and reducing resistance towards enterprise resource planning Systems are included in the outline of the study which examines the factors that affect the implementation success of enterprise resource planning and also focuses on the Performance of employees during the enterprise resource planning implementation. An important role that has been taken into account on the success of ERP System for users is the knowledge sharing and facility provided to them. To sum up, the model has antecedent of technology acceptance model constructs of perceived ease of use and user involvement. Studies do exist on vital factors such as user involvement, perceived usefulness, and perceived ease of use on implementation success. However, in front of you is one of the rare studies to inspect the relationships among these factors in an intricate and novel technological environment. The intent of this study is to facilitate Managers for developing appropriate intervention strategies during and after the execution process.

IMPLICATIONS OF THE RESEARCH

Several things can be derived from this study. Firstly, the way to achieve positive performance at an individual rank in an association is decisive for enterprise resource planning success. Undoubtedly failure will be experienced when an enterprise resource

planning adoption organization lack positive necessary capabilities. Through Manager Co-ordination, proper control and motivation employees attain the required knowledge for successful implementation. Therefore, it is truly vital that enterprise resource planning adoption firms instruct their Managers how to handle employees to face big changes that will be introduced in their organization. Persons should be considered by the organization through individual levels because every person differs from each other in their capabilities to absorb and assimilate fresh inputs from ERP . Through that the adoption firms should build up their environment. This is to encourage the course of consistency in ERP. On the other hand, organizations need to develop their internal environment before implementing ERP system in order to gain greater competitive advantages and to pursue a successful implementation. Organizational practices, culture and structure should be tailored to address these needs (Nonaka & Takeuchi, 1995).Finally, for successful enterprise resource planning implementation, handlers should be able to assess the fit between their employees level and enterprise resource planning. There should be mental capability and match of two levels. The people living in Europe are more in front of technology than the people living in third world countries. Their attitudes, mindset behavior is totally different. As cross cultural changes are on boom in today's global environment. So Managers should understand these different levels and handle it accordingly.

LIMITATION OF THE STUDY

Before concluding this study, there are some limitations of the study itself, which is that the data was cross sectional and in order to get the depth knowledge about ERP, it is significant to conduct longitudinal in order to find out the differences which takes place before and after the implementation of ERP in the real sense. Another limitation was that the time duration was very limited, and because of that it was impossible to obtain exact results which resulted in the unawareness that affected the hypothesized model for performance. Because the main object is to work manually instead of technology adoption because the cultural organization is labour intensive. The organizations themselves adopt technology, but at the same time they do not have awareness on the operation of it because of the lack of importance of IT knowledge in Pakistan.

FUTURE RESEARCH

Results of this study can not be generalized because ERP has not matured in Pakistan. Future research needs to be done to foretell ERP capacity and highlights its importance. Other factors must be considered in future research to arbitrate this relationship in order to make results significant.

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APPENDICES

"Measurement of Individual Performance during adoption of Enterprise Resource Planning Systems: A study of organizations in Islamabad, Rawalpindi and Wah cant".
A Survey in Pakistani Context.

Sir/Madam

The Purpose of this survey is to find out the Individual Performance during Enterprise resource planning systems. It is requested to answer each item with honestly and I am giving you assurity that your information will be kept confidential and will be used only for the purpose of data analysis. Kindly encircle your answer from the following given options as per best match.

Thank You

Age	Gender	Educational Background	Type of Organization
18-22	Male	M-Phil/MS/PhD	Public
23-27	Female	Post Graduate	Private
28-32		Graduate/Under Graduate	Multinational
32 and above			

Significantly Disagree	Oftenly Disagree	Disagree	Neutral	Agree	Oftenly Agree	Significantly Agree
1	2	3	4	5	6	7

Perceived usefulness for understanding ERP system

I knew the general concept and functions of the ERP system before my company adopted it	7	6	5	4	3	2	1
I knew the specificities on the module that I currently use before my company adopted the ERP system	7	6	5	4	3	2	1
I knew the reputations of the ERP consulting firm before my company adopted the ERP system.	7	6	5	4	3	2	1
I knew the careers and reputations of the ERP consultants before my company adopted the ERP system.	7	6	5	4	3	2	1
I knew the deliverables the ERP consulting firm would provide before my company adopted the ERP system.	7	6	5	4	3	2	1
I knew the after-sale service that the ERP consultants would provide before my company adopted the ERP system.	7	6	5	4	3	2	1

User involvement for understanding ERP systems.

I can use ERP very well if I have only software manuals for reference.	7	6	5	4	3	2	1
I can use ERP very well if I can call someone else to solve my problem.	7	6	5	4	3	2	1
I can use ERP very well if someone helps me get started.	7	6	5	4	3	2	1
I can use ERP very well if I had a lot of time.	7	6	5	4	3	2	1
I am qualified enough to perform tasks using ERP.	7	6	5	4	3	2	1
I have the capability to achieve the objectives of tasks by using ERP.	7	6	5	4	3	2	1
I have superior skills and capabilities to perform tasks using ERP compared to other colleagues.	7	6	5	4	3	2	1

Effect on Individual Performance by ERP

	7	6	5	4	3	2	1
I can apply the knowledge derived from ERP to my tasks.	7	6	5	4	3	2	1
I can apply the advanced processes derived from the ERP to my tasks.	7	6	5	4	3	2	1
I can share knowledge derived from ERP with others in the same department.	7	6	5	4	3	2	1
I can share knowledge derived from ERP across departments.	7	6	5	4	3	2	1
I can accomplish my task efficiency after implementation of ERP	7	6	5	4	3	2	1

The questions below are about the effect of Motivation on using ERP. (1: Significantly disagree, 7: Significantly agree)

	7	6	5	4	3	2	1
ERP enhances the effectiveness of performing tasks compared to before ERP use (e.g., legacy systems, manuals, etc.).	7	6	5	4	3	2	1
ERP increases the productivity of performing tasks compared to before ERP use (e.g., legacy systems, manuals, etc.).	7	6	5	4	3	2	1
It is faster to perform tasks using ERP than before ERP (e.g., legacy systems, manuals, etc.).	7	6	5	4	3	2	1
It is easier to perform tasks by using ERP than before ERP use (e.g., legacy systems, manuals, etc.).	7	6	5	4	3	2	1
I am more satisfied with my performance in conducting my tasks due to ERP than beforehand (e.g., legacy systems, manuals, etc.).	7	6	5	4	3	2	1

The questions below are about the degree of Change Management and Control & Co-ordination for ERP (1: Significantly disagree, 7: Significantly agree)

	7	6	5	4	3	2	1
The management has explicitly encouraged using ERP	7	6	5	4	3	2	1
Enough resources have been provided to use ERP	7	6	5	4	3	2	1
Personnel in charge of ERP have been recruited	7	6	5	4	3	2	1
Personnel in charge of ERP have been qualified	7	6	5	4	3	2	1
ERP personnel have been reeducated periodically	7	6	5	4	3	2	1
Problems regarding ERP have been solved whenever they occur	7	6	5	4	3	2	1

Thank again You for Your Cooperation