

**Implementation of Enterprise Resource Planning  
and Its Impact on the Organizational  
Performance**

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**Implementation of Enterprise Resource Planning  
and Its Impact on the Organizational  
Performance  
By**

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Thesis submitted in partial fulfillment of the requirements for the Degree of Master of  
Philosophy/Science in Management with specialization in Technology Management at the

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**( March \_ 2010)**

## **DEDICATED TO**

**Most of all, we owe a sincere thanks to our parents and Teachers for their tireless support and understanding during the completions of studies as well as this thesis.**

**(Acceptance by the Viva Voice Committee)**

Title of The Thesis: **Implementation of ERP and Its Impact on the Orgsnizational Performance**

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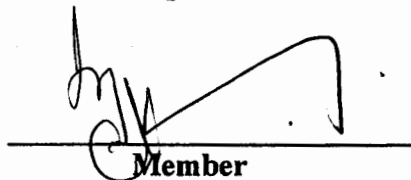
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## ABSTRACT

This study provides an extensive analysis of the factors towards ERP capability on the organizational performance and customer value as a mediator. A sample of 195 employees from the organizations of Pakistan was taken to find out the relationship between ERP capability, Customer Value and organizational performance. Two hypothesis were proved; ERP capability is positively related to the organizational performance and customer value is positively related to the organizational performance. Surprisingly, mediating role of customer value was not proved between ERP capability and organizational performance.

## **ACKNOWLEDGEMENTS**

*All Praises and thanks to Almighty ALLAH. Who has created this Universe, The Most Beneficent, Merciful and to his Prophet Muhammad (Peace Be Upon Him).*

There are always a number of people contributing in a job, whether directly or indirectly. These people play very important role in completion of the work. It is almost incomplete without acknowledging them, but one cannot find words for them as well. My supervisor *Mr. Farooq Hussain* is a very competent and dynamic person who made us strive for the best and second to none, we are very thankful to him for his vision oriented guidance and polishing our abilities.

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## FORWARDING SHEET

The thesis entitled " the implemenation of ERP and its impact on the organizational performance" submitted by Maria Jabeen 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: \_\_\_\_\_

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Name : \_\_\_\_\_

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#### **ABBREVIATIONS USED**

<b><i>ERP</i></b>	<i>Enterprise Resource and Planning</i>
<b>RBV</b>	Resource Base View
<b>CRM</b>	Customer Relation Management
<b>TAM</b>	Technology Acceptance Model

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## **DECLARATION**

I hereby 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 guidance 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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**CHAPTER - 1**

**INTRODUCTION**

## **CHAPTER ONE**

### **INTRODUCTION**

Enterprise Resource Planning is the latest software solution provided by IT to the business world. The Enterprise Resource Planning (ERP) software solution is a unified system, which integrates all data sources and processes of an organization to enable managers/leaders to view their companies from a holistic point of view. The unified system uses different hardware and software for the integration purposes and its unified database contains all data for the software modules, which would include: manufacturing (Bills of Material, Scheduling, Capacity, Workflow Management and Quality Control *etc*), Supply chain Management (Inventory, Order Entry, Purchasing, Supply Chain Planning and Supplier Scheduling *etc*), Financials (General Ledger, Cash Management and Accounts Payable *etc*), Project (Costing, Billing, Time and Expense *etc*), Human resource( Payroll, Training and Benefits *etc*), Customer Relationship Management (Sales & Marketing and Commissions *etc*), Data Warehouse and various Self-Service interfaces for Customers, Suppliers, and Employees.

In modern business Practice Enterprise Resource Planning is used for the smooth running of business functions, including production, accounting, distribution, supply chain and human resources. Technology incorporates all important information to flow into our whole business organization (Nah, F.-H., Lau, J. and Kuang, J. 2001). Enterprise Resource Planning System can create significant efficiencies across your business, resulting in timely business information, better customer relationships, a more cost-effective supply chain, improved internal process and, ultimately, increased profitability.



ERP is a business solution that facilitates effective and efficient management of all the business resources such as financial, human and raw materials *etc.* Holistically so that integrated solutions can be provided to satisfy business objectives through a process oriented view(Nah et al., 2001). Big organizations started ERP in 60s, and to use Material Requirement Planning Model to computerize their supply chain actions. MRPI lead to the MRP II, which makes the back up for the ERP. But now the ERP II packages are under the use of organizations. There are 100s of ERP vendors but only a few of them are famous *i.e.* SAP, Oracle, JD Edwards, People Soft and BAAN. Advances in Information Technology, craze of increasing the competitive edge and to be more successful then ever before makes business complex and difficult to run. Integration and communication of business processes links all business units together. Planiswamy and Frank (2002) recognize that better cross-functional integration is a critical success factor, one way to that is thorough Enterprise Resource Planning Systems. Velcu,(2007) explores the business process changes that occur in organizations with different motivations for their ERP implementation projects and with degrees of success in the ERP implementation experience. The question arises, how implementation of the ERP contributes in change operational performance and the customer value mediate affect the organizational performance and ERP System?

The basic reason to implement the ERP System is that it has many advantages that's why many organizations prefer to implement ERP but it has some disadvantages too due to which some of small organizations hesitate to implement it. In the absence of the ERP System, a large manufacturer may find itself with many software applications that neither \talk to each other nor interface effectively. The ERP System is integrating the functions

to improve the organizational efficiency, easily manage the complex function, it is a way (design) how to best make the product. The best thing of ERP system is that it centralizes the data in one place, through this system to eliminate the problem of synchronizing change and can reduce the risk of loss sensitive data by consolidating multiple permissions and security models into a single structure. Some major disadvantages of the ERP is customization of the ERP software which is limited, the ERP system can be very expensive and it is too rigid and too difficult to adopt the specific operational processes in some organizations (Buckhout, S., Frey, E. and Nemeč, J. (1999). The ERP Systems centralize the data in one place. This can increase the risk of loss of sensitive information, if there is any security breach. In addition, the ERP leads to the strong resistance towards ERP capability and its adaptability. Problems with the ERP System are mainly due to inadequate investment in ongoing training for the involved IT personnel - including those implementing and testing changes - as well as a lack of corporate policy protecting the integrity of the data in the ERP Systems and the ways in which it is used(Nah, F.-H., Lau, J. and Kuang, J 2001). The customer values show the very positive impact on organizational performance because the customers are the main asset of any organization. Customers are well aware of the cost and value of resources and potentials delivered through specific system. Customers evaluate value of system in terms of its capabilities to satisfy a set of specific customer needs in a cost effective and responsive way. (Peteraf and Bergen,2003).

The thesis outlines the framework for investigating the relationships among ERP capability, customer value and business performance based on the mediated RBV, literature review in the next section, and then it explains the research method. The thesis

concludes by arguing implications for strategic theory and understanding different management practices under paradigms of technology certain limitations of the study are identified. These limitations can provide basis for future research.

This study notes that the system assessment after ERP implementation is not an end in itself means continuous execution. Since the ERP implementation different sectors of Pakistan includes technological, operational, managerial, strategic and organizational constructed components (Al-Mashari et al., 2003), it is totally different from the implementation of other technology systems. There are very limited researches in Pakistan on implementation of ERP in different sectors like PTCL, NADRA, Siemens, Banking sectors and Multinational companies.

### **1.1 PROBLEM STATEMENT**

This study is an attempt to explain the role of three major variables mentioned in the literature *i.e.* capability and organizational Performance while considering the mediating role of customer value (Perceived Usefulness & User Involvement). These are the organizations of Pakistan, which are successfully implementing ERP System. The aim of this research is to investigate the organizational performance after implementation of ERP System and check that how customers value it. Research problem may be stated as; “How do organizations implement Enterprise Resource Planning and measure its impact on the improvement of the Organizational Performance?”

This research helps to analyse and assess their time performance and also to give suggestions to improve their organizational performance. Through this study the researcher aim to investigate performance of an organization after implementation of

ERP System and the effect of mediating variable (customer value) in the organizational performance.

## **1.2 OBJECTIVE OF THE STUDY**

ERP principles of planning and managing the resource of whole organization is an efficient, productive, and profitable manner and obvious in the form of configurable information system packages. The objectives of the ERP adoption are abundant. They are cost reduction; improve productivity, quality, customer service and better resource management, improved decision making and planning and organizational empowerment (Shang & Seddon 2000). ERP System adoption requires time, money and effort. In many organizations, ERP System implementations may need several years, particularly if we need an enhanced system that better understands the organizational needs (Davenport, 1998). Main objective of the study;

- To identify the impact of ERP on the organizational performance of the organization.
- To apply the learning to implement similar ERP implementation in other organizations.

This research will help to understand the series of processes and procedures through which a central system (ERP) is implemented. The study also focuses on how ERP has affected the efficiency in organizations that ultimately leads to enhance and increase the performance of the organization. Data securities, data integrity, information transparency, handling of routine operations, critical option analysis of decisions to be taken are all the concepts to be highlighted in this study. Unfolding the facts of the organization profitability attained due to ERP adoption will be the focal point of the study.

### **1.3 FINDINGS**

The findings of the study can be explained in term of negative and positive effects of the hypothesis. To summarize the finding of this study, hypothesis (1) predicate is positively related to the organizational performance. According to this study positive relationship between ERP capability and organizational performance was significantly proved through the rigorous analysis. My second and fourth hypotheses do not show significant results. In literature they have positive impact on organizational performance but in Pakistan there is inverse relationship between ERP capability and customer value. The mediating variable also shows inverse impact between ERP and organizational performance. The study demonstrates that there is no mediation in dependent and independent variable.

### **1.4 ORGANIZATION OF THE STUDY**

This study is divided into five chapters. Chapter-1 is an introductory chapter that discusses the background of the study, rationale of the study, research question, significance and contribution of the study.

The second chapter of this study discusses literature review on the implementation of Enterprise Resource Planning capability relationship with organizational performance. This is followed by the Chapter-3 which is based on the Research Methodology. All the factors, variables and links have been discussed which leads to the development of the hypothesis. Type of study, description of instruments and measurement of concepts has been discussed. Sample and data collection procedure are described alongwith measures used for all construct in this study.

Chapter-4 discussed the results of the research. Results of the questionnaire survey, demographic data responses, correlation among variables and Research model evaluation will be discussed.

This is followed by Chapter-5 discussion and conclusion will be discussed. Important findings together with limitations of the study and future research will be discussed in this chapter. Last chapter of the study presents Bibliography

**CHAPTER TWO**

**LITERATURE REVIEW, THEORITICAL**

**FRAMEWORK AND HYPOTHESES**

## **CHAPTER TWO**

### **LITERATURE REVIEW, THEORITICAL FRAMEWORK AND HYPOTHESES**

#### **2.1 Literature Review**

There is wide literature investigating the business impact of Information Technology using a variety of methodologies and different levels of analysis. Even as at the economy-wide level has typically shown equivocal result until very recently (see e.g. Oliner and Sichel, 1994), as the previous research has discussed about information technology (IT) investment has a significant effect on productivity levels, productivity growth, and stock market value of firms (Brynjolfsson and Hitt, 2000). And many researches have also found some positive effects on internal performance metrics such as inventory turnover (Barua, Kriebel and Mukhopadhyay, 1995). Through implementation of IT in business sector have a totally changed and the organizational performance level is high and its increase in the profitability and productivity level. After 1960 business sector have dramatically changed it implement the Material Requirement Planning (MRP) and after that in 1980 the advance version of MRP is in new name and new feature is implemented that is Enterprise Resource and Planning (ERP).

To challenge in the world market and make business processes are well-organized and productive information technology plays an important for so many years. Companies are using various manual and simple computer keeping systems to manage various business processes. Because the world is globalize and with increase of global market competition, rapid changes in resource planning and emerging trends of E-commerce corporate business process need to grow intensively and make existing systems more complex and



difficult to handle. In this time the need of integrated systems has now become sufficient for every organization in order to manage all organizational processes more effectively. Instead of many isolated systems one large integrated system for all organizational processes is a solution to grow corporate needs. Enterprise Resource Planning (ERP) Systems provide the assistance for business processes management integration within and across all functional areas of an organization especially in Supply Chain Management (SCM) and Customer Relationship Management (CRM)( Nah, F.-H., Lau, J. and Kuang, J 2001). To make business processes more efficient and increase their productivity many of companies are now moving towards the use of ERP for few or all of these functions. In this paper we discuss about the impact of ERP implementation on organizational performance and customer mediate between ERP and organizational performance.

There are many authors who explained the critical successes factor successfully ERP implementation *i.e.* Top management support, change management , control co-ordination, motivation and program(user training and education) and project management (Neh at el,2003). This literature review highlight the key issue facing the organization to adoption the ERP System to enhance the performance of organization.

## **2.2 OVERVIEW OF ERP SYSTEM**

Enterprise Resource Planning (ERP) systems are designed to deal with the problem of division of information in business organization because ERP is the most important in business industry .ERP Systems are computerize in entire business with software module covering activities in all areas of business.

It focuses the manufacturing system in the 1960 on traditional inventory concept. Mostly software was limited and inventory based on traditional process (Gumaer, 1996). In the

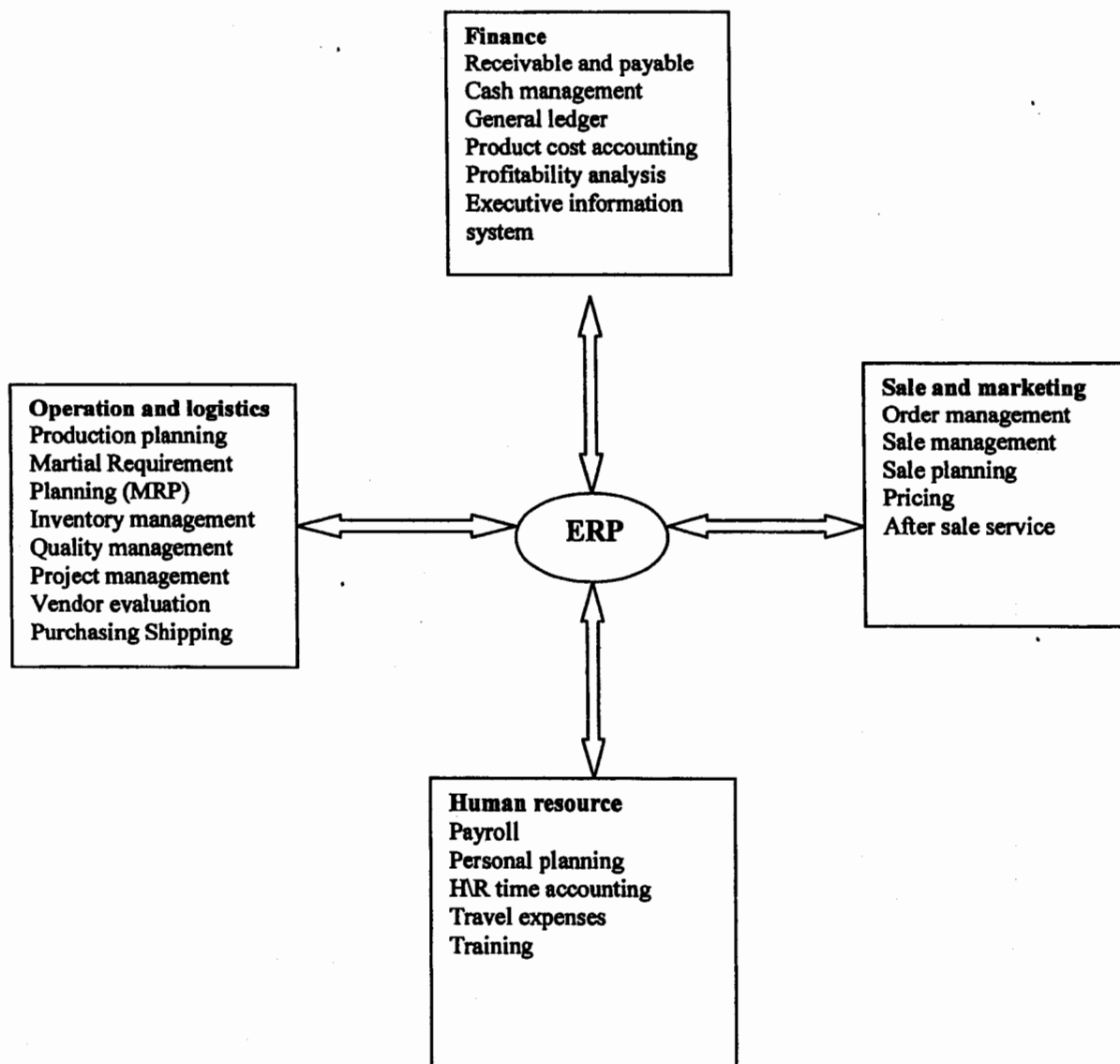
1970s, the production-oriented information systems were known by the name MRP. MRP (Material Requirement Planning) at its core is a time phased order release system that schedules and releases manufacturing work orders and purchase orders, so that sub-assemblies and components arrive at the assembly station just as they are required. Some of the benefits of MRP are reduction of inventories, improved customer service, enhanced efficiency and effectiveness (Siriginidi, 2000).

A major difference between MRPII and ERP is that while MRPII has traditionally focused on the planning and scheduling of internal resources, ERP strives to plan and schedule supplier resources as well, based on the dynamic customer demands and schedules (Chen.IJ 2001). According to (Siriginidi 2000) some of the benefits of Material Requirement Planning (MRP) are reduction of inventories, improved customer service, enhanced efficiency and effectiveness. Different organizations that have implemented ERP system need to reflect on whether they want to take advantage of new technologies and extend their business processes and performance over the internet. In after the ERP implementation it refers to include the additional module such as CRM, supply chain management, integrated E-commerce, sales force automation, decision support and human resources to the core foundation module of internally focused establish ERP System (Mckie, 2001).

Enterprise Resource Planning (ERP) has become a necessity of an organization to compete in the global world and ERP consider to be the price of entry for running a business, and at least present, for being connected to others enterprise in a network economy to create "business to business" electronic commerce (Boykin, 2001).

Organizational integration is a major challenge in modern enterprise. Contingency theory is support to the degree of organizational integration is a function of environment uncertainty and complexity. The researcher has been suggesting that the degree of organizational integration is depending on the cost link with integration and resources availability (Ling li hsu and Chen minder 2004). ERP show the positive impact of the different side of business it's improve the ability of business performance, working capital total quality management culture, lower inventory level, optimize raw materials and sell deliver products to the customers (shtub, 1999). Also that many multinational companies restrict their business to only those companies that operate the same ERP software as the multi as the multinational firm. Most of small and big companies adjust their business model and approaches according to the practices software adopting by the big firms. So, the ERP software market has become largest IT investment in the worldwide today. In most recent survey predict that the spending on ERP will reach \$66 billion in 2003(Themistocleous, M., Irani, Z. and O'Keefe, R.(2001)), ERP packages are cover the many internal and external aspect of companies, therefore successful operation and use of ERP System are critical to organizational performance and survival (Markus, M.L., Axline, S., Petrie, D. and Tanis, C. (2000b), the popularity of the ERP System began in 1994 when SAP a German based company released the new software. The next generation R/3 in next year companies started to pour billion into ERP System offered by the SAP and its main competitor such as Oracle, Baan ,J.D Edwarads etc. In ERP some important functions and modules are described in this figure which is adopted in (chen J Injazz (2001). When we discusses about the CSR it have big change to implement the ERP System .When we discuss about CSR was able to reduce inventory by \$38 to

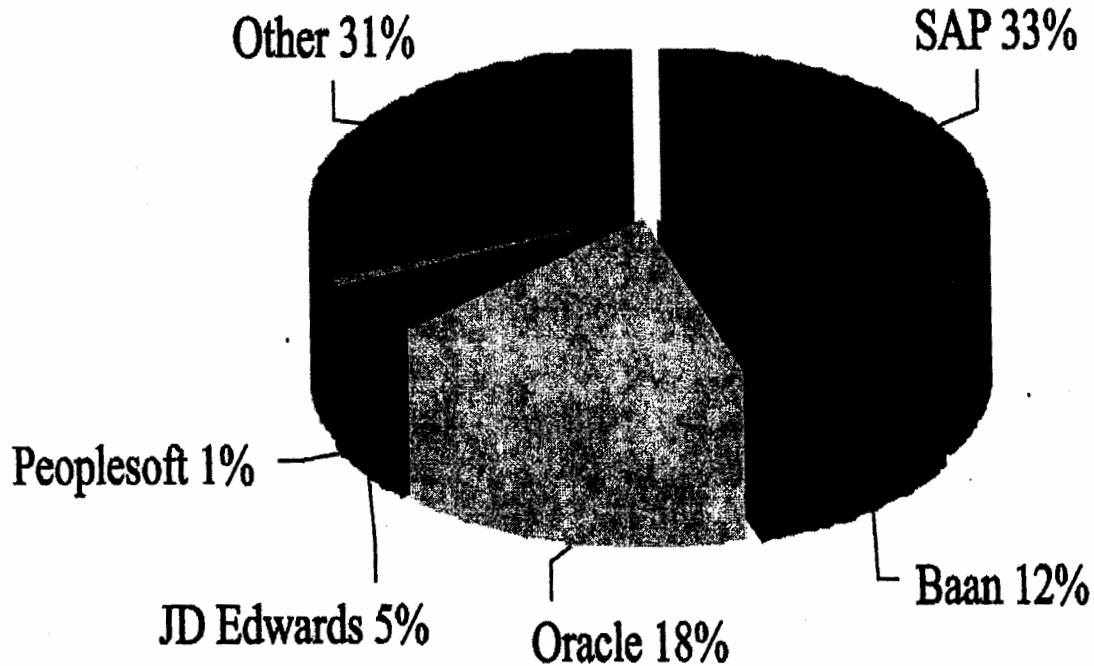
implement the ERP, the most of companies observes that the real value of ERP is streamlined delivery processes structural organizational change, the ripple effect of easily accessible information, and heightened customer satisfaction (Aubery 1999).



**An overview to ERP System (Chen j Injazz, 2001)**

### 2.2.1 MAIN VENDOR OF ERP SYSTEM

Moreover ERP provides worldwide ,SAP-AG, Oracle, JD Edwards, Peoplesoft and Baan .These are the big five ERP software vendors that control 70% of the ERP market share (Mabert, V.A., Soni, A. and Venkataramanan, M.A. (2001).



**Source:** Mabert *et al.* (2000); Coffey *et al.* (2000); Everdingen *et al.* (2000)

### 2.2.2 ADOPTION AND MOTIVATION OF ERP

Managers of companies adopting ERP System have using a number of modules. But all of modules are operating financial and management accounting to show this sentence “ERP is basically used by the improved business performance.”

One question is raised that why we adopt the ERP System and same we ask the respondent and they reply in different answers *i.e.* 1) it is increased demand of real time information 2) information of decision making and 3) integration of application.

As the most popular reason of adopting the ERP System. The implementation of ERP System is different from the development of traditional information systems. The traditional system take a considerable amount of time in system analysis and design, but the complement in ERP System has been reduced to the parameter setting for software. Different strategies exist for implementing of ERP System (Holland and Light, 1999). In the previous literature, implementation of ERP is based on organizational leaning concerning change. Notable, the skeleton approach (Bingi et al 1999).The ERP level of co-ordination and collaboration required place a new value on business application that enable the efficiency of virtual, real time enterprise. Also, the performance enterprise, deliver earning, growth and efficiency. Many practitioner and vendor are turning to solution for business intelligence and data warehousing to provide better information about the enterprise organizational performance. The ERP successful implementation measured in term of organizational performance. ERP user supplier's customers'success can also be measured completion time system time and project cost (Markus et al 2000). If ERP achieved its financial goal, business goal, operation goal and organizational goals then implementation of ERP would become successful. There are certain financial reasons which ERP implement they may also be called motivational factors and organizational intention behind implementing ERP can be reduction in operating cost ,enhance financial growth ,improve business process provide IT support finish error, fulfill customer requirement standard procedure at each level and reduced per product cost. Many companies fail to achieve the benefit of ERP because they are not organized and manage the new information tools provides by, and the new disciplines required to the enterprise system.

The use of ERP has also been found to be critical in improving customer satisfaction. For example, NEC Technologies credits its installation of ERP for increasing its speed of order processing, improving invoicing and in drastically reducing its customer-service response times (Michel, 1997). ERP has also been found to be effective in reducing inventory costs, improving efficiency and increasing profitability (Appleton, 1997 & Brakely, 1999). In addition, ERP has also been credited with reducing manufacturing lead times (Goodpasture, 1995). Other potential benefits of ERP include: drastic declines in inventory; breakthrough reductions in working capital; abundant information about customer wants and needs; and the ability to view and manage the extended enterprise of suppliers, alliances, and customers as an integrated whole. And we discuss about the ERP packages, the ERP packages have many aspects of many internal and external operation therefore, the implementation of ERP system are critical organizational performance and survival (Markus, M.L., Axline, S., Petrie, D. and Tanis, C (2000b), and the scope of ERP is to integrate financial information, customer order information and store customer history and manufacturing process and ERP also define the store and analyze productivity information for employee and facilities, allow inter-department process monitoring and reporting and data across the organization. It also provides the clients with the products and services. The organization monitor and allow user limits according their needs.

The second group of ERP research focuses more on the benefits obtained from implementing the ERP System. (Gattiker & Goodhue (2002) suggest four major categories of ERP benefits. These benefits are adopted the (Katerattanakul pairin 2006) including:

- (1) Better information flow across subunits through standardization and integration of activities,
- (2) Centralization of administrative activities,
- (3) Lower maintenance cost of information system and greater ability to deploy new IS functionality, and
- (4) Transformation from inefficient business processes toward an accepted best of practice processes. Similarly, Shang and Seddon (2000) proposes a consolidated framework of five benefit dimensions of ERP Systems including:-
  - (i) Operational benefits: cost reduction, cycle time reduction, productivity Improvement, quality improvement, customer services improvement,
  - (ii) Managerial benefits: better resource management, improved decision making and planning, performance improvement,
  - (iii) Strategic benefits: support business growth, build business innovations, builds cost leadership, generate product differentiation,
  - (iv) IT infrastructure benefits: build business flexibility for current and future changes, IT costs reduction, increased IT infrastructure capability, and
  - (v) Organizational benefits: support organizational changes, facilitate business learning, empowerment and build common visions.

### **2.2.3 REASON OF FAILURE AND LIMITATION OF ERP**

Enterprise Resource Planning (ERP) System software packages are highly integrated, complex system for business and thousand of business are running them successfully world wide(Koch,1996). The ERP System are capable of functioning as advertise; however, companies run costly and sometimes fatal difficulties with the implementation and subsequent maintenance of ERP packages. According to the Gartener group 70% of all ERP project fail to be fully implemented even after three years(Gillooly 1998) in



researches are described the type of failure : complete and partial failure. In complete failure the project was fail before the implementation or so the company suffered significant long term financial damage. Those implementation consider partial failure often resulted in tenuous adjustment process for the company; creating a some form of disturbance in daily operation. In the same, an ERP success can be a complete success – one in which everything goes off without a drawback, or one in which there are few arrangement problems, resulting in slight problem or downtime. Frequently, these situational circumstances that have to be ironed out in the weeks and months after the “go-live” dates are not severe enough to disrupt the daily operations.

The research motive of this study is that, above the ERP literature obviously demonstrates, the ERP System can significantly improve enterprise competitiveness, only given correct IT infrastructure before and during-implementation activities. Otherwise, implemented the ERP System can become an unconstructive influence or even a nuisance, which exhausted the entire company into a twisting of uselessness. The results of many surveys show (Faleti, 2001; Willis and Willis-Brown, 2002) to conclude that successful ERP implementation is a point of start. These studies also comment that system assessment after the ERP implementation needs continuous carrying out. Since the ERP implementation includes technological, operational, managerial, strategic and organizational constructed components (Al-Mashari et al.2003).

### **2.3 CUSTOMER VALUE**

At a broad level, the term *value* shows up in several very different contexts. For example, an increasingly common perspective on managing organizations argues that creating and

delivering superior customer value to high-value customers will increase the value of an organization (e.g., Slywotzky 1996).

“The latter two value concepts consider value from the perspective of an organization. High-value customers quantifies the monetary worth of individual customers to the organization, whereas value of an organization quantifies an organization's worth to owners. Customer value, on the other hand, takes the perspective of an organization's customers, considering what they want and believe that they get from buying and using a seller's product.”

Technology acceptance model basically focuses the customer attitude, user or customer satisfaction and working environment of customer. TAM and its contracts focus the successful implementation of ERP in organizations. One of the most important things to measure the implementation of ERP is user satisfaction and how customer work with ease. Technology Acceptance Model (TAM) focuses on customer behavior and technology usage (Davis, Bagozzi, Warshaw, 1989). TAM is particularly customized for user acceptance of information systems with the aim of explaining the behavioral intention to use it. It proposes that customer value has the key significance in predicting the behavior to make use of systems. Basically every organization has to use technology to improve customer and organizational performance. Then they must understand on what cost employees are using it. The greater the adoption of ERP systems from the user's perspective, the greater is the extent of employees to understand the new challenges faced by them and make sufficient use of technology. Successful implementation of ERP needs cross-functional cooperation (Motwani et al., 2005). Through the implementation of the ERP system data is accessible to every authorized

person, and every department share and access to the data information regarding their need. So employees can use the ERP more usefully, if they are fully involved in it and they train them. The ERP is very user-friendly system and anyone have easily use and learn it if trained properly. Because without training the customers or user cannot use properly different applications and modules of the ERP systems. Mostly organizations use Oracle and SAP because these systems are more users' friendly then other system like Java, BAAN etc.

For successful ERP System implementation it focuses on positive behaviors of customers and reduce their resistance, perceived usefulness may be considered as one of the important factor. For this purpose many variables have been constructed to judge the customer value by the researcher, *i.e.*, perceived fit, perceived compatibility, perceived ease of use, perceived usefulness (Cheng, Zhange 2007, Nah, 2004) used PC, PF, PEU and PU as variables to find out the behavioral attitude of users for ERP Systems. Aim of the study in this research is implementation of ERP and its impact on the organizational performance and how customer value (perception) has positive impact on the organizational performance. And the major construct of TAM is customer perception.

While Davis defined the customer value or perception by two different constructs; 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.” TAM describes that use of computer is based on the intentions and attitude of users towards its perceived usefulness. TAM describes as well that perceived usefulness and perceived ease of use are major determinants of technology constructs.

Many customers at different organizational levels are involved in their implementation of the ERP. To achieve success a sense of joint trust and commitment must develop between the various participants to ensure a free exchange of beliefs and opinions (M.B. Pinto, J.K. Pinto 1999, S. Taylor, P.A 1995). So that the customer involvement and customer precipitation is important in organizational performance;

Analyzing the ERP as an outcome of human actions and interactions can be done by connecting the ERP to a body of literature i.e. known as "Social Shaping of Technology" (SST) (Williams and Edge, 1996), by this it is understood that understanding of choices and social influences are important. So the study of human factor is very important in the ERP implementation and its effect on employee's behavior. Taking the both sides of picture, computer influences employee's behavior. If the employees are involved in the system during implementation, they will show positive attitude towards its implementation as an important key factor (Helm et al, 2003). Literature shows many critical success factors for the ERP implementation. Kwasi Amoako-Gyampah, 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, Sheu, 2004) culture impact the potential organizations for implementation accordingly.( Lander et al. [6] focuses on trust-building mechanism as key issue of success between employees of the organization. There are the many benefits from the use of the ERP system. The main benefit of ERP system include better information sharing within the organization, improved planning and decision quality, smother co-ordination between business units resulting efficiency and quicker response time to customer demand and inquiries. These benefit building in a top management,

organizations may promote customer relationship management that would strengthen customer loyalty and satisfaction, and achieve larger market share. The high level of knowledge, skill and abilities among employee is important for customer to perform work task effectively, motivate customer to influence their knowledge, skill and ability for the organizational benefits (Liu.yongmei, Ireland Duane,Ketchen j.David 2007).

#### **2.4 ORGANIZATIONAL PERFORMANCE**

Organizations have different types but basically in business world we classify them in two types. One type of organization recognizes the needs of customer and day-to-day processes. These organizations are focused and they strive to meet the needs of the customer but the second organization does not. In this time the world has been globalized and irresolute economic conditions prevail, in this scenario all organizations have known the importance of customer.

In the previous literature, there is little research about operational and performance issue of the ERP adoptions, except some evidence of research that focused on integration of the ERP. Some of the studies were identified but mostly are focused on the processes of the ERP System (Kumar et al., 2002 Bose 2006).

Performance is a process in which some kind of external movement or change is produced by internal events of organizations. Arunthari & Hasan reveals, "Attitude is determined by a set of behavioral beliefs about the outcome of behavior".

The organizational performance is based on the user attitude or user perception. If users perceive the ERP system positive, it effects positive in organizations but if the customer perceive negatively then it shows negative impact on the organizational performance. (Fishbein and Ajzen, 1975, p.9). 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. It all depends on the employee's point of view regarding the implementation of the ERP is beneficial for organization and his/her own performance then it will encourage to the successful implementation of the ERP system capability. Moreover, the customers perception (value) and employee's perception will also lead to create positive behaviour towards its implementation and organizational performance. And many researches have also found some positive effects on internal performance metrics such as inventory turnover (Barua, Kriebel and Mukhopadhyay, 1995). Through implementation of the ERP system, business sector has totally changed; organizational performance level is high, and it increases the profitability and productivity level. And after 1960 business sector has dramatically changed it implement the Material Requirement Planning (MRP) and after 1980 the advance version of MRP with new name and new feature is implemented that are Enterprise Resource and Planning (ERP).

To face challenges in the world market and make business processes well organized and productive, information technology plays an important role for so many years. Companies are using various manual and simple computerize systems to manage various business processes. Because the world is globalize and with increase of global market competition, rapid changes in resource planning and emerging trends of e-commerce corporate business process grow intensively and make existing systems more complex and difficult to handle. In this time, the need of integrated systems has now become sufficient for every organization in order to manage all business processes more effectively and efficiently Instead of many isolated system one large integrated system

for all business processes is a solution to growing corporate needs. The Enterprise Resource Planning (ERP) System provides the assistance for business processes management integration within and across all functional areas of an organization especially in Supply Chain Management (SCM) and Customer Relationship Management (CRM). To make business processes more efficient, and increase their productivity many companies are now in use of ERP for few or all of their functions.

## **2.4 RESOURCE BASED VIEW**

The theory used in this paper is resource base theory or Resource Base View (RBV) “The Resource Based View (RBV) is an economic tool used to determine the strategic resources available to a firm. The fundamental principle of the RBV is the competitive advantage of a firm lies primarily in the application of valuable resources at the firm’s disposal” (Wernerfelt, 1984, p172; Rumelt, 1984, p557-558. There are three variables of resource base view; human, organizational, and intellectual. The Resource-Based View asserts that organization gains and maintains competitive advantage by deploying valuable resource and capabilities that are inelastic in supply (Wernerfelt, 1984; Barney, 1986, 1991; Peteraf 1993). In this study RBV asserts, the ERP System and customers both are resources, and explains how organizations use these resources and get the advantage. Resources based theory is implemented in business and corporate strategies *i.e.* Huselied, Jackson and Schuler (1997) the business strategy level analyzes the relationship between a firm’s human resource management capabilities and its performance.

“Resource’s and ‘capabilities’ are used interchangeably and referred to the tangible and intangible assets firms use to developed and implement their strategies.” Many

researchers have categorized the resources. According to Barney (1991) resources are grouped into physical, human and capital. Grant (1991) has defined the financial, technological and reputational resources. According to my article customer value is assets of any organizations, It provides a firm tangible and intangible assets. The customer value falls in the human category and the Enterprise Resource Planning is a technological resource. Both resources have a great impact on the organizational performance.

The resource meant anything, which gives strength or weakness to a firm. More accurately, "a firm's resource at a given time could be defined as those (tangible and intangible) assets which are attached to the firm" (see Caves, 1980). Examples of resource are: brand name of technology, employment of skilled personnel, trade contacts, machinery, efficient procedures and capital *etc.* In this paper we will discuss the customer and ERP as resources and how their utilize within the firms.

## **2.5 THE CONCEPTUAL FRAMEWORK AND HYPOTHESIS**

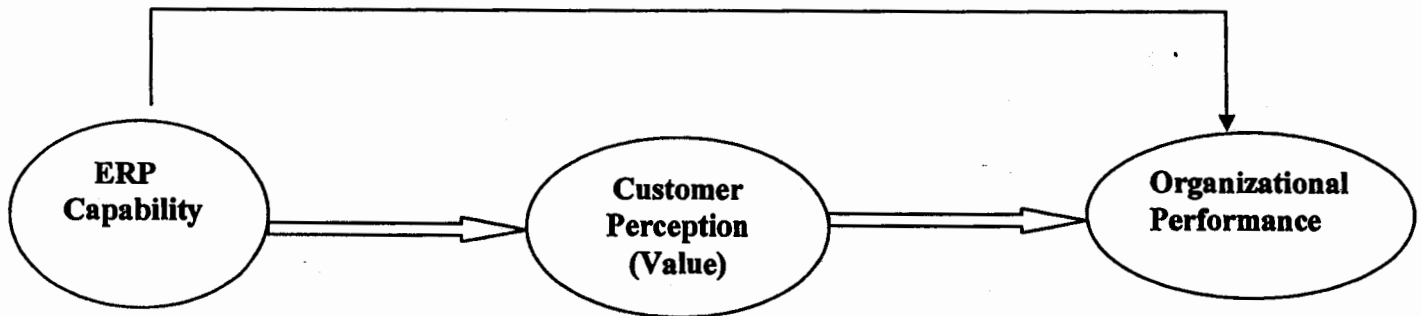
Customers are more powerful today because they are facing a very competitive environment. Customers have a variety of products and services to choose from as well as customers have a vast knowledge about the market demand. Therefore, knowing the power of customers' focus of organizations has shifted to value seeking customers. As a result, management of ERP capability must deal to deliver superior business performance keeping customer satisfaction as a focal point. The firms which could create maximum value for customer by the efficient and effective use of their technological capabilities can survive in this global world (Amit and Schoemaker, 1993; Henderson and Cockburn, 1994; King and Zeithaml, 2001; Mahoney and Pandian, 1992; Peteraf, 1993; Teece et al., 1997; Wernerfelt, 1984). The framework demonstrates the manner in which ERP



capability influences organizational performance. First, by creating and delivering superior customer value, ERP capability enables a firm to meet the demand of customers or even delight customers. Given the possibility that contextual characteristics may influence the link between ERP capability and business performance, this research draws a conclusion on strategy literature and identify mediating effect: *i.e.* customer value.

### 2.5.1 PROPOSED MODEL

This Research Model is shown in Figure 1. Each variable of this model is related to the organizational effectiveness in relation with positive behavior. In addition, capacity for understanding ERP business aspects was assumed to affect the functionality of the organization and organization effectiveness via ERP adoption and performance by assimilating and applying positive behavior of customer.



**FIGURE : Conceptual frame work**

### 2.5.2 HYPOTHESIS

#### **Enterprise Resource Planning (ERP) and Organizational Performance**

**H1: ERP Capability Positively Relates Organizational Performance.**

In previous literature we have discussed; that technology is positively related to organizational performance. A successful ERP System will make more efficient

processes in a company and its overall organizational performance will get better, even provided with means to the outside and making able to compete the other organizations, increase customers ability, and support strategic initiatives (Sandoe et al., 2001). In this study the first hypothesis is that the ERP capability is positively related to the organizational performance. It brings significant result according to the literature and the previous literature fully supports this hypothesis. When organizations accept the technology at right time, the performance is enhanced by design. The ERP capability is positively related to organizational performance. This is my first hypothesis and it is proved because technology always increases the organizational performance.

In Pakistan very limited companies implement ERP System in their organizations. I have consulted most of the literature from Europe and other developed countries. The criteria of these countries are totally different from our country in many ways. Through the implementation of ERP System , organizations improve the efficiency and effectiveness of the organizational performance, this study measures ERP System efficiency based on practicality of user pre-implementation expectations (Mirchandani and Motwani, 2001; Soliman et al., 2001), organizational performance in increase organization competitiveness (Mirchandani and Motwani, 2001; Umble and Umble, 2002; Al-Mashari et al., 2003), data accuracy (Umble and Umble, 2002; Xu et al., 2002), system stability (Soliman et al., 2001), and user friendliness (Soliman et al., 2001; Mirchandani and Motwani, 2001).

## **ERP CAPABILITY AND CUSTOMER VALUE**

**H2: ERP Capability Positively Relates with Customer Value.**

My study provides a strong support that the ERP capability is positively related to customer value. Most of the research done in this area is from Europe; the environment of those countries is different from Pakistani environment. Majority of the Pakistani population is labor intensive and they never adopt the new technology readily so the second hypothesis is not significant in my survey. And the other thing is that the Pakistani organizations have implemented ERP in a very limited area. The organizations from where I have collected data on ERP have not fully implemented it but those are in processing phase. So we can't judge the implementation of ERP capability. In my study the ERP capability is not positively related to the customer value.

## **CUSTOMER VALUE AND ORGANIZATIONAL PERFORMANCE**

### **H3: Customer Value Positively Relates with Organizational Performance.**

Customers have value in all organizations because human factor is very important in implementation of ERP System. If customer desire to do something then involved them during the system implementation, it will result that the user attitude is positive towards its implementations (Helm et al, 2003). In the previous literature, we concluded that customer satisfaction positively impacts organizational performance, and customer satisfaction depends on the customer capability; it must be used in right place and train them well according to the organizational system, otherwise customers are not comfortable to adopt the new technology.

It is not necessary that satisfaction always increase the performance, sometimes satisfaction is not associated highly with organizational performance, It shows that customers who say they are satisfied but will buy from somewhere else (Jones and Sasser 1995). Still some organizations find a strong relationship between satisfaction and

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performance initially, this relationship is not long lasting, so this problem can occur when a firm does not understand the customer needs and wants (Woodruff Robert B 1997). Those organizations which value customer needs and wants, their performance automatically increases. So there is a significant relationship between the customer and organizational performance. The entire theoretical structure described in this study provides a strong support to this hypothesis.

### **CUSTOMER VALUE MEDIATES BETWEEN ERP CAPABILITY AND ORGANIZATIONAL PERFORMANCE**

#### **H4: Customer Value Mediate Between ERP Capability and Organizational Performance.**

When hypotheses are developed and any positive and negative relationship is defined in those hypotheses then empirical support is required to prove them. Sometime those hypotheses are proved then that is not any issue to prove direct relationship either it is negative or positive.

When some moderators and mediators are added in our hypotheses that are not creating impacts on our variables then here interpretation has been little bit tricky.

Let suppose in our hypotheses mediation results are not significant. Then it can be interpreted, as that on our direct relationship of variables mediation doesn't play significant role. The relationship of independent and dependent variable is not affected due to that mediator.

**CHAPTER-THREE**  
**RESRACH METHOD**

## **CHAPTER THREE**

### **RESEARCH METHOD**

#### **3.1 Date Collection and Sample**

The sample of my study consists of employees working in 10 well reputed private, public and multinational companies of Pakistan. I have used convenient sampling techniques as most of the data collected from Islamabad, Rawalpindi and Lahore. Survey was personally administered. It was filled by employees (customer) and top management of the organizational units. Statement of assurity was attached alongwith questionnaire and the purpose of study was explained. All the participants of this study were co-operative in nature. A total of 260 questionnaires were distributed in all organizations out of which 195 questionnaires were returned, so the response rate was 75%. 100 questionnaires were distributed in banks, the response rate is not satisfactory (the response rate was 50 %) 100 questionnaires were administered in PTCL and multinational (with the response rate of 100 %) and 60 questionnaires were distributed in public sector institutions (with the response rate of 75%).

The mean ages of respondents were 25.6 years with S.D of 1.50 years and 75.3 % were male and rest of the sample was of female respondents. Mean of organizational tenure is mean (1.91 years) and (S.D= .791 years) and the 35.9% public organizations, 36.9 % private and 27.2 are the multinational organizations. Qualification of the respondents ranged from Graduation to PhD level. About 24.6% respondent were Graduate, 59.5% respondents were Postgraduate and 15.9% respondents were M-Phil and PhD. Most of the sample size jobs nature was IT specialist and ERP user in all organizations.

## **2.2 TYPE OF STUDY**

My study is based on hypothetical testing among the variables.

## **2.3 DESCRIPTION OF INSTRUMENT**

Based on the previous literature, 25 items were identified. I have used the structured questionnaire for data collection according to (Danneels, 2002; Buzzell and Gale, 1987; Lapierre, 2000; Miyazaki, 1994; Dosi, 1984, 1988; Tyler, 2001; Danneels, 2002; Henderson and Cockburn, 1994; Spanos and Lioukas, 2001; Fowler et al., 2000 *etc.*) There are created 10 items to ERP (technology) capability but I used 7 items because the last three questions were not fit with our environment. All the items are reliable and validated. This study and model has given us an opportunity to test this model in Pakistani environment. All items were measured on five likert scale. There are 13 items of the customer value. The organizational performance items have been made by self-administered.

All responses were acquired by a “Self report” measure in which the responses were taken on 5 points scale ranged from 1=Strongly Disagree, 2=Disagree, 3=Neutral 4=Agree, and 5= Strongly Agree. Higher responses rate obtained against a higher level variable construct in the questions used. English is the basic and well-known language in all organizations of Pakistan and it is also a medium of instruction in all education institutes and offices therefore, it is used as language of questionnaire.

## **2.4 MEASUREMENT OF VARIABLE**

Seven items were adopted to measure ERP (technology) capability by (Tyler, 2001; Danneels, 2002). These seven items were measured the ERP capability among the

organizations. Thirteen items were adopted to measure the customer value seven items measured the general and specific knowledge of customer according to a organization and last six items measured the user involvement of the organization. Five items were adopted to measure organizational performance. Mean scores of the corresponding items will reflect the each variable. Reported mean reliabilities (0.76) are examples of items include in the ERP capability "*we have ability to accurately predict future technological trends*" items of the customer value " *I have the capability to achieve the objectives of tasks by using ERP*" and the items of the performance" *Development of new products or services is major activity in our organization*" When I analyzed the alpha reliabilities of my data I found (.89) for 7 items of ERP capability (.80) for 13 items of customer value (precipitation) and (.84) for 5 items of the organizational performance.

### **2.5.1 CONTROL VARIABLE**

I conducted one way analysis of variance to find out the impact of the demographic variables. It showed that the gender and education have significant impact on organizational performance and mediator customer value. Other variables showed the insignificant impact on the organizational performance and mediator variable. So to control the impact of gender and education we have two dummy variables named G1 and Edu1 were created and these were controlled for their impact on analysis. Other variables as Age and organizational type were not considered as a control variable in this study.

### **3.6 PROCEDURES**

Field data was collected from various organizations through concise administration of a survey. Data was coded and analyzed using the SPSS software (version 15.0). The mean



of the items were calculated for all independent, dependent and mediating variables. Descriptive statistics was obtained from sample descriptive and frequencies were run with mean and standard deviation.

The normality of the data was checked by applying normality tests with Q-Q plots. The value of Kolmogorov – Smirnov test and Shapiro- wilk test advocate that nearly all value of items was significant. Reliability analysis was conducted for each item of variable of interest. All the factors had a cronbach alpha above .82. Bivariate correlation was carried out to find inter correlation among variables. Since it is the case of measure of associations and having multiple dependent and dependent variables therefore, multiple regression analysis technique was used to test the relationship between variables.

Mediated regression equation was used to test. According to Barren and Kenney (1986), mediation occurs if the effect of independent variable disappears, when independent and mediator are enters together in the regression equation. Following the procedure for mediating analysis proposed by Barren and Kenney (1986) control variables were entered in first step. In second step mediator variable was entered and in third step dependent and independent variable were entered. Correlation and descriptive statistics were also found for variable of interest.

## **CHAPTER – 4**

### **RESULTS AND DISCUSSION**

## **CHAPTER FOUR**

## **RESULTS AND DISCUSSION**

### **4.1 Hypothesis**

The study tested the following hypotheses.

H1: ERP capability is positively relates the organizational performance.

H2: ERP capability is positively relates with customer value.

H3: customer value is positively relates with organizational performance.

H4: customer value mediates between ERP capability and organizational performance.

### **4.2 CORRELATION ANALYSIS**

Frequency distributions for each variable were examined visually with the help of normality plots. Table-2 shows descriptive statistics, and correlation among the variable used in this study. The mean and standard deviation of variable is given in the table, to found support for hypothesis-1 from correlation analysis. All the correlation found in predicate direction. While for some hypothesis the predicated direction were not confirmed like hypothesis 2,3 and 4 found opposite association against predicted by in literature review for these variables. The mean of ERP capability was (M 3.2 S.D .91) and mean for customer value (M 3.5 S.D.56) mean for organizational performance(M 3.2 S.D 91).The correlation values between ERP capability and organizational performance were found exactly in the predicted direction of hypothesis. Like association between ERP capability and organizational performance was (.425). While the ERP capability and customer value were not found in the predicated direction of hypothesis. Like association between ERP capability and customer value was (-.007) and same as the hypothesis 3 and 4. Like association between customer value and organizational

performance was (-.224). While I found positive but less significant association of mediating variables between ERP capability and organizational performance.

**TABLE-2**  
**Means, Standard Deviations, Correlations and Reliabilities**

Variables	Mean	S.D	1	2	3	4	5	6	7
Age	3.15	1.50	1						
Gender	2.0	.632	-.544	1					
Educational background	1.26	.79	-.161	.82	1				
Organizational type	1.9	.97	-.036	.067	.211	1			
ERP capability	3.2	.91	.340	-.007	.014	-.007	1		
Customer value	3.5	.56	.049	.057	-.367	-.38	.11	1	
Organizational performance	3.2	.91	.191	.201	.174	-.033	.425**	-.224**	1

\*\* Correlation is significant at the 0.01 level (2-tailed).  
Correlation is significant at the 0.05 level (2-tailed). N= 195

### 4.3 REGRESSION ANALYSIS

Multiple regression analysis was used to test all the hypothesis of interest concerning the main effects. A total of five different regression models with different dependent variables were tested by entering the control variable on the first step of the equation. Mediated regression analyses were conducted to test the hypotheses predicting the

mediating effects of ERP capability, customer value and organizational performance on outcome variables. Following the procedure recommended by Baron and Kenny (1986), control variables were entered into the equation first, followed by the outcome variables and the mediating variables of interest. In the third step, predictor and outcome variable entered into the equation.

Results of these regressions are presented with the help of table. For all regression analysis, I used education and gender as a control variable. For decision control variable, I performed the one way analysis of variance and found significant result in case of organizations.

All demographic variables (age, gender, educational background and organization) were regressed with dependent variable and their impact was found in one way ANOVA. So for all regression and mediation analysis I controlled gender and education. Table-2 shows all regression analysis results which show main effects of the ERP capability and organizational performance. Result of Regression analysis of the ERP capability and organizational performance is as here under.

The table-2 ERP capability was regressed on the organizational performance. The ERP capability showed the significant result on the organizational performance. ( $\beta=.14, \Delta R^2 = .17, p < .000$ ). ERP capability shows the insignificant result on the customer value ( $\beta=-.23, \Delta R^2=0.1, p < .000$ ). While customer value have showed the insignificant result in organizational performance. ( $\beta = -.23, \Delta R^2 = 0.6 p < .000$ ).

#### 4.4 MEDIATOR ANALYSIS

In this study hypothesis 4 states that customer value will mediate the relationship between ERP capability and organizational performance. To test the mediation, I used the technique recommended by (Barron and Kenny, 1986). Following this condition the mediation effect were found (1) independent and mediator should be a significant in path 'a' (2) mediator and dependent should also be significant in path 'b' (3) when path 'a' and 'b' both are controlled then already significant main effect between independent and dependent variable should be about zero for full mediation and it should be weaker for partial mediation. In this study, the effect of mediation is significant between independent and dependent variable so there is no mediation effect between these variables.

As shown in table-3 for mediation in step1 controlled dummy variables G1 and Edu1 were entered. In second step, the mediation customer value was entered and in the third step all variables were entered. This was regressed on all variable ERP capability, customer value, and organizational performance. So for the customer value did not mediate the ERP capability and organizational performance.

**TABLE-2**  
**RESULT OF REGRESSION ANALYSIS OF ERP CAPABILITY AND CUSTOMER VALUE FOR ORGANIZATIONAL PERFORMANCE**

	$\beta$	R	R Square Change	Sig
<i>Step 1</i>				
Controls		.18		
<i>Step 2</i>				
Customer value	-.23	.53	.19	.000
<i>Step 3</i>				
ERP capability (IV)	.41			.000

Org. performance (DV)

N = 195 educational back ground and gender was controlled in analysis and used as control variables\*

\*\*Correlation is significant at the 0.001 level (2-tailed)

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

Correlation is significant at the 0.05 level (2-tailed).

**TABLE- 3**  
**REGRESSION ANALYSIS OF MAIN EFFECT OF ERP CAPABILITY ON ORGANIZATIONAL PERFORMANCE**

Predictors	$\beta$	R <sup>2</sup>	R Square Change	Sig
<i>Step 1</i>				
Controls		.17		
<i>Step 2</i>				
ERP	.41	.44	.17	.000

**TABLE-4**  
**REGRESSION ANALYSIS OF MAIN EFFECT OF ERP CAPABILITY ON CUSTOMER VALUE**

Predictors	$\beta$	R <sup>2</sup>	R Square Change	Sig
<i>Step 1</i>				
Controls		.09		
<i>Step 2</i>				
ERP	.10	.13	.01	.159

**TABLE-5**  
**REGRESSION ANALYSIS OF MAIN EFFECT OF CUSTOMER VALUE ON ORGANIZATIONAL PERFORMANCE**

Predictors	$\beta$	R <sup>2</sup>	R Square Change	Sig
<i>Step 1</i>				
Controls		.17		
<i>Step 2</i>				
Customer value	-.24	.30	.06	.001

## 5.5 SUMMARY OF RESULT

To summarize the results of this study, hypothesis1 predicted the same positive relationship between ERP capability and organizational performance. And the previous literature has fully supported this hypothesis. I was confirming the regression result. Meanwhile hypothesis two has predicted the same significant result of customer value but the hypothesis-2 was not supported by this data. Hypothesis-4, the customer value is positively related to the organizational performance but surprising results were found for this study in which the customer value showed insignificant results towards the organizational performance.

While the mediation of customer value was not confirmed for the ERP capability and organizational performance. The result of the mediation is significant between the independent and dependent variable so its shows that there is no mediation effect between predicated and organizational performance.



**CHAPTER – 5**  
**CONCLUSION**

## **CHAPTER FIVE**

### **CONCLUSION**

The purpose of the study was to explore how implementation of ERP impacts on the Organizational performance. ERP has a major impact right from the time it is implemented in the organization. It facilitates the member of the organization to come at a central point. It provides an idealistic way which is not possible without ERP in a traditional society. ERP is discovery for such organizations because it facilitates the modifying business processes. This is not possible without the involvement of ERP. During ERP implementation, organizations disseminate many type of information which is otherwise not meant for sharing. Nevertheless the impact of ERP on managers is noteworthy. ERP has great impact on department's interaction. Whenever any problem comes to any department of organization, it came known to the higher authority and group discussion may be started on it. So ERP helps organizations to adopt and adjust the whole procedure with a mechanism. In addition with it, ERP creates many job opportunities and provide another room to existing IT professionals and employees. In fact ERP refines the functions of the organizations by collecting all information in a "centralized" place and disseminate right information to the right person at the right time. ERP provides more confidence, authority, responsibility, freedom and trust between employees which are mutually beneficial for the organization at individual and collective level. Every employee has become aware of his/her role and executes it confidently. So by ERP a transparent procedure comes in circle.

The study focuses on the Organizational Performance ERP implementation and examined the factor that might be effect the implementation success of ERP. Framework of the study include ERP capability, organizational performance and customer value Knowledge sharing and facility providing was also taken into account as it plays an important role on successful the ERP system for customers.

While studies exist on the importance of factors such as customer involvement and customer satisfaction on implementation success, the results of the current survey were found totally opposite to the literature. Two hypotheses were not supported hence result of this study is not significant. The possible reason is that the literature I studied was tested in advance countries like USA, China, UK and Germany *etc.* These countries have advance technologies and most of the organizations of these countries have fully implemented the ERP System for many years. Their customers are well trained and satisfied with to their job so the organizations perform very well. The second reason of the insignificance of result of the customer value and organizational performance could be that most of our population is labor intensive and they never accept technology easily because these people are totally illiterate. They do not have enough knowledge about using IT and any new technology. Major part of top management are also hesitate in implementing technology in organizations because our top management are also illiterate in IT and they do not easily adopt the new technology because they think that accept of new technology are wastage of the time and money.

The main hypotheses of this study are:-

H1: ERP capability is positively relates the organizational performance.

H2: ERP capability is positively relates with customer value.

H3: customer value is positively relates with organizational performance.

H4: customer value mediates between ERP capability and organizational performance.

In this study it is evaluated that the direct impact variable was strong as compare to the indirect. The direct impact of ERP was strong on organizational performance but when we mediated the customer values, the relationship of ERP capability and organizational performance was found weak. Same is the relationship between ERP capability and customer value which shows strong relationship which was proved with the help of previous literature. It means that the main effect among the variable is significant. But the direct relationship between customer value and organizational performance is not significant. The hypothesis is that the ERP capability is positively relates the organizational performance has proved in previous literature and this study also, because the technology has also positive impact in performance. It is not vary the culture and environment.

The ERP capability is positively relate the customer value this hypothesis is fully proof in previous literature but in this study it has not been proved because of different culture, working environment, and most of population of Pakistan is labor intensive. In Pakistan the most of people are (IT) illiterate so they are never accept the new technology easily.

When some moderators and mediators are added in our hypotheses that are not creating impacts on our variables then here interpretation has been little bit tricky.

Let suppose in our hypotheses mediation results are not significant. Then it can be interpreted, as that on our direct relationship of variables mediation doesn't play significant role. The relationship of independent and dependent variable is not affected due to that mediato.

## **5.1 LIMITATION OF THE STUDY**

Problems with ERP Systems are mainly due to inadequate investment in ongoing training for the involved IT personnel - including those implementing and testing changes - as well as a lack of corporate policy protecting the integrity of the data in the ERP systems and the ways in which it is used.

- Customization of the ERP software is limited.
- Re-engineering of business processes to fit the "industry standard" prescribed by the ERP System may lead to a loss of competitive advantage.
- ERPs are often seen as too rigid and too difficult to adapt to the specific workflow and business process of some companies.
- Some large organizations may have multiple departments with separate, independent resources, missions, chains-of-command *etc*, and consolidation into a single enterprise may yield limited benefits.
- The system may be too complex measured against the actual needs of the customer.
- Resistance in sharing sensitive internal information between departments can reduce the effectiveness of the software.

Data was cross sectional and getting in depth knowledge about ERP, it is important to conduct longitudinal study to find out the main differences before and after the implementation of ERP in real sense. Second, the time span was very limited and within this short period of time getting exact results were not possible. The resulting unawareness had affected the hypothesized model for performance. The culture of

organizations is labor intensive go to rather for technology adoption. Organizations adopt technology but they do not have awareness about how to use it.

## **5.2 Future Research**

In Pakistan ERP is not at maturity level therefore, results are not as generalized, as they had to be. Future research must base on such grounds, which predict ERP capability in real sense and highlights its importance. The effect of customer value is not a good mediator in predicting effects of ERP on performance. Future research must consider some other factors which mediate this relationship in order to make results significant and generalize.

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## APPENDICES

### “The implementation of Enterprise resource planning and its impact on Organizational Performance” Survey in Pakistani context

Asalam-o-alaikum.

I am MS/PhD scholar at International Islamic University Islamabad (IIUI) I am conducting research to investigate the implementation of Enterprise Resource Planning and its impact on organizational performance. It is requested to answer each item with honestly and I assure you that your responses will held in confidentiality. Kindly encircle your answer from the following given options as per best match.

Sincerely

**Maria Jabeen**

**MS-PhD scholar**

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			

Strongly Disagree	Disagree	Neutral	Agree	Strongly agree			
1	2	3	4	5			
We always make relatively heavy investment in R&D activities			5	4	3	2	1
We have accumulated stronger and various technological skills			5	3	3	2	1
On-job training is provided frequently in our firm to improve the technical skills of employees			5	4	3	2	1
We are qualified to attract and motivate talented experts.			5	4	3	2	1
We have the ability to accurately predict future technological trends			5	4	3	2	1

We are skillful in apply new technology to problem-solving	5	4	3	2	1
We are one of the leaders in our primary industry to establish and Upgrade technology standard.	5	4	3	2	1
I knew the general concept and functions of the ERP system before my company adopted it	5	4	3	2	1
I knew the specificities on the module that I currently use before my company adopted the ERP system	5	4	3	2	1
I knew the reputations of the ERP consulting firm before my company adopted the ERP system.	5	4	3	2	1
I knew the careers and reputations of the ERP consultants before my company adopted the ERP system.	5	4	3	2	1
I knew the deliverables the ERP consulting firm would provide before my company adopted the ERP system.	5	4	3	2	1
I knew the after-sale service that the ERP consultants would provide before my company adopted the ERP system.	5	4	3	2	1
I can use ERP very well if I have only software manuals for reference	5	4	3	2	1
I can use ERP very well if I can call someone else to solve my problem	5	4	3	2	1
I can use ERP very well if someone helps me get started.	5	4	3	2	1
I can use ERP very well if I had a lot of time.	5	4	3	2	1
I am qualified enough to perform tasks using ERP.	5	4	3	2	1
I have the capability to achieve the objectives of tasks by using ERP.	5	4	3	2	1

