

## **Organizational Factors and Individual Effectiveness: Moderating Role of Change Management**

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This research seeks to harmonize and expand previous research by using a multidisciplinary method to explain the moderating role of change management in the relationship between organizational factors and individual effectiveness of doctors working in Pakistan. The organizational factors which are taken in this study are top management support, training and development, organizational communication and IT competency. The study presents a quantitative analysis of data acquired from 503 doctors serving in 13 hospitals. The outcome of the research shows that organizational factors affect the individual effectiveness of doctors. Two out of four organizational factors (training and development and organizational communication) have an impact on the effectiveness of doctors. The regression analysis confirms a moderating role of change management in determining effectiveness of doctors. The research findings are significant and have applications in relevant field and recommends hospital administration to consider different organizational factors. Training and development has a great potential for influencing individual effectiveness. The management of hospitals should have a focus to improve and implement an open door policy through communication systems of hospitals for doctors to increase social relations for the improvement of individual effectiveness. It is also assumed that this research would be useful for those at the helm of matters in making improved decisions about doctors and physicians.

*Keywords:* Organizational factors, change management, individual effectiveness, healthcare industry

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The key aim of this study is to scrutinize the impact of organizational factors on individual effectiveness in healthcare sector of Pakistan. The organizational factors which are taken in this study are organizational communication, Top Management Support (TMS), Information Technology (IT) competency and training and development. Change management has been taken as moderating variable in the study. The healthcare sector is a group and combination of different fields contained by the economic system of a country that makes available good services to take care of patients with remedial, precautionary and rehabilitative care. Hospitals are very important for the healthcare system of any country. The healthcare sector comprises Health Maintenance Organizations (HMOs), hospital management firms, biotechnology and a diversity of medical merchandises.

The healthcare sector is struggling to boost competence, care quality and experiences of patients (Berwick, 2006; Kohn, Corrigan, & Donaldson, 1999) and there is an urgent need and requirement to do this job (Leape & Berwick, 2005; Wachter, 2010). Failure is described as “instances where an employee does not have the supplies, equipment, information or people needed to complete work tasks that contribute to hospitals’ poor performance” (Tucker, 2004). Due to the failures and poor performances of doctors, there is an almost 10 percent wastage of caregiver’s time, delay in care and makes a great contribution to safety lapses (Beaudoin & Edgar, 2002; de Leval, Carthey, Wright, Farewell, & Reason, 2000; Gurses & Carayon, 2007; Hall, Pedersen, & Fairley, 2010; Hendrich, Chow, Skierczynski, & Lu, 2008; Tucker, 2004). There is a need to take serious measures to get better the performance and effectiveness of doctors for addressing these failures.

The literature review synthesizes the key research on present healthcare system in Pakistan, TMS, organizational communication, IT competency, training and development, individual effectiveness and change management. The purpose of literature review is to develop research model and major hypotheses. Health services play an important role in promoting economic development and research has established significant linkages between health and productivity (Sachs, 2002). The system of healthcare in Pakistan is still in disaster. Merely 27 percent of the populace gets pleasure from complete healthcare support (Like government workers, associates of the military and tiny quantity of recipients of safety net measures) while 73 percent have to rely on their own pocket payments (Nishtar, 2010). The system of healthcare in Pakistan consists of a blend of public supported health delivery along with privately funded market delivery. The community healthcare scheme scratches from primary care which

includes dispensaries, countryside health centers and basic health units, secondary care, comprising tehsil and district headquarter hospitals and tertiary care, containing big teaching and research oriented hospitals, highly developed diagnostic support services and dedicated intensive care units.

### **Top Management Support**

TMS can be defined as “Engaging in the operational work under them” (De Holan & Mintzberg, 2004). As per old literature, many managers can be labeled as the top level managers, like the senior manager, Chief Executive Officer (CEO), director, Chief Information Officer (CIO) and so on. Numerous investigations, though, articulate that the management at the top itself can be separated into many layers (Hill & McShane, 2008). So to eradicate any uncertainties and evidently appreciate which layers of managers are usually called as chief level managers, board of directors, top managers and senior managers can everyone be labeled as the managers at the top (Felekoglu & Moultrie, 2014).

Managers at the top are organizational workforce who have been delegated and provided task and specific authority to carry out the managerial strategy (Mintzberg, 1993). TMS has been recognized as one of the most vital factors in the accomplishment of effective enterprise systems (Shao, Feng, & Hu, 2016). Organizations are using more and more TMS to achieve goals (Hyväri, 2016).

A top manager input is desirable for roughly in each part of the organization. It comprises but are not restricted to strategy formulation (Collier, Fishwick, & Floyd, 2004), coaching (McLagan, 1988), workers training (Trinka, 2005), procurement, developing confidence which guide to work association (Atkinson, 2004) and rising moral actions and harmony (Viswesvaran, Deshpande, & Joseph, 1998) in the work place.

The managers at the top also mediate with exterior groups that have ventures in the organization. They may be sellers, clients and other organizations (Luthans, Rosenkrantz, & Hennessey, 1985). Because, managers concentrate on many diverse people and troubles, so, they are anticipated to be aware of such procedures. Supervision is thought to be not just scheduling, scrutinizing and controlling (Gosling & Mintzberg, 2003) but it is the basis of organizational plan, transformations, growth and assembly (Kurke & Aldrich, 1983).

TMS is an animated element for attaining higher levels of project performance and effectiveness (Akgün, Byrne, Lynn, & Keskin, 2007; Boonstra, 2013; Elbanna, 2013; Young & Jordan, 2008; Young & Poon, 2013; Zahir Irani, Alsudiri, Al-Karaghoul, & Eldabi, 2013). The literature identifies that when managers at the top of organization provide support in all work related matters then there is better performance of workers both at the project and organizational levels (Williams & Ramaprasad, 1996). The leadership behavior of the management at the top normally has a great effect on innovativeness, culture and effectiveness of the individuals and organizations (Matzler, Schwarz, Deutinger, & Harms, 2008).

TMS is recognized as a vital factor that activates job performance in the organization. It provides guarantee of success of the business process by stressing on nonstop enhancement, organizational buy-in, clarity of task for the organization and apparent ideas (Huscroft, 2008). On the other hand there is a study which states that TMS has no significant effect on market orientation and quality of service (Samat, Ramayah, & Mat Saad, 2006).

## **Organizational Communication**

Organizational communication is a very important method and with the help of this, the employees of the organizations get the information and knowledge about their individual responsibilities along with aims and objectives of the organization (van Vuuren, de Jong, & Seydel, 2007; Verčič, Verčič, & Sriramesh, 2012; Welch & Jackson, 2007). Organizational communication is a method adopted by managers to retain happy and committed workers (Ruck & Welch, 2012). For an effective organizational performance, management must adopt an effective communication procedure (Shonubi, 2016). Organizational communication is recognized as significant, demanding aspect which toughen the link among a business and its associates, mainly workers (R. Gray & Robertson, 2005). It is considered as a precondition of constructive inner, outer picture and status of a business (Tench & Yeomans, 2009). It has been set up to play a significant role to enhance the attitudes of the optimistic workers (Gray & Laidlaw, 2004), organizational recognition (Ruck & Welch, 2012), organizational loyalty (Jo & Shim, 2005) and favorable behaviour of communication (Kim & Rhee, 2011). These thoughts are connected with good results including expanded efficiency, enhanced execution, favourable economic outcomes, individual and organizational effectiveness and worker engagement (Bovee & Thill,

2013). These results bolster a lessening in worker turnover and expansion in worker fulfillment, inspiration and responsibility (Welch, 2011).

Communication is like the sharing of feelings and thoughts (Bovee & Thill, 2013) while organizational communication is a practice which takes place among organizational workers and leaders (Welch & Jackson, 2007). These explanations entail that communication is a vital element which takes place inside the limits of a business organization. Moreover, information broadcasting is an important part of the in-house communication process (Carriere & Bourque, 2009). Organizational communication is a multidimensional construct with four dimensions: communication mode, communication frequency, communication content and communication direction (Johlke & Duhan, 2000).

An imperative and positive association among communication and two employment results: work fulfillment and organizational loyalty has been seen (Carriere & Bourque, 2009).

### **IT Competency**

Many managerial executives and policy makers will have the same opinion that the skill to successfully handle data and information inside the business has turned rather vital as it offers a foundation for getting benefits over competitors. The significance of information is increasing in today's worldwide market day by day (Glazer, 1991). Every organization is trying to improve the performance and effectiveness by using tools and processes. A lot of firms and businesses have started to make policies which have a focal point on Information Technology (IT) so that effectual compilation and use of information could be made possible (Bharadwaj, 2000).

The results which have been drawn from the literature of marketing (Glazer, 1991), IT and sciences (Mitcham & Mackey, 1983) and strategy making (Leonard-Barton, 1995), IT competency is recognized as the degree to which a firm is knowledgeable and proficiently exploits the utilization of IT to administer knowledge and information inside the organization and in this recognition, there is an assumption which indicates that the objects of IT like software, hardware and IT personnel, are also included. The three components of IT competency are co-specialized factors which helps any organization to identify its capability to know and use IT tools that are required to run market and client information. Some studies

challenged that the innovation and technology does not as a matter of course make an upper hand and there is no critical direct association among IT competency and effectiveness (Hitt & Brynjolfsson, 1996).

### **IT knowledge**

The IT knowledge is technical knowledge which consists of combination of techniques and principles that are used to get the desired results in the organization (Taylor, 1971).

### **IT Operations**

The technical procedures or methods include actions that are carried out to accomplish a particular task (Mitcham & Mackey, 1983).

### **IT Objects**

IT objects operate as facilitators and are mainly accountable for increasing the production of information and distribution (Reardon, Hasty, & Coe, 1997). For the sake of this research, IT objects include software, computer hardware and support staff.

### **Training and Development**

Organizations all over the world are determined to get success and competitive edge. To achieve this objective, organizations need the best utilization of their human resource. Organizations must keep their human resource up to date. The managers of business at the top must provide highest emphasis on the entire key fundamentals of human resource as they proceed as an enabler in different executive, community and economically connected parts among others which are vital to the accomplishment of the management aims and as a result businesses get flourishing perseverance in the market.

Training and development is considered the most vital function among many functions of human resource management. The statistics shows that organizations in America are investing huge amounts of money in training and development which is resulting in increased individual and organizational improvements (Jodlbauer, Selenko, Batinic, & Stiglbauer, 2012).

People depend upon on training and development to advance their existing talents and discover fresh abilities (Mathieu, Tannenbaum, & Salas, 1992). The most important intention of training

and development is to obtain and pick up understanding, proficiency and mind-sets to perform the job functions. Training and development is the one of the most significant prospective motivator to enhance the individual effectiveness (Cole, 2002).

### **Individual Effectiveness**

There has been an increasing stress on the skills, knowledge and competencies of workers due to the growing worldwide competition and to fulfill enlarged demands for instant accessibility of goods and services (Orlikowski & Yates, 2002). Particularly the capability to utilize time proficiently; to develop products and services with minimum of resources and time, is presently the most important skill in different work environments including education and health sector (Kelly, 2002). Individual effectiveness is a division of “self-help movement”. It deals with achievement, aims and associated ideas. The meaning of individual effectiveness is the utilization of all the individual resources. The resources include the following

- Talents.
- Skills.
- Energy and Time.

These resources facilitate an individual to achieve both life and work objectives. Getting self-awareness, making maximum utilization of strengths, learning novel talents and practices and increasing behavioral elasticity improve individual performance. So individually effective people are better for organizations as they acquire what want to achieve. They normally have two traits.

- Best utilization of their resources.
- Highly capable at attaining their objectives.

The beliefs of individual effectiveness are developed from different foundations of information: they contain enactive experiences of mastery; explicit knowledge that change efficiency thoughts with the help of broadcast of competencies and making contrast with the achievement of others; verbal influence and allied kinds of societal pressures that one contains different capabilities and affective and physiological conditions from which people gauge their effectiveness, potency and susceptibility to dysfunction (Bandura, 2000). By increasing the individual effectiveness in hospital staff will decrease their failures (Alidosti, Delaram, Dehgani, & Moghadam, 2016). Individual effectiveness has significant relationship with job

performance in hospitals (Salman, Khan, Draz, Iqbal, & Aslam, 2016).

## **Change Management**

A flawlessly planned procedure that nobody uses will not bring any improvement in performance and effectiveness. Absolutely complete equipment and technology that nobody uses will not bring any worth to organization. If people are not willing to use perfectly designed job roles then there will be no outcome to organization. Any organization can excel when their employees are ready, embracing and accepting change. Projects are done to solve a problem or to capture business, otherwise they are not fun and excitement. Significantly, there is a probability to get better performance in a momentous method. A basic supposition of change is that a little unusual is possible in existing procedures. In today's world, organizations are facing regular, various and strong changes through the processes of amalgamations, reformation, process revamps and total quality practices. Organizations adopt these programs to predict outside forces like novel technologies, new markets and legislations or inside forces like adjustments of workers or changing policies and methods. Researches suggest a bunch of administrative practices that provide superior support for the performance of change processes in organizations (Buchanan et al., 2005).

The different acts of management of change contain a great collection of managerial interferences and when they are executed properly and frequently within and outside managerial events, they enhance the performances and effectiveness of individuals and organizations. Change management as a joint activity can increase effectiveness (Zelenkov, 2016). Change management has become an important process which should be managed for individuals and organizations to survive (Samuel, 2013).

## **The Present Study**

Speedy developments in IT, improvements in using teaching tools and organizational opportunities have permitted for huge advances in service delivery. Despite all the advancements, administrators must know that medical doctors have the biggest impact on the state of the art delivery of service. Numerous studies conducted in the western industrialized societies have investigated



many possible antecedents of effectiveness (Hasan, 2008; Nassazi, 2013; Tippins & Sohi, 2003) but slightest to speak of such activities in Pakistan. The amount of empirical research in examining the association among organizational factors, individual effectiveness and change management in the universities appear to scare. Therefore, there is a necessity of inclusive study of main characteristics of individual effectiveness in healthcare sector of Pakistan.

In Pakistan, the situation of healthcare is worse, there are failures and meager performance of doctors, physicians and hospital staff, due to which there are problems in quality care of patients and even safety lapses. Nonetheless, the research which has already been done advocates that dropping these failures is a big challenge (Beaudoin & Edgar, 2002; Fredendall, Craig, Fowler, & Damali, 2009; Gurses & Carayon, 2007; Hendrich et al., 2008; Sobek & Jimmerson, 2003; Tucker, 2004). So this research would be very significant and beneficial to healthcare administrators because it will make available the methods and techniques for increasing the individual effectiveness of doctors. Following a different process to organizational factors in every organization around the globe, the beginning of an optimistic change in healthcare sector is enviable in Pakistan. The main objectives of this endeavor are, to study organizational factors and their impact on doctors' effectiveness. Further, to examine the moderating role of change management practices between organizational factors and individual effectiveness.

This study analyzed the relationship of variables in the model given below in Figure 1.

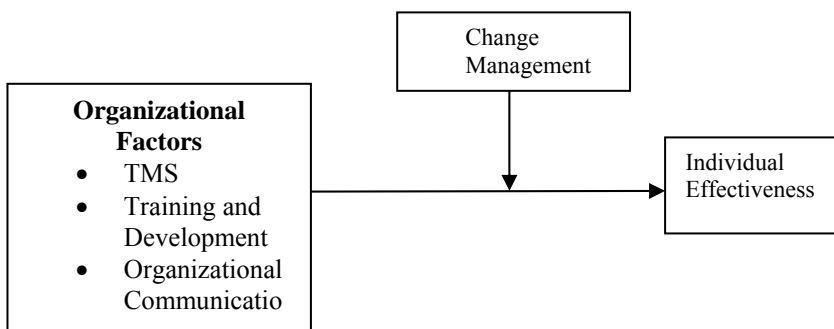


Figure 1. Proposed Research Model

Following hypotheses are formulated:

1. TMS influences individual effectiveness.
2. Training and development influences individual effectiveness.
3. Organizational communication influences individual effectiveness.
4. IT competency has an impact on individual effectiveness
- 5a. Change management moderates the association between TMS and individual effectiveness.
- 5b. Change management moderates the association between training and development and individual effectiveness.
- 5c. Change management moderates the association between organizational communication and individual effectiveness.
- 5d. Change management moderates the association between IT competency and individual effectiveness.

## **Method**

### **Sample**

Simple random and stratified sampling techniques were used in this study because they are used when the population is divided into subgroups on the basis of characteristics like education level and it facilitated the population to respond the research questions. The sample size for the current study is 503 doctors serving in 13 selected public and private hospitals. Demographics signify a measurable perspective of a populace, for the most part including age, sexual orientation, salary, education, job and so on. The demographics understanding of your objective customers are essential for the achievement of your business. The analysis showed that 54.1 percent doctors were male and 45.9 percent of doctors were female in the survey. 13.7 percent of the doctors were those which correspond to the age between 20 to 25 years, 20.5 percent belong to the age between 26-30 years. Further, 8.9 percent are those doctors who were between the ages of 31-35 years, 10.1 percent doctors correspond to the age between 36-40 years. 11.9 percent doctors were in between the age of 41-45 years, 21.5 percent doctors were between the ages of 46-50. There are 13.3 percent respondents who were in the age group of 51 and above.

## **Survey Questionnaire**

The construction of the survey questionnaire for present research is mainly based on and taken from six survey questionnaires utilized in earlier researches. All of the questionnaires which were used contained close-ended questions. Seven point likert scale was utilized to gauge every variable. The following instruments of measurement were used in the study, Organizational Communication (Karanges, 2014), IT Competency (Tippins & Sohi, 2003), Top Management Support (Huntington, 1985), Training and Development (Nancy & Waldeck, 2005), Change Management (Raineri, 2011), and Individual Effectiveness (Claessens, 2004).

## **Data Collection**

The researcher contacted the Deputy Medical Superintendents (DMS), Medical Superintendents (MS) and administrative officers of different hospitals to determine if they are willing to take an interest in the research and have received positive responses from some of the hospitals and then personally visited some hospitals to interview several medical superintendents and administrative officers. Statistical Package of Social Sciences (SPSS) 20<sup>th</sup> edition is engaged for all the statistical investigations. In the current research, 710 questionnaires were disseminated in selected hospitals, 524 questionnaires were received with a turn out rate of 73.80%. On close inspection, it was established that 21 questionnaires had main missing data. As this was a meager figure in contrast to the whole amount and it was supposed that the generalisability would not be affected, therefore, remaining 503 questionnaires were taken for the analysis. No outlier was detected in the data fed into the software.

## **Results**

The strength of research is statistical analysis. It crafts the study more methodical, reasonable, interpretable, decisive, generalizable and scholastic. The subsequent segments are intended for comprehensive explanation and statistical investigation of the data to put together the study a purpose oriented scholastic activity.

## **Reliability and Descriptive Statistics**

Even though measures were authenticated, researcher also wanted to perform the additional scrutiny of the constructs by

carrying out the test of alpha to make certain that every item has reliability and inter-item steadiness for the sample. So, in this research, the values of cronbach alpha coefficient were intended to confirm the trustworthiness of measures and internal reliability considered for the individual scale. Cronbach alpha values larger than 0.6 and 0.7 are believed as satisfactory and excellent correspondingly for consistency of scale items (Fengmei, Shi-hua, & Yong, 2007). Table 1 show that all the values of cronbach alpha for all the variables are bigger than 0.6 and 0.7 and are reflected as satisfactory and decent correspondingly for consistency of scale items.

Descriptive statistics are utilized to explain the essential characteristics of the data in research. They give straightforward reviews on the sample data and different measures used. They are normally different from inferential statistics. Table 1 show that the mean value for IT competency is 4.74 which is showing that most of the respondents are moderately agree. The score of standard deviation for IT competency is 0.76 which is showing the deviation of data from the mean. In the same way the values of mean of other variables like training and development, organizational communication and individual effectiveness are moderately agreed by the respondents which show that these variables also have encouraging impact and relevance in the research, while the mean values of TMS and change management showed neutral responses.

Table 1

*Descriptive Statistics of all Variables (N=503)*

Variables	Cronbach's Alpha Coefficient	<i>M</i>	<i>SD</i>	Min	Max
IT Competency	0.91	4.74	0.76	1.61	6.75
TMS	0.68	4.48	0.46	2.4	5.71
Training and Development	0.91	5.12	0.89	1.70	7.00
Organizational Communication	0.93	4.90	0.67	1.82	6.16
Individual Effectiveness	0.82	5.37	0.71	2.82	7.00
Change Management	0.91	4.48	0.79	2.08	6.13

### Interpretation of Bivariate Relationships

Correlation analysis is the understanding of economic behavior, helps in placing the gravely significant variables upon which others depend. The result of correlation is to decrease the range of indecision. The forecast supported on correlation analysis is probable to be consistent and close to realism. This method is used to measure the associations and relationships between two or greater than two variables. The results in Table 2 show that the values are moderately correlated within the range i.e., -1 to +1. The correlation between individual effectiveness and TMS is 0.27. The correlation between training and development and organizational effectiveness is 0.56 which is positive and significant.

Table 2

*Pearson Correlation Analysis (N=503)*

	1	2	3	4	5	6
1. IT Competency	-					
2. TMS	.46**	-				
3. Training & Development	.52**	.52**	-			
4. Org Communication	.69**	.50**	.66**	-		
5. Individual Effectiveness	.28**	.27**	.42**	.41**	-	
6. Change Management	.53**	.30**	.42**	.57**	.27**	-

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

### Multiple Regression Analysis

Table 3 shows regression analysis of organizational factors and individual effectiveness. Value of  $R^2$  has been revealed in the Table 3 to envisage the probable association among these variables i.e., TMS, training and development, organizational communication and IT competency which predict the dependent variable i.e., individual effectiveness.

The results showed that the model is statistically significant ( $F = 33.75$  with  $\text{sig} < 0.05$ ). All the explanatory variables included in the model seem to have explained variance around 21.3 percent in the dependent variable i.e., individual effectiveness.

Among independent variables, organizational communication seems to have greater effect on individual effectiveness with  $\beta = 0.27$ ,  $t$  value = 4.26 and  $p < 0.05$ . As the value of  $\beta = 0.27$ , it means that one unit of increase or decrease in the independent variable will bring about 0.27 unit increase or decrease in the reliant variable. The value of  $p < 0.05$ , so this provides an evidence for accepting the hypothesis

H3 i.e., organizational communication influences individual effectiveness and the influence is positive.

Training and development is another variable which has positive effect on individual effectiveness with the value of  $\beta = 0.25$ ,  $t$  - value = 4.52 at 95 percent level of confidence. Thus hypothesis H2 is also accepted which states that training and development influences individual effectiveness and the impact is positive. But in case of TMS, the value of  $\beta$  is 0.02, the value of  $t$  is 0.50 and  $p$  is 0.61, so hypothesis H1 is rejected which states that TMS influences individual effectiveness. Similarly hypothesis H4 is also rejected as the value of  $p$  is greater than 0.05, the rejected hypothesis states that IT competency has an impact on individual effectiveness.

Table 3

*Regression between Organizational Factors and Individual Effectiveness (N=503)*

IV	DV	$R^2$	F-value	Sig	B	Beta	$t$	$p$
TMS					0.03	0.02	0.50	0.61
Training and Development	Individual Effectiveness				0.20	0.25	4.52	0.00
Organizational Communication	Effectiveness	0.21	33.75	0.00	0.28	0.27	4.26	0.00
IT Competency					-0.04	-0.05	-0.92	0.35

### **Moderation Regression Analysis of Change Management between Organizational Factors and Individual Effectiveness**

With a specific end goal to look at the impact of moderator among the reliant and autonomous variables, the moderation regression analysis can be utilized (Cohen, Cohen, West, & Aiken, 2013). Prior to the assessment of impact of moderation, the multiplicative term was produced from the multiplication of moderating and the independent variable. The moderation analysis will be performed in three steps. The moderation analysis of change management between organizational factors and individual effectiveness has been shown in the next sections.

Table 4 shows the association among TMS and individual effectiveness moderated by change management. Moderation analysis was performed in 3 steps. In step 1, the model is statistically significant as the values of  $F = 40.10$  and  $\text{sig} < 0.05$ . The value of  $R^2$

is 7.4 percent, the value of  $\beta$  is 0.27 and the value of  $t$  is 6.33. All these values are satisfactory. In step 2, the model is statistically significant. The value of  $R^2$  has been increased from step 1 and now it is 11.5 percent. The value of  $\beta$  for TMS and change management are 0.20 and 0.21 respectively. The values of  $t$  and  $p$  are also satisfactory. In step 3, the model is again significant statistically. The value of  $R^2$  has further increased to 16.6 percent and it indicates that 16.6 percent of variance can be explained by TMS and change management. The interaction outcomes illustrate that the value of  $\beta$  is 0.87 and  $p < 0.05$  and verifying that change management moderates the association among TMS and individual effectiveness. This moderation has positive influence and hence our hypothesis 5a is accepted which states that change management moderates the association among TMS and individual effectiveness. In case when there was a direct relationship i.e., TMS influences individual effectiveness, the hypothesis was rejected.

Table 4

*Regression between TMS and Individual Effectiveness (IE) moderated by Change Management (N=503)*

Step	IV	DV	$R^2$	F-value	Sig	B	Beta	$t$	$p$
1	TMS	IE	0.07	40.10	0.00	0.38	0.27	6.33	0.00
2	TMS	IE	0.11	32.46	0.00	0.29	0.20	4.69	0.00
	Change Management					0.19	0.21	4.80	0.00
3	TMS	IE	0.16	33.01	0.00	-0.60	-0.43	-3.49	0.00
	Change Management					-0.90	-0.90	-4.46	0.00
	Interaction					0.24	0.87	5.50	0.00

The association among training and development and individual effectiveness moderated by change management is shown in Table 5. Moderation analysis was performed in 3 steps. In all the three steps, the models are significant statistically. The interaction outcomes demonstrate that the value of  $\beta$  is 0.28; the value of  $t$  is 0.87 and  $p > 0.05$  and verifying that change management does not moderate the association among training and development and individual effectiveness and hence our hypothesis 5b is rejected which states that change management moderates the association between training and development and individual effectiveness. When there was a direct

relationship i.e., training and development influences individual effectiveness, the hypothesis was accepted.

Table 5

*Regression between Training and Development (TnD) and Individual Effectiveness moderated (IE) by Change Management (N=503)*

Step	IV	DV	R <sup>2</sup>	F-value	Sig	B	Beta	t	p
1	TnD	IE	0.17	108.42	0.00	0.33	0.42	10.41	0.00
2	TnD	IE	0.18	58.37	0.00	0.29	0.37	8.36	0.00
	Change Management					0.10	0.11	2.64	0.00
3	TnD	IE	0.19	39.15	0.00	0.16	0.21	1.13	0.25
	Change Management					-0.05	-0.05	-0.27	0.78
	Interaction					0.03	0.28	0.87	0.38

Table 6 shows the relationship between organizational communication and individual effectiveness moderated by change management. The interaction consequences verifying that change management does not moderate the relationship between organizational communication and individual effectiveness and hence our hypothesis 5c is rejected. When there was a direct relationship i.e., organizational communication influences individual effectiveness, but now the hypothesis was rejected.

Table 6

*Regression between Organizational Communication (OC) and Individual Effectiveness (IE) moderated by Change Management (N=503)*

Step	IV	DV	R <sup>2</sup>	F-value	Sig	B	Beta	t	p
1	OC	IE	0.17	105.58	0.00	0.44	0.41	10.32	0.00
2	OC	IE	0.17	53.87	0.00	0.41	0.38	7.84	0.00
	Change Management					0.04	0.05	1.06	0.28
3	OC	IE	0.18	37.22	0.00	0.11	0.11	0.69	0.48
	Change Management					-0.30	-0.34	-1.55	0.12
	Interaction					0.07	0.60	1.84	0.06



The relationship between IT competency and individual effectiveness moderated by change management is shown in Table 7. The interaction consequences demonstrate that the value of  $\beta$  is 0.97 and  $p < 0.05$  and verifying that change management moderates the relationship between IT competency and individual effectiveness. This moderation has positive influence and hence our hypothesis 5d is accepted. In case of direct relationship, IT competency has an impact on individual effectiveness, the hypothesis was rejected.

Table 7

*Regression between IT Competency and Individual Effectiveness (IE) moderated by Change Management (N=503)*

Step	IV	DV	$R^2$	F-value	Sig	B	Beta	t	p
1	IT COM	IE	0.07	42.69	0.00	0.25	0.28	6.53	0.00
2	IT COM	IE	0.10	27.97	0.00	0.17	0.18	3.70	0.00
	Change Management					0.15	0.17	3.50	0.28
3	IT COM	IE	0.12	23.26	0.00	-0.39	-0.42	-2.37	0.01
	Change Management					-0.46	-0.52	-2.56	0.01
	Interaction					0.13	0.97	3.54	0.00

## Discussion

The outcomes of present study are evaluated to the outcomes of earlier studies. Past studies results offered are primarily meta-analytical researches in relation to effectiveness and performance of different fields. There are no direct previous studies outcomes exist on the association among organizational factors and individual effectiveness even the researcher did not find any direct prior outcomes on the moderating relationships presented in this research.

### H1 TMS influences Individual Effectiveness

The results are in line with the old study (Young & Jordan, 2008) which stated that management at the top do not have the guts to give necessary guidance to all individual in the organization due to which employees cannot be benefited. TMS may be necessary for increasing individual effectiveness in many organizations; in any case, this is not

valid on account of this investigation which deals with the occupation of doctors. The research proves that if top management backing is in fact the most imperative factor, there is an issue since recommendations for TMS is not established well in hospitals.

## H2 Training and Development influences Individual Effectiveness

The results of this research are supported by the study (Wright & Geroy, 2001) which stated that the competencies of workers modify with the help of efficient training and development programs. The hypothesis is accepted, so the research proves that the training and development has an influence on individual effectiveness of doctors. Doctors who receive training through workshops, seminars, conferences and online video conferencing, the quality of their work is high and of greater value.

## H3 Organizational Communication influences Individual Effectiveness

The outcomes of this research are in accordance with the earlier study (Asif & Sargeant, 2000) which stated that organizational communication is positively linked with employee devotion and individual effectiveness. This study proves that the organizational communication is a procedure which provides information to the doctors regarding their individual responsibilities and also the general targets of organization. The communication frequency must be extensive. The doctors acquire the vast majority of information through formal gatherings with the official group.

## H4 IT Competency has an impact on Individual Effectiveness

The outcomes of this research are reliable with the study (Hitt & Brynjolfsson, 1996) and it challenged that the innovation and technology does not as a matter of course make an upper hand and there is no critical direct association among IT competency and individual effectiveness.

## H5a Change Management moderates the association between TMS and Individual Effectiveness

The results of regression state that change management has an influence on the association among TMS and individual effectiveness. Current study's findings empirically and theoretically contributed towards enhancing doctors' individual effectiveness. Therefore,

moderating effect of change management found between TMS and individual effectiveness so as to provide guidelines to hospital administrators that individual effectiveness of doctors is influenced by deploying change management with TMS.

#### H5b Change Management moderates the association between Training and Development and Individual Effectiveness

The results of regression state that change management does not moderate the connection among training and development and individual effectiveness. The data for the current research was taken from different private and public sector hospitals. Each hospital has its own culture, work settings and training programs, due to these reasons findings are not supported to the hypothesis.

#### H5c Change Management moderates the association between Organizational Communication and Individual Effectiveness

The results of regression state that change management does not moderate the relationship between organizational communication and individual effectiveness. Existing study sample was obtained from dissimilar age groups, education levels, job involvements and from different hospitals, due to these reasons, findings are not supported to the hypothesis.

#### H5d Change Management moderates the association between IT Competency and Individual Effectiveness

The results of regression state that change management has an impact on the connection among IT competency and individual effectiveness. Consequently, the findings give support to results; the doctors' individual effectiveness is influenced upon deploying change management and having IT competency.

## **Conclusion**

The outcomes of this research have provided awareness into numerous elements which have important influence on individual effectiveness in healthcare sector of Pakistan. In this research, primary data was obtained through Simple random and stratified sampling techniques and 710 questionnaires were distributed to doctors of different hospitals and 503 questionnaires were selected for further analysis. On the basis of the findings of this study, subsequent

conclusions could be drawn. In the beginning, the relationship of organizational factors on individual effectiveness was analyzed through bivariate analysis and two organizational factors out of four (training and development and organizational communication) were valid predictor of individual effectiveness. The results also showed that change management moderates the association among organizational factors (TMS and IT competency) and individual effectiveness. The findings conclude that organizational factors and change management are associated with individual effectiveness.

This study has immense significance for the hospital management and policy makers in the health sector of Pakistan. It provides an evidence for the importance of organizational communication and leadership behaviors of hospital administrators that it influences the individual effectiveness. These decision makers can and should focus on the training and development of doctors and to increase organizational communication and IT competency in the hospitals. They should promote a trust building culture and take measures for the benefit of doctors to bring more commitment and to create a positive environment in the hospitals and better working conditions which eventually increases effectiveness. It is also assumed that this research would be useful for those at the helm of matters in making improved decisions about doctors and physicians.

### **Recommendations for Future Research**

The recommendations/suggestions for future researches are described below.

1. The present study was mounted as to scrutinize the straight and moderating relations among the variables, additional studies are necessary to plug the research procedural opening like mediating studies.
2. The future research can be based on the comparison of public versus private sector hospitals where the data can be collected separately to see the effect of the variables on individual effectiveness of doctors.
3. It would also be interesting to evaluate gender differences within hospitals in future studies. These comparisons could not be made in this study due to sample size.
4. It is also suggested to increase sample size to bring more accurate results.

## References

- Akgün, A. E., Byrne, J. C., Lynn, G. S., & Keskin, H. (2007). Team stressors, management support, and project and process outcomes in new product development projects. *Technovation*, 27(10), 628-639.
- Alidosti, M., Delaram, M., Dehgani, L., & Moghadam, M. M. (2016). Relationship between self-efficacy and burnout among nurses in Behbahan city, Iran. *Women's Health Bulletin*, 3(4).
- Asif, S., & Sargeant, A. (2000). Modelling internal communications in the financial services sector. *European Journal of Marketing*, 34(3/4), 299-318.
- Atkinson, S. (2004). Senior management relationships and trust: An exploratory study. *Journal of Managerial Psychology*, 19(6), 571-587.
- Bandura, A. (2000). Cultivate self-efficacy for personal and organizational effectiveness. *Handbook of Principles of Organization Behavior*, 2.
- Beaudoin, L. E., & Edgar, L. (2002). Hassles: Their importance to nurses' quality of work life. *Nursing Economic\$, 21(3)*, 106-113.
- Berwick, D. M., Calkins, D. R., Mccannon, C. J., & Hackbarth, A. D. (2006). The 100,000 lives campaign: Setting a goal and a deadline for improving health care quality. *Journal of the American Medical Association*, 295(3), 324-327.
- Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance: An empirical investigation. *MIS Quarterly*, 24(1), 169-196.
- Boonstra, A. (2013). How do top managers support strategic information system projects and why do they sometimes withhold this support? *International Journal of Project Management*, 31(4), 498-512.
- Bovee, C. V., & Thill, J. V. (2013). *Business Communication Essentials 6th edition*: Prentice Hall.
- Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J. L., Lamont, S. S., . . . Whitby, E. (2005). No going back: A review of the literature on sustaining organizational change. *International Journal of Management Reviews*, 7(3), 189-205.
- Carriere, J., & Bourque, C. (2009). The effects of organizational communication on job satisfaction and organizational commitment in a land ambulance service and the mediating role of communication satisfaction. *Career Development International*, 14(1), 29-49.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*: Routledge.
- Cole, G. A. (2002). *Personnel and human resource management*: Cengage Learning EMEA.
- Collier, N., Fishwick, F., & Floyd, S. W. (2004). Managerial involvement and perceptions of strategy process. *Long Range Planning*, 37(1), 67-83.

- De Holan, P. M., & Mintzberg, H. (2004). Management as life's essence: 30 years of the Nature of Managerial Work. *Strategic Organization*, 2(2), 205-212.
- de Leval, M. R., Carthey, J., Wright, D. J., Farewell, V. T., & Reason, J. T. (2000). Human factors and cardiac surgery: A multicenter study. *The Journal of Thoracic and Cardiovascular Surgery*, 119(4), 661-672.
- Elbanna, A. (2013). Top management support in multiple-project environments: An in-practice view. *European Journal of Information Systems*, 22(3), 278-294.
- Felekoglu, B., & Moultrie, J. (2014). Top management involvement in new product development: A review and synthesis. *Journal of Product Innovation Management*, 31(1), 159-175.
- Feng-mei, G., Shi-hua, M., & Yong, T. (2007). Empirical study on the influence between logistics information capabilities and supply chain performance. *Industrial Engineering and Management*, 2, 12-18.
- Fredendall, L. D., Craig, J. B., Fowler, P. J., & Damali, U. (2009). Barriers to Swift, Even Flow in the Internal Supply Chain of Perioperative Surgical Services Department: A Case Study. *Decision Sciences*, 40(2), 327-349.
- Glazer, R. (1991). Marketing in an information-intensive environment: strategic implications of knowledge as an asset. *The Journal of Marketing*, 55(4), 1-19.
- Gosling, J., & Mintzberg, H. (2003). The five minds of a manager. *Harvard Business Review*, 81(11), 54-63.
- Gray, J., & Laidlaw, H. (2004). Improving the measurement of communication satisfaction. *Management Communication Quarterly*, 17(3), 425-448.
- Gray, R., & Robertson, L. (2005). Effective internal communication starts at the top help executives understand the need for clear, concise communication. *Communication World-San Francisco*, 22(4), 26.
- Gurses, A. P., & Carayon, P. (2007). Performance obstacles of intensive care nurses. *Nursing Research*, 56(3), 185-194.
- Hall, L. M., Pedersen, C., & Fairley, L. (2010). Losing the moment: Understanding interruptions to nurses' work. *Journal of Nursing Administration*, 40(4), 169-176.
- Hasan, A. (2008). IT competency and firm performance: The role of organizational learning capability in Indonesian manufacturing firms. *Unpublished thesis*.
- Hendrich, A., Chow, M. P., Skierczynski, B. A., & Lu, Z. (2008). A 36-hospital time and motion study: How do medical-surgical nurses spend their time? *The Permanente Journal*, 12(3), 25.
- Hill, C. W., & McShane, S. L. (2008). *Principles of management*. McGraw-Hill/Irwin.

- Hitt, L. M., & Brynjolfsson, E. (1996). Productivity, business profitability, and consumer surplus: Three different measures of information technology value. *MIS Quarterly*, 20(2), 121-142.
- Huscroft, J. R. (2008). *Practical challenges in managing the reverse logistics process in a supply chain*. Auburn, AL: Auburn University.
- Hyväri, I. (2016). Roles of top management and organizational project management in the effective company strategy implementation. *Procedia-Social and Behavioral Sciences*, 226, 108-115.
- Karanges, E. R. (2014). Optimizing employee engagement with internal communication: A social exchange perspective. *Journal of Business Market Management*, 17(2), 329-353.
- Jo, S., & Shim, S. W. (2005). Paradigm shift of employee communication: The effect of management communication on trusting relationships. *Public Relations Review*, 31(2), 277-280.
- Jodlbauer, S., Selenko, E., Batinic, B., & Stiglbauer, B. (2012). The relationship between job dissatisfaction and training transfer. *International Journal of Training and Development*, 16(1), 39-53.
- Johlke, M. C., & Duhan, D. F. (2000). Supervisor communication practices and service employee job outcomes. *Journal of Service Research*, 3(2), 154-165.
- Kelly, W. E. (2002). Harnessing the river of time: A theoretical framework of time use efficiency with suggestions for counselors. *Journal of Employment Counseling*, 39(1), 12-21.
- Kim, J. N., & Rhee, Y. (2011). Strategic thinking about employee communication behavior (ECB) in public relations: Testing the models of megaphoning and scouting effects in Korea. *Journal of Public Relations Research*, 23(3), 243-268.
- Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (1999). *To err is human: Building a safer health system*. Committee on Health Care in America. Institute of Medicine: Washington (DC): National Academy Press.
- Kurke, L. B., & Aldrich, H. E. (1983). Note—Mintzberg was Right!: A Replication and Extension of The Nature of Managerial Work. *Management Science*, 29(8), 975-984.
- Leape, L. L., & Berwick, D. M. (2005). Five years after To Err Is Human: what have we learned? *JAMA*, 293(19), 2384-2390.
- Leonard-Barton, D. (1995). *Wellspring of knowledge*. Harvard Business School Press, Boston, MA.
- Luthans, F., Rosenkrantz, S. A., & Hennessey, H. W. (1985). What do successful managers really do? An observation study of managerial activities. *The Journal of Applied Behavioral Science*, 21(3), 255-270.
- Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992). Influences of individual and situational characteristics on measures of training effectiveness. *Academy of Management Journal*, 35(4), 828-847.

- Matzler, K., Schwarz, E., Deutinger, N., & Harms, R. (2008). The Relationship between transformational leadership, product innovation and performance in SMEs. *Journal of Small Business & Entrepreneurship*, 21(2), 139-151.
- McLagan, P. (1988). Top Management Support. *Training*, May, 25(5), 59-62.
- Mintzberg, H. (1993). Rounding out the managers job. *Sloan Management Review*, 3.
- Mitcham, C., & Mackey, R. (1983). *Philosophy and technology* (Vol. 80): Simon and Schuster.
- Nancy, E., & Waldeck, E. B. (2005). Perceptions of Professional Sales Careers: The Impact of Various Sources for Information. *Journal of Selling*, 18(1), 70-87.
- Nassazi, A. (2013). *Effects of training on employee performance* (Doctoral dissertation). Retrieved from <https://theseus32-kk.lib.helsinki.fi/handle/10024/67401>.
- Nishtar, S. (2010). *Choked pipes: Reforming Pakistan's mixed health system*: Oxford University Press Oxford.
- Orlikowski, W. J., & Yates, J. (2002). It's about time: Temporal structuring in organizations. *Organization Science*, 13(6), 684-700.
- Purcell, J. (2003). *Understanding the people and performance link: unlocking the black box*: CIPD Publishing.
- Raineri, A. B. (2011). Change management practices: Impact on perceived change results. *Journal of Business Research*, 64, 266-272.
- Reardon, J., Hasty, R., & Coe, B. (1997). The effect of information technology on productivity in retailing. *Journal of Retailing*, 72(4), 445-461.
- Ruck, K., & Welch, M. (2012). Valuing internal communication; management and employee perspectives. *Public Relations Review*, 38(2), 294-302.
- Sachs, J. D. (2002). Macroeconomics and health: Investing in health for economic development. *Revista Panamericana de Salud Pública*, 12(2), 143-144.
- Salman, M., Khan, M. N., Draz, U., Iqbal, M. J., & Aslam, K. (2016). Impact of Self-Efficacy on Employee's Job Performance in Health Sector of Pakistan. *American Journal of Business and Society*, 1(3), 136-142.
- Samat, N., Ramayah, T., & Mat Saad, N. (2006). TQM practices, service quality, and market orientation: Some empirical evidence from a developing country. *Management Research News*, 29(11), 713-728.
- Samuel, K. (2013). The effects of change management in an organisation: A case study of national university of Rwanda (Nur). *Wyno Journal of Management and Business studies*, 1, 1.
- Sekaran, U. (2006). *Research methods for business: A skill building approach*: John Wiley & Sons.



- Shao, Z., Feng, Y., & Hu, Q. (2016). Effectiveness of top management support in enterprise systems success: A contingency perspective of fit between leadership style and system life-cycle. *European Journal of Information Systems, 25*(2), 131-153.
- Shonubi, A. O., & Akintaro, A. A. (2016). The impact Of effective communication on organizational performance. *The International Journal of Social Sciences and Humanities Invention, 3*(3), 1909-1914.
- Sobek, D. K., & Jimmerson, C. (2003). *C: Applying the Toyota production system to a hospital pharmacy*. Paper presented at the Proceedings of the Industrial Engineering Research Conference.
- Subramani, M. (2004). How do suppliers benefit from information technology use in supply chain relationships? *MIS Quarterly, 28*(1), 45-73.
- Taylor, J. C. (1971). Technology and planned organizational change. *Human Relations, 24*(2), 105-123.
- Tippins, M. J., & Sohi, R. S. (2003). IT competency and firm performance: Is Organizational learning a missing Link?. *Strategic Management Journal 24*, 745-761. doi: 10.1002/smj.337
- Tippins, M. J., & Sohi, R. S. (2003). IT Competency and Firm Performance: Is Organizational Learning a Missing Link?. *Marketing Department Faculty Publications, 23*.doi <http://digitalcommons.unl.edu/marketingfacpub/>
- Trinka, J. A. (2005). What's a manager to do? *Industrial and Commercial Training, 37*(3), 154-159.
- Tucker, A. L. (2004). The impact of operational failures on hospital nurses and their patients. *Journal of Operations Management, 22*(2), 151-169.
- van Vuuren, M., de Jong, M. D., & Seydel, E. R. (2007). Direct and indirect effects of supervisor communication on organizational commitment. *Corporate Communications: An International Journal, 12*(2), 116-128.
- Verčič, A. T., Verčič, D., & Sriramesh, K. (2012). Internal communication: Definition, parameters, and the future. *Public Relations Review, 38*(2), 223-230.
- Viswesvaran, C., Deshpande, S. P., & Joseph, J. (1998). Job satisfaction as a function of top management support for ethical behavior: A study of Indian managers. *Journal of Business Ethics, 17*(4), 365-371.
- Wachter, R. M. (2010). Patient safety at ten: Unmistakable progress, troubling gaps. *Health Affairs, 29*(1), 163-173.
- Welch, M. (2011). The evolution of the employee engagement concept: Communication implications. *Corporate Communications: An International Journal, 16*(4), 328-346.
- Welch, M., & Jackson, P. R. (2007). Rethinking internal communication: A stakeholder approach. *Corporate Communications: An International Journal, 12*(2), 177-198.

- Williams, J., & Ramaprasad, A. (1996). A taxonomy of critical success factors. *European Journal of Information Systems*, 5(4), 250-260.
- Wright, P. C., & Geroy, G. D. (2001). Changing the mindset: The training myth and the need for world-class performance. *International Journal of Human Resource Management*, 12(4), 586-600.
- Young, R., & Jordan, E. (2008). Top management support: Mantra or necessity? *International Journal of Project Management*, 26(7), 713-725.
- Young, R., & Poon, S. (2013). Top management support—almost always necessary and sometimes sufficient for success: Findings from a fuzzy set analysis. *International Journal of Project Management*, 31(7), 943-957.
- Zahir Irani, P., Alsudiri, T., Al-Karaghoul, W., & Eldabi, T. (2013). Alignment of large project management process to business strategy: A review and conceptual framework. *Journal of Enterprise Information Management*, 26(5), 596-615.
- Zelenkov, Y. (2016). *Impact of Knowledge Management and Change Management on the Effectiveness of the Firm: Evidence from the Russian Companies*. Paper presented at the Proceedings of the The 11<sup>th</sup> International Knowledge Management in Organizations Conference on The changing face of Knowledge Management Impacting Society.

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