



Organizational Agility Determinants and Performance: A Case of Pakistani Telecommunication Sector

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Abstract

This study examined the effect of organizational agility determinants on firm performance. Organizations are facing challenges to respond to uncertainties and technological advancement. Agile organizations have more capability to respond uncertain situations and challenges when occur. The analysis of 126 respondents from telecom sectors revealed that Human Resource Agility (HRAg), Innovation Agility and technological advancement play significant role in enhancing organizational performance. This study will be beneficial for managers to boost organizational performance and gain agile position in the market. In this study recommendations will be helpful to conduct further research in future.

Key Words: Organizational Agility, Performance, Innovation, Telecom Sector

Introduction

Organizations are facing cut-throat competition in this competitive age. In the market there are compelling factors for organizations to enhance the organizational agility. These factors are included customers preferences, product escalating competition, technological advancement, and competitive advantage. Technological advancement and innovation challenges enforce organizations to adopt organizational agility practices to enhance organizational performance (Lomas, 2015). Organizational agility is applied through various factors, people, innovation and technology to enhance organizational performance (Yauch, 2011). The ability of organizational agility support organizations to thrive in uncertain situation and dynamic changes (Tsourveloudis, 2016). In technologically based companies technology agility fosters to improve organizational capability to adopt changing rapidly (Zaki, 2008). Employees are the most important asset for organizations to achieve organizational objectives and goals. Organizational

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human resource (HR) agility helps to create employees capabilities to perform and achieve organizational goals (Preiss, 2009). Information technology is necessary for organizations to adopt latest technology trends in the market (Bessant, 2008).

Organizational past performance is agile to cope with existing issues (Dove, 2010). The resources of organization help to quick response to change and uncertainty environment for sustainability and performance (Goldman, 2007). In this dynamic environment and global advancement, organization must overcome performance obstacles to maintain competitive advantage (Magretta, 1998). Employees of organization have agile role to respond quickly to change and uncertainties (Proops, 2011). The agile system helps to maintain organizational performance and competitiveness (Senge, 2009). Employees' skills and motivation play key role in agile organizations (Womack, 2014). Innovation agility is helpful for customers' satisfaction in changing trends and fashions (Goleman, 2009). It helps to solve issues related to sale through ongoing process. In today market competition and volatile changes in customers' demands and supply from organizational side, this condition organizations sense respond quickly (Antony, 2010). In market competition condition to respond rapidly uncertain conditions companies focus smoothly maintain their performance (Ambec, 2008). The ability of agile firms helps to resilient and upheavals and firms remain capable in term of production and performance (De Waal, 2007).

In Pakistani telecom market, there are many competitors, providing services to satisfy customers and retain them. This study has been conducted on Pakistani telecom sector to investigate how the organizational agility impact organizational performance. Organizational agility is an important concept whereas, it checks the firm's ability to quick response for the uncertainty.

Agility enables organizations to respond quickly to uncertainties by using resources effectively. In businesses, uncertainties are inevitable because technological advancement and innovation are the main factors for organizational performance. Human resource is the most important asset to respond technological uncertainties and innovation challenges. In this competitive market challenges organizations need to respond changes and advancement to maintain competitiveness (Poole, 2012). Human resource (HR) agility enhances organizational performance the way business operations conducted (Bassellier, 2009). Organizations invest in human resources to equip them with competent skills and knowledge, it helps to maintain the uncertainties when they occur (Ciborra, 2011). When organizations plan to adopt new technology for organization so, employees are considered more reluctant to adoption (Davis, 2009). In Pakistani telecom sector there are five major telecom services providers. These companies always focus to gain competitive advantage. Pakistan Telecom Company Limited (PTCL) was one of market player in Pakistani market. Technological advancement and innovation was challenge for PTCL when it was only major services provider in the market. In 2004-2005, 49% company became

privatized. The reason was lack of organizational agility due to technological advancement and innovation. In 2008 technological advancement challenges and innovation trends compel telecom companies to respond these changes. Pakistan Telecom Company limited and Paktel were the victims of these challenges. These days HR agile, technological advancement and innovation practices are necessary for organizations to maintain their performance. These were the challenges for the PTCL to sustain in competitive telecom market.

Research Objectives

- To identify the effect of HR agility on organizational performance
- To identify the effect of information technology agility on organizational performance
- To identify the effect of innovation agility on organizational performance

Research Questions

- Does HR agility impact organizational performance?
- Does information technology agility impact organizational performance?
- Does innovation agility affect organizational performance?

Literature Gap

In present literature, there are many studies available related to organizational performance, HR agility, and organizational agility and innovation agility practices. In Pakistani context literature study highlighted that still there needs to test the relationship of HR agility, technological advancement agility, and innovation agility. In previous research study on impact of HR agility has been conducted in Malaysia in telecom sector (AS'AD, 2015). This study was conducted on information technology sector and results revealed positive correlation between organizational agility and organizational performance. Thus, organizational agility plays a significant role in responding to changes and adaptability. In Indian NGO sector study conducted by (Amit R. &., 1993), revealed that HR agility plays significant role to respond uncertainties avoidance. Technological advancement helps to manage organizational information resources and make effective decisions (Erande, 2008). The literature gap is showing that there is need to fill the existing gap related to HR agility, innovation agility and information technology agility to bridge the existing gap. This study will be beneficial for researchers in Pakistani telecom sector context to interlink all these variables. It will be helpful for researchers to know the impact of included variables in this study.

Critical Analysis of Literature

It is evident from the existing literature related to the impact of HR agility determinants on organizational performance conducted in Malaysian telecom industry (AS'AD, 2015). In previous research few variables were not included to test the relationships of research variables at the point of generalization. Organizational agility shows the capability of organization to respond uncertainty (Venkatraman N., 2011). In this technological advancement and market competition period of time, agile organizations can survive in best ways. Customers demands and priorities keep changing, innovation agility is considered best tool to offer products and services in innovative ways (Saeed, Abolhasan, Faheri, Mahdi, & Norooz, 2013). Information technology agility secure and faster the communication process in organization, it also helps to develop and implement effective decision planning (Abrahamsson, 2009).

These analyses highlight the importance of the combination of HR agility, innovation agility and information technology agility to enhance and maintain organizational performance and competitiveness. The existing literature presents that these factors play significant role to make organizations agile. HR agility focus to become employee flexible and ready for rapid response to adopt changes, innovation and information technology agility are also play contributory role for organizational agile position to survive in the market.

Theoretical Framework

The theoretical framework shows the relationship in the research variables. In this research study four variables were taken to develop theoretical framework. HR agility, Information technology agility and innovation agility are independent variables and organizational performance is a dependent variable.

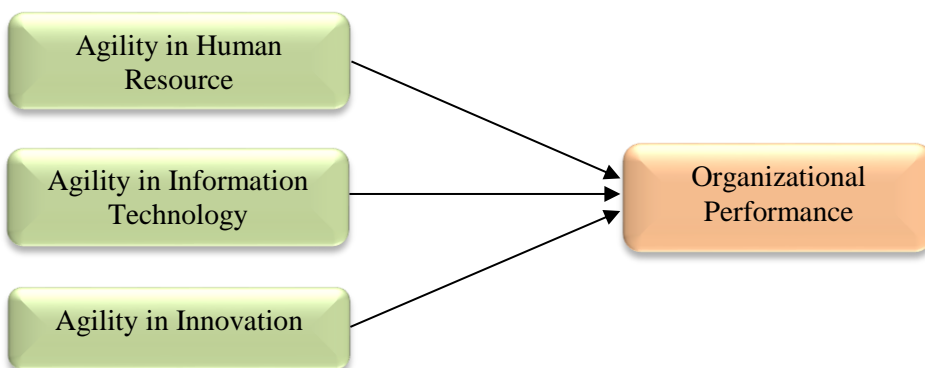


Figure 1

Hypotheses

H1: HR agility is significantly related to organizational performance

H2: Information technology agility is significantly related to organizational performance

H3: Innovation technology agility is significantly related to organizational performance

Research Methodology

In this study researcher used random sampling technique to collect the data from the selected sample size. The purpose of using random sampling was to provide equal chance of sample selection because it is probability sampling and in this technique every sample has chance of selection. Population frame for this research was all telecom sector employees' of different companies from twin cities Islamabad/Rawalpindi. The purpose selection of population frame from these twin cities was to collect data easily due to limitation of research time. In this study self-administered questioner technique was used to collect the data from the targeted population. The data was collected on individual basis from the employees of telecom companies of Pakistan. The adapted instrument from (Okotoh, 2015), (AS'AD, 2015) was employed for collecting the data from the targeted population. It was five-point Likert scale and consisted of two sections, first section was about respondents' demographic information, education, age, experience and gender, other parts of questionnaire focused research questions related to variables. Five-point Likert Scale was used to collect data from respondents (5= strongly agree; 4= Agree; 3=Neutral; 2=Disagree; 1= strongly disagree). Different data analysis techniques were used to draw a conclusion from the collection to test the developed hypothesis and answers to the research questions. In this connection, descriptive statistics, correlation analysis, and regression analysis were carried out using SPSS version 16.0. 126 completed questionnaires were followed for further analysis.

Reliability & Validity of Instrument

Reliability & validity of research instrument are a necessary aspect of the collected data. The adapted questionnaire was used for collecting data. The reliability of the data was checked by calculating Cronbach's alpha values. The key purpose to check the reliability statistics was to measure the internal consistency of research instrument items. It helps to know that research is collecting relevant information from the respondents. The validity of the research instrument was also measured and its content was discussed with experienced researcher. The purpose of the

validity check was to know the appropriateness of the research questionnaire, content, outlook, content checking, and grammatical appropriateness.

Table 1: Reliability Statistics

Cronbach's Alpha	No of Items
0.638	17

The above table is showing the reliability statistics results. The value of Cronbach's Alpha is .696 and N is showing the number of items that were used in the research scale. The research questionnaire consisted of 17 questions related to the research variables. The value of Cronbach's Alpha is showing that there is internal consistency in research variables so; scale can be used for data collection.

Table 2: Item-Total Statistics

S	Questions	Cronbach's Alpha if Item Deleted
1.	Rewards and compensation are offered by the organization to the employees adequate and commiserative, hence motivates employees to enhance firm operations performance	.633
2.	Recruitment & selection processes at the organization are focused on job demands to ensure consistency in operational performance	.649
3.	Organization encourage its employees participation in decision making to encourage social relations and generate and tap organizational knowledge to sustain operational performance	.614
4.	The organization offers its employees fringe benefits to motivate them for enhanced performance	.663
5.	IT management capabilities are an important basis through which firms can launch and sustain operational success	.637
6.	IT has been necessitated by the need for increased efficiency of activities, reduction in transaction time and/or reduces costs and thus enhanced operational performance	.586
7.	IT helps firms in sharing of knowledge and development of skills in addressing their operational problems	.601

8.	Innovative products and services are necessary for the organization to respond the customers changing trends in the market	.625
9.	IT management capabilities are an important part through which firms can launch and sustain operational success	.641
10.	This organization focus on innovative ideas and practices to maintain and improve competitive advantage in the market	.587
11.	An innovative product helps to attract more customers in the market and also enhance their satisfaction level	.650
12.	Quality of services has improved	.526
13.	Productivity has increased	.586
14.	Organization flexibility influences its success in continually seizing competitive opportunities for enhanced performance	.653
15.	Organizational responsiveness to changes serves to avert risks	.613
16.	Production cycle time has reduced	.644
17.	The agile organization executes innovations and take competitive moves with speed, surprise to enhanced operational performance	.644

The above is showing the Cronbach's Alpha values of scale items. Scale if than item deleted was calculated to check every item Cronbach's Alpha values so, that we come to know about internal consistency. In the above table's values of Cronbach's Alpha of research, question are greater than 0.6 expect 6, 10, 12, 13 questions. These questions have below than Cronbach's Alpha value. The reason to add these questions was to find other appropriate research questions related to the study variables.

Demographic Information

This table presents the demographic information of the sample size that was selected from the research population to collect the data for analysis. This information is related to their working experience, gender, respondents ages and level of education what they have completed. This information in frequency and percentage is explained below the table.

Table 3: Demographic Information

		Frequency	Percent
Experience	Less than 3 years	0	0
	3-5	30	23.8
	5-7	60	47.6
	7-9	36	28.6
	9-11	0	0
	More than 11	0	0
Gender	Male	67	53.2
	Female	59	46.8
Age	Below 25	0	0
	25-30	0	0
	30-35	42	33.3
	35-40	50	39.7
	40-45	34	27.0
	45-50	0	0
	50-55	0	0
	55-60	0	0
Education	F.A	6	4.8
	B.A	104	82.5
	M.A	16	12.7
	M. Phil	0	0
	PhD	0	0

The above demographic table is showing the frequencies and percentages of organizations, ages of respondents, their experiences and educational level. Employee experience was also part of demographic section; this section is showing that 30 respondents were having 3-5 years experience and it was 23.8% of overall respondents' ratio of this research study.

In this study, 5-7year experience was having 60 respondents, it was 47.6% of all respondents ratio. It is highest ratio amongst all other employees. 48 respondents were having experience between 7-9 years which was 28.6% of overall respondents of this research study. 67 males participated, it is 53.2% of total gender participants, and 59 were female that was 46.8% of overall respondents of this research study. In this study 61 respondents were 35.3% of total respondents rate, 42 respondents were in the age of 30-35, it was 33.3% of overall

responses of the research study. In this study 50 respondents were between 35-40 years age, and it was 39.7% of the overall response of the research study. The education Colum is showing that 6 respondents were having F.A education which was 4.8% of overall respondents' ratio, and 104 respondents were having B.A education and it was 82.5% of overall respondents' level of education. The results are showing that 82.5% is the highest level of education that respondents were having. 12.7% and 16 respondents were having M.A education who responds to the questionnaire in this research study. The key purpose to show this demographic information was, highlight the respondent's education, age, and experience.

Data Analysis and Findings

In this section analysis of data and results are explained in detailed. All procedures and steps are discussed in detailed that were used for hypotheses testing and result interpretation of the analysis of study outcome. When data was collected from the respondents it was analyzed through SPSS. In this study different testes were applied, correlation, regression, and descriptive statistics were applied to draw conclusion and research findings. All these steps are defined in detail given the below tables.

Regression Assumptions

The following are the assumptions of regression. There is a linear relationship in variables. There is no multicollinearity. All variables are normally distributed. Variables should be measure at continuous level. Homosecedasticity is assumed. These assumptions are helpful to measure the regression results validity.

Table 4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
OP	126	2.57	4.29	3.4535	.44743
HRAg	126	3.00	4.20	3.2714	.31644
INAg	126	2.75	4.00	3.5060	.44549
ITAg	126	3.00	4.50	3.6865	.40117

Organizational performance = OP , HR Agility = HRAg

Innovation Agility = INAg , Information technology Agility = ITAg

The above table descriptive statistics are showing the maximum, minimum, mean values and Std. Deviation values of the respondents. In table, N is showing the number of participants of research study. In this study 160 questionnaires were collected from the respondents from different telecom companies. Only 126 questionnaires were valid to use for data analysis and results interpretation. The maximum value of Human Resource Agility is 4.20 and minimum value is 3.00, these values are showing the agreeableness of respondents with research question statements. Information technology Agility has the maximum and minimum value of 4.50 and 3.00 respectively with the 3.6865 mean value. Innovation technology Agility mean value is 3.5060, minimum values are 2.75 and maximum value of innovation is 4.00, it shows that information technology Agility organizational performance has maximum values in this analysis.

Table 5: Correlations

	OP	HRAg	INAg	ITAg
OP	1			
HRAg	.312**	1		
INAg	.363**	.014	1	
ITAg	.389**	.036	.483**	1

OP = Organizational performance , ITAg = Information technology Agility ,
 HRAg = Human Resource Agility , INAg = Innovation Agility , N = 126

The above table is showing the correlation between independent and dependent variables. The correlation shows the strength of relationship between independent and dependent variables. Organizational performance (OP) and Human Resource Agility(HRAg) are .312** correlated with each other. It is showing that Human Resource Agility (HRAg) practices play important role to enhance organizational financial and operational performance. Information Technology Agility (ITAg) and organizational performance (OP) are .389** correlated with each other. This is also showing a positive relationship between these two variables. Innovation Agility (INAg) and organizational performance (OP) are .363** correlated with each other.

The above correlation table is showing that all independent variables (Human resource practices, Information technology, Innovation) are positively associated with organizational performance.

Table 6: Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.113	.489		.232	.817
	HRAg	.432	.108	.306	3.990	.000
	INAg	.242	.088	.241	2.757	.007
	ITAg	.292	.098	.262	2.989	.003
a. Dependent Variable: OP						

F = 16.203 , Sig = .000 , R Square = .285 , N = 126

OP = Organizational performance , ITAg = Information technology Agility , HRAg = Human Resource Agility , INAg = Innovation Agility ,

The above table of coefficients is showing the level of significance between independent and dependent variables. The results are showing that Human Resource Agility (HRAg) t-value is 3.990 and significance value is .000 which is showing a significant association between human resource management practices (HRMP) and organizational performance (OP). The t-value of information technology Agility (ITAg) is 2.989 and significance value is greater than .003 there is significance between these two variables. Innovation t-value is 2.757 and significance value is .007 which is $.05 \geq 0.05$ so this variable also has a significant relationship with organizational performance (OP). Unstandardized beta values are showing that human resource management practices (HRMP) have a greater level of effect for organizational performance as compare to other research variables Information technology Agility (ITAg) and Innovation agility (INAg).

In regression analysis F-value 16.203 and significance .000 showing the model fitness. The values highlighted that research model was fit to conduct this research study. The value of R-square .285 shows the level of influence of predictors for dependent variable. It shows that predictors Human Resource Agility, Information technology Agility and Innovation agility can influence the organizational performance (OP) .285 according to this research study analysis. N is showing the number of questionnaires that were used for the research analysis. On the basis of results, Human Resource Agility (HRAg) is .312** correlated with organizational performance, t-value is 3.990 and significance value $.05 \geq .000$, it leads to the significant relationship between HR Agility (HRAg), the first hypothesis H1; is accepted. Organizational managers will focus on HR practices to equip employees with required skills and knowledge in telecom sector of Pakistan. Innovation Agility (INAg) and organizational performance (OP) .363** are correlated with each other t-value is 2.75 and significance value is $.05 \geq .007$, it concluded that

both variables are positively correlated and there is significant relation between these variables. On basis of these results H2; is also accepted. It is concluded that innovation agility practices are also important to respond market uncertainties and customers' requirements in the telecom sector of Pakistan.

Information technology Agility (ITAg) and organizational performance (OP) are .389** are correlated with each other, t-value of information technology agility is 2.989 and significance value is $.05 \geq .003$ so, it is showing the level of significance between these two variables. On the basis of these results H3; is accepted. Analysis of this study revealed that all hypotheses are accepted. HR agility practices are important to respond to uncertainties and proactive preparation in organization. Organizational managers should focus to develop effective training and development practices to equip employees with skills and knowledge before adoption of new technology. Information technology agility (ITAg) is also playing a significant role to respond market changeling trends. In this study the main purpose was to highlight the importance of Agility determinants for organizational performance. Research analysis has shown that HR Agility determinants, HR practices, Innovation Agility, and Information Technology Agility are important determinants. These determinants are necessary for telecom companies to make organizations agile.

Discussion

The key objective of the research was to know the importance of organizational agility determinants for organizational performance. In this study, research data was collected from different telecom companies of Pakistani telecom market. The research analysis showed that HR Agility (HRAg) and organizational performance (OP) are .312** correlated with each other. Innovation (IN) and organizational performance are .363**, Information technology (IT) and organizational performance are .389** correlated with each other. Co linearity was also checked to the level of correlation of independent variables. The result shows that there is no co-linearity exists in independent variables. Information technology and human resource management practices (HRMP) are .036 correlated with each other, Innovation and HRMP are .014 with each other, Information technology (IT) and innovation are correlated. F-value 16.203 and significance .000 show the research model fitness. In model summary the value of R-square .285 the level of influence of independent variables human resource management practices (HRMP), innovation, and information technology (IT) performance of dependent variable performance organizational performance. In this study three hypotheses were developed to know the relationship of significance between variables.

Analysis of the study shows that H1; hypothesis is accepted, HR agility is significantly associated with organizational performance. In HR agility, Human resource management Practices (HRMP) was selected to check the significance

level between these variables. The H2; hypothesis is also accepted it was related to information technology agility and organizational performance. Hypothesis H3; is also accepted because there is positive correlation between these two variables and significance value is also less than .05 This research study will be helpful for organizational managers to know the importance of these factors. Organizational agility has become important for companies to compete within market and maintain competitive advantage. Human resource management practices (HRMP) play significant role make organization agile. The organization needs to focus on employee training on a proactive basis, compensation, performance appraisal, and evaluation to deal with uncertainties. These practices will impact significant organizational financial and operational performance. On the basis of data analysis all hypotheses are accepted in this research study.

Conclusions

The purpose of the research was to know the effect of agility determinates and their impact on organizational performance. The research design consisted of four variables, HR agility, in these variables human resource management practices (HRMP) were taken as dimensions of HR agility. Innovation agility and information technology were independent variables. The organizational performance was dependent variable in this study. R-square value .285 is showing that the strength of independent variables that can influence the performance of organization. Employees are the most important asset for organizations to achieve organizational goals and objectives. Agile organizations focus to equip employees with required training and development to respond uncertainty. Organizational agility is the ability of organization to respond uncertainty, maintain competitiveness in the market. This research was carried out on Pakistani telecom sector. Results of study showed that human resource management practices (HRMP) play significant role to make organization HR agile. Innovation agility and information technology agility are also important for organizations to make them agile.

Top performance companies prioritize to equip employees with the required skills and knowledge. When companies predict advancement changes and improvement required for customer satisfaction. Employee's skills, abilities, and motivation play important part to achieve organizational desired goal. In this technological advance period of time organizations are facing cut-throat competition in the market. Information technology agility has become important to make effective decisions and secure communication practices. Customers demand and taste trends are changing with the passage of time in the market. Innovation practices are the most important to provide appropriate solution for customer problems. These practices are showing the importance of organizational agility determinants. Information technology agility, Innovation agility, and HR

agility play significant role to enhance organizational financial and operational performance. This research will be beneficial for organizations to become agile so, that they would be able to respond quickly to the uncertainty for the organizations. Agile organizations have more potential to respond uncertain situations as compare to traditional business work practices particularly in this competitive age.

Managerial implication

This research study was about organizational agility determinants. This would enable managers of telecom companies to comprehend the significance of organizational agility and its associated factors. Technological advancement, innovation practices, human resource management practices to maintain and develop competitiveness in the organization. This research can also be generalized to improve organizational financial and operational performance. Manufacturing companies, NGO sector, Education sector, software houses may also take benefits from this research study. Organizational agility is very necessary to sustain in today's competitive market. Managers would come to know about HR agility, importance of training and developing employees, practices of performance appraisal, policies of compensation and other HR practices combination plays important to make organization HR agile. Information technology agility makes capable organizations respond rapidly when it occurs in the market. Innovation practices are also important to provide unique and desired solutions to the customer's demands in the market. In fact all these factors play contributory role in organizational financial performance and operational performance as well. This study will be worthwhile for managers to develop and implement strategies and implement for the sustainability in the complete market, to develop competitive advantage.

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