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## Flexible Human Resource Management And Firm Innovativeness: The Mediating Role Of Innovative Work Behavior

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### ABSTRACT

The paper examines the relationship between Flexible HRM, Innovative work behaviors and Firm innovativeness. We developed a theoretical framework which links the constructs together. Innovative work behaviors, Flexible HRM along with its 3 sub-dimensions (HR practices flexibility, Employee skill flexibility and Employee behavioral flexibility) and Firm innovativeness along with its 3 sub-dimensions (Product innovation, Process innovation and administrative innovation) are interlinked. Using the sample of 153 collected from the top and middle managers of high technology companies, the data was analyzed whose findings proved that flexible HRM positively impacts innovative work behaviors. Further, innovative work behaviors positively impacts firm innovativeness.

### KEY WORDS

flexible human resource management;  
innovative work behaviors; firm innovativeness;  
high technology companies

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## 1 INTRODUCTION

Digital age and knowledge economy have shaped heavy changes in the corporate world. (Chen & Li, 2015). Organizations are now facing tough competitions in the dynamic, uncertain, transforming and complex environment (Sanz-Valle & Jiménez-Jiménez, 2005). In order to achieve competitive advantage and even for the survival, firms heavily depends on their ability to adapt and respond to the environment, flexibility and introduction capability of new ideas and products (Jiang, Wang & Zhao, 2012; Beugelsdijk, 2008; Mumford, 2000; Chen & Huang, 2009).

A company that follows creative and innovative strategies should have employees who carry kind of entrepreneurial and innovative behaviors. So it's important to understand properly what actually makes individuals at workplace to behave innovatively and how the firms can shape that type of behaviors (Eenink, 2012).

Human Resource management is believed to be strongly embedded in the business strategies to effectively support the innovations (Kozlowski, 1987). Another emerging field that start producing research interest in Human resource management is Flexible human resource management, because it enables the firms to stretch and adapt to changing, uncertain and diverse requirements in both internal and external environment (Wright & Boswell 2002; Kumara & Pradhan, 2014). Flexible Human resource management is considered to be very important aspect of firm flexibility as it shapes the attributes of employees (skills, abilities, attributes and behaviors) according to changing environmental conditions (Ngo & Loi, 2008). Basically in flexible Human resource management employees are encouraged to utilize and assimilate new and effective knowledge from the environment and are given flexible adjustments in the structures, employment modes and plans of incentives and training (Chen & Li, 2015).

Flexible Human resource management (FHM) also impacts innovative work behavior as they are targeted towards employee skill, motivation, abilities and opportunities enhancement (Puikene, 2016). FHRM basically empowers their employees to show class their talent and deliver their output in the shape of innovative ideas by

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using the full potential of their knowledge, skills and abilities. (Chen & Huang, 2009; Prieto & Perez-Santana, 2013). As per definition, Innovative work behaviors is a multistage process and is concerned with generation, adoption and implementation of the novel ideas (Scott & Bruce, 1994; Kanter, 1998; Xerri & Brunetto, 2013).

Basically Innovative work behaviors are so crucial for innovation seeking companies because success of innovative companies lies in their employees whose behaviors are the most important source of leading towards innovations. (Abstein & Spieth, 2014). IWB are believed to be the major aspect in change management that actually leads organizations towards innovations and ultimately increasing their competitive positions (Puikene, 2016).

Although majority of the corporate leaders now view creativity and innovation as vital for the long term success of their business, but many of them are still following traditional approaches to innovation whose benefits seldom exceeds their cost, usually they failed or gone rendered (Molino et al, 2013).

HRM role in innovation remained an area of ignorance. According to (HR innovAsian Report, 2014) there are only 20% HR professionals who got engaged in the process of innovations in the corporate world. This figure depicts that organizations still not realize the importance of the role Human resources play in innovation process.

Furthermore, the key to innovative performances of organizations are the innovative work behaviors of their employees (Farr & Ford, 1990; De Jong & Den Hartog, 2010) but despite its importance firms are restricted in their possibilities, because they have very little knowledge about how to trigger their employees in such a way that they show innovative work behaviors (Jannssen, 2014)

Although role of human resource management in innovations has generated much academic output (Karlsson, 2013; Zhou et al, 2013, Jiang, Wang & Zhao, 2012) and some also have tested it empirically (Jimenez & Valle, 2008, Li, Zhao & Liu, 2006) but yet those studies have not clarified what kind of HR practices makes organization innovative. Furthermore those few studies which specified flexible Human resources (eg. Kumara & Pradhan, 2014; Ngo & Loi, 2008; Chang et al, 2012) do lack the behavioral perspective of employees which actually can be the main path or the ladder of leading the Flexible Human resources towards firm innovativeness.

The basic purpose of the study is to examine the relationship between Flexible human resource management, innovative work behaviors and firm innovativeness together. In addition to empirical analysis of their relationship, the paper will also attempt to provide logics how Flexible human resource management shape innovative work behaviors and how innovative work behaviors in turns enhance firm innovative capabilities. The study will tend to answer the following research questions

- 1) Does FHRM enhance the innovative work behaviors in the employees of the organization?
- 2) Do innovative work behaviors contribute in enhancing firm innovative capabilities?
- 3) Does FHRM enhance firm innovativeness?
- 4) Do innovative work behaviors intermediate the relationship between FHRM and firm innovativeness.

The corporate business environment throughout the world including Pakistan is facing immense market competition. In order to survive or compete in this globalization era, organizations in Pakistan especially high innovation seeking companies should have adaptive capability for incremental or radical change in the conditions (Ngo & Loi, 2008). The study will help to make them understand how crucial it is for them to attract, develop and retain effective and adaptive workforce having the innovativeness mindset in their work behaviors (Chan & Lui, 2004).

The study will help to make them understand that how flexibility in their human resource management can help them to respond effectively towards market changes and innovativeness.

The study will also add valuable contributions in the literature of flexible human resource management by linking it with the behavioral Perspective. The paper will provide the conceptual model that will depict the path how actually flexible Human resource management directly and indirectly leads towards firm innovativeness.

## 2 THEORITICAL INSIGHTS AND HYPOTHESIS DEVELOPMENT

**Flexible HRM** is an important element of strategic HRM, it's the internal capability of firms and considered as the prerequisite for the sustained competitive advantage (Kozica & Kaiser, 2012). Flexible human resource investigates the degree to which firms can quickly and effectively adjust according to the environment changes (Chen & Li, 2015). Flexible HRM concept was coined in the 1995. Sanchez (1995) defines this concept as the stretching capability of an organization for redefining of the product strategy, reconfiguration of resources chain and redeployment of those resources appropriately. Based on Sanchez work (Snell, Youndt & Wright, 1996) mentioned that flexible HRM focuses on enhancing flexibility of employee skills, behaviors and functioning according to the changing requirements of environment. This approach consists of series of HRM strategies that impacts psychology of employees, guide employees behaviors and also align together their personal and organization goals (Sanchez, 2011).

Chen & Li (2015) identified some major differences between Traditional HRM and Flexible HRM. According to them where traditional Human resource management focuses on effectiveness and efficiency of the whole organization, FHRM focus on improving innovativeness, competitiveness and dynamic adaptation ability of the organization. The major reason why firms use flexible HRM is their desire to compete in the changing environment (Kozica & Kaiser, 2012).

Wright and Snell (1998) identified that Flexible HRM has three distinct sub-dimensions which are employee behavior flexibility, employee skill flexibility and HR practice flexibility.

**Employee skills flexibility** refers to extent to which organization can utilize skills of employees in different situations and can reassign them quickly (Wright & Snell, 1998). It's about creating the environment which promote diverse learning of skills and enhancing their flexibility to adopt versatile skills so that they could take any task and perform in every situation. This can be achieved through cross functional teams, job rotations and project based assignments (Bhattacharya et al, 2015). In other words if organization having employees who possess broad variety skills, can perform different tasks in different situations then that organization has high degree of employee skill flexibility (Ngo & Loi, 2008). Based on RBV, (Bhattacharya et al, 2005) described employee skill flexibility as a source of competitive advantage because diverse skills employees are valuable and also difficult to imitate.

Kumari & Pradhan (2014) mentioned two distinct ways to have employee skill flexibility. First by having employees who possess broad variety skills, can use it in different situations. Second through employing specialist having wide variety who are capable of providing flexibility to the organization so that it can reconfigure the skill profiles to match the requirements of changing environment. So whenever the need arises, that flexibility allows the firms to recognize their employees to take the full advantage of their skill profiles in order to meet the changing demand (Neuman & Wright, 1999). In simple words skill flexibility basically describes how effectively and quickly employees are adapting and using diverse skills in different situations which firms provide them (Boxall, 1999).

**Employee Behavioral flexibility** refers to degree to which organization can adjust, enrich, autonomies and support employee diverse behaviors and their psychology of dealing with different circumstances (Sanchez, 2011). In other words it's the extent to which the employees of a firm possess versatile behavioral scripts that can easily be mold according to the situation specific requirements (Ngo & Loi, 2008). It basically represents adaptable behaviors instead of daily routine behaviors. It can be achieved through internal motivation or deliberately recruiting employees who possess versatile behaviors and adaptability capacity (Bhattacharya et al, 2015).

So if employees perform behavioral scripts under different conditions to deal with requirements instead of just following standard operating procedures, then their organizations will better able to deal with changing requirements of environments and can enhance their competitive positions (Wright & Snell 1998).

Behavior flexibility basically provides the value in terms of two ways. First the ability of employees to deal with different situations effectively enables firms to reduce the resistance to change and the cost associated with that resistance. (Lepine et al., 2000). Secondly it allows the firm to deal with verity of situations appropriately without hiring new employees with new skills to deal with changing environment (Battarchya et al.,2005).

**HR practice flexibility** is defined by Bhattacharya et al. (2005) as the degree to which HR practices of organizations can be quickly and effectively adapted and applied across different situations, businesses or departments. Similarly Kumari & Pradhan (2014) defined it as the extent to which firm has the ability to quickly and effectively alter its HR processes and structures. In simple words HR practice flexibility is how HR department viably, rapidly, timely, effectively and productively executing and adjusting new HR practices (Sanchez, 2011).

HR practice flexibility provides value in two ways. First it enables the firm to adapt its HR practices according to the required changing environment, Secondly it can induce flexible employee behaviors which are discussed previously (Battarchya et al.,2005).

**Innovative work behaviors** are believed to be an important factor in dealing with incremental and transformational changes and achieving the competitive advantage of organization (Jannsen, 2000). Different researchers described IWB and all described it in a sense of behaviors of individuals of exploring, generating, championing and implementing novel and effective ideas, products, processes or procedures (De Jong & Den Hartog, 2010; De Jong, 2007; Kleysen & Street, 2001; Ng, Feldman & Lam, 2010; Krause, 2004; Scott & Bruce, 1994). IWB is basically thinking out of box in alternative methods, looking for improvements, searching for new technologies, news ways to achieve assignments, trying new work methods and discovering and securing the useful resources in order to make an idea a reality (Prieto & Santana, 2013).

Jannsen (2000) referred IWB a three multistage process idea generation, idea promotion and idea realization.

IWB begun with **idea generation** stage which is creation of new and useful idea that comes under any domain or area (Jannsen, 2000). Mumford (2000) declared employee as the only source of novel idea at workplace. Effective idea generators are those employees who can approach performance or problems gap from unique dimension (Kanter, 1988). Basically it is referred to bringing new and unique ideas, procedures, processes for the purpose of solving any particular problem or might be for the purpose of bringing improvements (Pukiene, 2016).

The next stage of IWB is *idea promotion* where employees who generated novel ideas look for support for their novel idea by discussing it with colleagues, boss or even friends (Scott & Bruce, 1994; Kanter, 1988). The idea after generation has been sold. In this stage promotion of idea within the firm has been done to seek the further support (Pukienė, 2016). Innovative employees after generating ideas look for getting support from friends, subordinates and sponsors surrounding the idea (Jannsen, 2000).

*Idea realization* is the final stage of IWB which is converting novel ideas into effective outputs (Pukienė, 2016). Basically in this stage the idea is implemented and put into the action (de Jong, 2008). The idea then becomes prototype, reality or model which can be touched, experienced and brought into the use (Kanter, 1988).

**Firm Innovativeness** is basically an important factor for competing in the changing environment and even for the survival of the firms (Gopalakrishnan, 1999). Firm innovativeness is defined in literature as “the adoption of an idea or behavior, whether a system, policy, program, device, process, product or service, that is new to the adopting organization” (Damanpour et al., 1989).

Utterback & Abernathy (1975) mentioned three dimensions of firm innovations.

- 1) **Product innovation**- creation and commercialization of new products to meet the needs or wants of customers (Golparakarishnan, 2001).
- 2) **Process innovation**- creation of new processes or modifications of existing processes, methods or techniques in the firm (Leonard & Waldman, 2007).
- 3) **Administrative innovation**- placing effective routines and procedures in the firm administrative units, delivery, services and support (Brunsson et al., 2000).

Now we will explain how Flexible HRM can shape Innovative work behaviors. Basically Organizations where FHRM shapes the Knowledge, skills and attitudes of employees according to the various required situations are able to create more innovative employees (Shipton et al, 2006) actually doing this became a push factor for employees because having diverse skills, knowledge and abilities that could be stretched to act in any condition gave employees a feel of confidence in themselves thus it impacts their behavior to innovate. (Eenink, 2012).

Diversity in skills gave employees a sense of achievement, identity and self-development (Sánchez et al, 2011) which in turn impacts indirectly the psychology of employees and make them more confident to take innovative actions (Chen & Li, 2015) Prieto and Perez-Santana (2013) conducted a research by taking sample of 198 Spanish companies. Results of the study depicted that skill enhancing and motivation enhancing HR practices positively impacts Innovative work behaviors.

According (Bhattacharya et al., 2005) employees having behavioral flexibility are more engaged in non-routine behaviors such as risk taking, change and creativity. He further argued that those employees who have more adaptable qualities can adjust themselves in every novel and complex changed situation more appropriately and can effectively support implementation of change. Patterson et al. (2010) while mentioning the key characteristics of innovative people mentioned multidimensional behaviors as one of them. This versatility in the behaviors makes them to behave other than normal routine work thus allowing them to behave innovatively.

Flexibility in HR practices can also induce Innovative work Behaviors. Flexible HR practices give employees adaptable work plan making them motivated to perform adequately according to the demand of situation (Prieto & Santana, 2013). Organizations which carry HR practices flexibility basically create an environment in which its workforce can adapt to respond to changing environments more dynamically (Kumara & Pradhan, 2014). HR practices when flexible prepare their employees to act and mold in every soft and hard condition (Kohli, 2011) inducing diverse and versatile behaviors (Kumara & Pradhan, 2014) giving them a feel of self-reliance to act innovatively. Furthermore Shipton et al. (2006) argue that employees behave considerable more innovatively when their HR practices gave them autonomy and empowerment to make changes.

Following the above arguments we propose the hypothesis

*H1: Flexible human resource management is positively related to innovative work behaviors*

Now we will explain how Innovative work behaviors can shape firm innovativeness. Firm innovativeness depends heavily on the employees of the organization who are the main source of skills, knowledge and abilities and are the founders of innovative work behaviors (Youndt et al., 1996; Prieto & Perez-Santana, 2013; Chen & Huang, 2007) They basically generate and implement ideas for their firms (Kohli, 2013) that eventually leads organization towards innovation allowing them to gain a competitive advantage.

In order to innovate timely and effectively in the competitive environments organizations heavily depends on new idea generations which are actually developed by the individuals of the firms (Chen & Huang, 2009). Similarly ideas after the support or promotion when put into the reality enhances the probability that those ideas will result into something unique and effective entity that could be put into the market for gaining first mover advantage.

Thus we hypothesize

*H2: Innovative work behaviors are positively related to firm innovativeness.*

Similarly we believe FHRM to impact firm innovativeness directly as well. Flexible HRM enables organizations to acquire and develop diverse skills and behaviors (Chang et al, 2012). This versatile skills and broad ranged

behaviors enable organizations to solve problems, coming up with new solutions and news ways of doing things which ultimately leads to innovation (Simon, 1985). These firms having diverse pool of skills and behaviors more appropriately recognize and assimilate information from the external environment and its different segments (Gong, 2003; Huber, 1991) as they probably have prior related knowledge for every section (Ellis, 1965; Chang et al, 2012).

Mei (2010) conducted research which shows that Flexible HRM create HR allocation which is extremely difficult to imitate thus allowing them to gain sustainable competitive advantage. FHRM enables fast and timely responses through their employees to solve any issue or adapt to any condition thus enabling long term competitiveness (Nie, 2009) thus enabling the potential for expanding the scope of capabilities needed to innovate (Sánchez et al, 2011)

So we hypothesize that

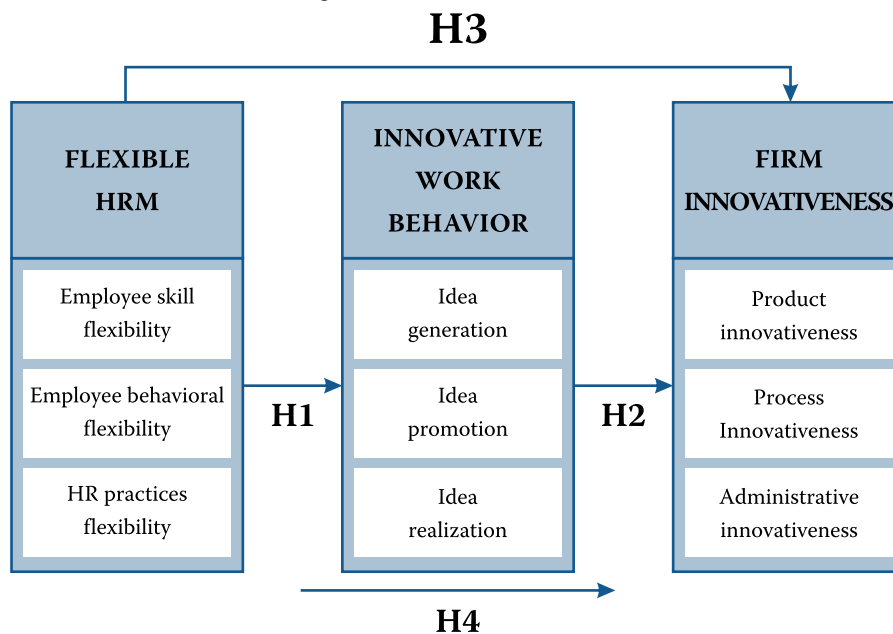
*H3: Flexible human resource management is positively related to firm innovativeness.*

Based on the all above literature we assume that innovative work behavior is playing an intermediary role between Flexible HRM and Firm innovativeness. By that it means that it is assumed in this paper that innovative work behaviors are influenced by the flexible Human resource management while innovative work behavior itself are influencing the firm innovativeness.

Thus we propose the hypothesis that

*H4: Innovative work behaviors mediate the relationship between flexible human resource management and firm innovativeness.*

Figure 1: Theoretical framework



Theoretical framework we constructed is illustrated in Fig. 1 above. The model shows the relationship between Flexible human resource management, innovative work behavior and Firm innovativeness. Model depicts that Flexible HRM impacts innovative work behavior and then innovative work behaviors lead the firm towards innovativeness. In other words Flexible HRM impacts firm innovativeness indirectly through innovative work behaviors. Further it also shows a direct relationship between FHRM and firm innovativeness as well.

Theories which support our Hypothesis and model are Resource based view, Dynamic capability theory and Behavioral perspective.

Dynamic capability supports it because Flexible HRM diversifies the ability to integrate, build, and reconfigure competencies to deal with rapidly changing environment. Flexible HRM is the dynamic capability which focuses on adapting attributes of employees i.e. skills, behaviors and functioning according to the changing environment situations (Wright & Snell, 1998; Wright, Dunford, & Snell, 2001).

RBV supports it because HR flexibility is the firm’s internal resource or organizational capability that creates diverse skills, diverse behaviors and stretchable HR practices which are valuable, rare, difficult to imitate and substitute and leading towards firm innovativeness to gain a sustainable competitive advantage for the firm (Bhattacharya et al. 2005; Ngo & Loi, 2008).

Behavioral perspective also support it because here in this case FHRM is shaping the behaviors that are required by organization strategies i.e. innovation strategy.

### 3 METHODOLOGY AND MEASURES

As the paper is quantitative in nature so the survey as a research method is adopted. We collected the data from high technology firms operating in Pakistan which have formally established Human resource management and have at least 100 employees in place. Reasons to choose high technology firms as a target population is because our paper focuses on innovation and Flexible HRM so the companies from which survey collected should be innovation oriented and should have properly established Human resource department, HR executives and HR professionals in placed. Any particular industry was not preferred because FHRM, innovation and Innovative work behaviors are not industry specific (Pukiene, 2016).

Research instrument was questionnaire designed on likert scale from 1-5 rating scale.1=Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree and 5=Strongly Agree. A cover letter was attached with the questionnaire to explain the survey and research aim and to guarantee the full confidentiality of information and responses (Jimenez & Velley, 2008).

Data was actually collected from 14 high technology companies operating in Lahore from different industries i.e. telecommunication, IT, textile, home appliances and services. Since, our unit of analysis is the firm level, so only top managers and middle managers had been chosen as the respondents. It was a paper based survey in which questionnaires were handed over equally among the selected companies (i.e.20 questionnaires/company). After 2 weeks we have given reminder to the firms who had not yet responded. So after 3 weeks a total of 153 usable questionnaires were returned to us from the companies with a response rate of 54.6%.

**FHRM:** To measure FHRM, we used scale developed by Bhattacharya et al. (2005) having three sub-dimensions (employee skill flexibility, employee behavior flexibility and HR practices flexibility) and have collectively 16 items.

**Firm Innovativeness:** In order to measure firm innovativeness we adopted scale developed by Manu (1992). It includes three sub-dimensions (Product innovativeness, process innovation and administrative innovativeness) and has 9 items.

**Innovative work behavior:** To measure innovative work behaviors, scale developed by Scott and Bruce (1994) has been used having 5 items.

### 4 RESULTS AND ANALYSIS

Scale reliability was checked before performing any analysis and Cronbach's alpha reported ( $\alpha = .829$ ) for the current study. Results and analysis has been done using the descriptive statistics, regression analysis, correlation analysis and mediation analysis. Descriptive statistics was used to check the frequencies of age, gender, sector and designations. It was also used to check the mean and Standard deviations of variables and their sub-dimensions. Correlation was performed to check the relationships between variables and their sub-dimensions. Regression on the other hand was performed to check the impact of variables and to prove the hypothesis. To prove the mediator, mediation analysis was performed using process macro by Andrew F. Hayes. Table 1 shows the number of High tech companies selected from each sector and the number of samples from each sector.

Table 1: Number of companies and sample drawn from sectors

Sectors	Number of companies	Sample
IT	4	44
Telecommunication	3	26
Home appliance	3	40
Manufacturing & textile	3	34
Services	1	9
Total	14	153

Source: Field survey, 2016

Furthermore, Descriptive statistics reported the frequencies of gender, designation and experience. Respondents include 120 males and 33 females. There were 119 middle managers and 34 top managers. As far as the experience is concerned 98 respondents are of 3-10 years' experience, 45 respondents have 11-15 years' experience while 10 respondents have more than 15 years of experience.

Table 2: Inter dimension correlation and descriptive statistics of FHRM, IWB and firm innovativeness (N=153)

	Mean	SD	1	2	3	4	5	6	7	8
1-FHRM	3.46	.55								
2-Employee skill flexibility	3.41	.68	.847**							
3-Employee behavioral flexibility	3.53	.66	.791**	.479**						
4-HR practices flexibility	3.43	.65	.841**	.611**	.481**					
5-IWB	3.55	1.08	.374**	.339**	.307**	.481**				
6-Firm innovativeness	3.38	.62	.623**	.531**	.528**	.483**	.352**			
7-Product innovativeness	3.42	.70	.594**	.512**	.498**	.462**	.287**	.791**		
8-Process innovativeness	3.31	.78	.484**	.415**	.420**	.364**	.328**	.827**	.455**	
9-Administrative innovativeness	3.40	.76	.469**	.375**	.393**	.375**	.255**	.854**	.534**	.568**

Correlations are significant at 0.01 levels

Source: Field Survey, 2016

Table 2 depicts that Innovative work behavior has the largest mean whereas the mean of process innovativeness is the least. Table shows that Flexible HRM is significantly associated with innovative work behaviors ( $r = .374, p < .01$ ). Flexible HRM is also significantly associated with Firm innovativeness ( $r = .623, p < .01$ ). Furthermore Innovative work behavior is significantly associated with firm innovativeness as well ( $r = .352, p < .01$ ). Moreover the relationships between the all the sub-dimensions of variables are presented in the table which shows that all the relationships are positive and significant with each other.

**Regression analysis** which was performed to check the impact and prove the hypothesis shown the results presented in table 3. Before performing regression analysis the assumptions of regression analysis were checked which were acceptable according to the requirements. Shapiro-Wilk Normality test presented residual value ( $p = .051$ ) which proved normality. To check whether there is problem of multicollinearity we performed multiple regression analysis and found that VIF values were even lesser than 2, the general understanding is that it should be less than 10 (Belsley, Kuh, & Welsch, 1980). Further autocorrelation value was in the acceptable range as the Durbin Watson value was 1.638 which is closer to 2.

Table 3 shows the results of regression analysis of first 3 hypotheses.

Table 3: Regression analysis for hypothesis testing (N=153)

Hypotheses	Linkages in model	R <sup>2</sup>	$\beta$ value	t value	Sig
H1	FHRM → IWB	.140	.736	4.95	.000
H2	IWB → Innovativeness	.124	.201	4.61	.000
H3	FHRM → Innovativeness	.388	.699	9.77	.000

Source: Field Survey, 2016

As shown in table 3, firstly regression analysis was performed by taking FHRM as Independent variable and innovative work behavior as dependent variable. Results ( $\beta = .736$ ,  $p < .001$ ) indicated that FHRM positively and significantly impacts IWB proving our first hypothesis that

H1: Flexible human resource management is positively related to innovative work behaviors

Secondly regression analysis was performed using IWB as independent whereas Firm innovativeness as the dependent variable. Results ( $\beta = .201$ ,  $p < .001$ ) shows that Innovative work behavior positively and significantly impacts firm innovativeness thus proving our second hypothesis that

H2: Innovative work behaviors are positively related to firm innovativeness.

Thirdly we used FHRM as the independent variable while taking Firm innovativeness as the dependent variable and performed regression analysis. Results of the analysis ( $\beta = .699$ ,  $p < .001$ ) present that Flexible HRM positively and significantly impacts firm innovativeness thus proving our third hypothesis that

H3: Flexible human resource management is positively related to firm innovativeness.

Then to check the fourth hypothesis which was based on mediation we performed mediation analysis using process macro plugin. Results are shown in table 4.

Table 4: Mediation analysis for the effect of FHRM on firm innovation through IWB (N= 153)

Hypotheses	Effect	SE	t	p	LLCI	ULCI
Total effect of FHRM on Firm innovativeness	.6985	.0715	9.7750	.0000	.5573	.8397
Direct effect of FHRM on Firm innovativeness	.6405	.0763	8.3977	.0000	.4898	.7912
	Effect	Boot SE	Boot LLCI	Boot ULCI		
Indirect effect of FHRM on Firm innovativeness	.0580	.1009	.0139	.3146		

Source: Field Survey, 2016

Table depicts that Total effect of FHRM on Firm innovativeness ( $\beta = .6985$ ,  $p = .000$ ) and indirect effect of FHRM on firm innovativeness after the induction of mediator Innovative work behavior ( $\beta = .0580$ ,  $CI = .01$  to  $.31$ ) which shows that mediator is good and significant. So it proves our fourth hypothesis that

H4: Innovative work behaviors mediate the relationship between flexible human resource management and firm innovativeness.

## 5 DISCUSSION AND CONCLUSIONS

Our study was conducted to examine the relationships between Flexible HRM, Innovative work behaviors and Firm Innovativeness. Our study extended the theoretical arguments of the previous researchers (Wright & Snell, 1998; Bhattacharya & Gibson, 2005, Chang & Gong, 2013) on FHRM by linking this Flexible HRM with employee innovative work behaviors. We discussed Flexible HRM in terms of dynamic capability, resource based view and behavioral perspective.

Results of our study fully supported our all four hypotheses. We found that Flexible HRM enhance innovative work behaviors in the employees which in turn lead the organization towards enhanced firm innovativeness. Results also proved that our mediator is a good mediator which actually mediates the relationships between flexible HRM and firm innovativeness.



Results depict that FHRM positively and significantly impacts Innovative work behaviors (H1 proved, Research question 1 answered). So it shows that if organizations increase their flexibility in HRM in a way that they diversify and versatile their employee's skills, behaviors and functioning such that they could adapt and deal with changing requirements so it will then enhance the innovative work behaviors of their employees. Their employees will more able to generate, promote and realize new, creative and valuable ideas. Furthermore, Innovation depends on the innovative work behaviors, as our results show that Innovative work behaviors positively and significantly impacts Firm innovativeness (H2 proved, RQ2 answered) which is consistent with previous studies (De Jong & Den Hartog, 2010). So based on that result it can be said that when employees show innovative behaviors at work place then organization is better able to perform innovatively in both external and internal environment. They will be more able to bring timely new products, modify their rendered processes and change their administrative works in a valuable manner.

Moreover, the study results also show that Flexible HRM positively and significantly impacts Firm innovativeness (H3 proved, RQ3 answered) which is consistent with previous studies (Martínez-Sánchez, 2011; Chang & Gong, 2013). However as compared to previous studies, impact of FHRM on innovativeness in our studies is relatively higher. Further, results show that the innovative work behavior mediate the relationship between FHRM and Firm innovativeness (H4 proved, RQ4 answered). Basically our study fully supports the argument of Mumford (2000) that "ultimately innovation depends on generation of new and valuable ideas generated by employees and HRM can enhance this creativity among employees".

Our results demonstrate that Innovative work behavior has the largest mean while Process innovativeness which is the sub dimension of firm innovativeness has the lowest mean. It shows that managerial employees of High technology company believes that their employees have high level of innovativeness in their behaviors, they generate, promote and realize new ideas but their organizations have relatively less focus towards making innovations in their processes.

Findings of this empirical study have some implications for the organizations. Managers of the organizations have to realize the importance of flexible human resource management. They need to understand that to be innovative they should mold their human resource management as flexible. It will help them to produce a pool of innovative employees whose behaviors will depict urge for idea generation, promotions and realizations, these behaviors will take the firms towards high innovations. By that it means they will be more able to produce new products, processes and innovate their administrative works.

The study also has its limitations. First limitation in our study is that our study is relatively narrow in a sense that it highly focused on proving the relationships between variables and does not involved demographics information in the relationships testing, so future researchers can involve demographic information in the relationships testing such as comparing the responses of top managers and middle managers or even compare the responses of different sectors separately.

Secondly our study involved only main hypothesis and did not included any sub hypothesis. Future researchers can develop and test the sub hypotheses by involving the sub-dimensions of the variables as well.

Thirdly, we selected the high technology companies which are fast and flexible, future researchers can test it using the slow and status quo loving companies to check whether their non-flexibility in HRM impacts their innovative performance.

Lastly there are some firm level factors (i.e. organization culture) which might affect the relationships, so interested future researchers might test it by taking the moderator in the study.

Flexible HRM being relatively new construct attracting many researchers in the recent time. As explained earlier that little is known about which HR practices shape innovation, our study proved that it's the Flexible HRM which foster the firm innovativeness through the mediation path of innovative work behaviors.

## REFERENCES

- Abstein, A., Heidenreich, S., & Spieth, P. (2014). Innovative Work Behaviour: The Impact of Comprehensive HR System Perceptions and the Role of Work–Life Conflict. *Industry and Innovation*, 21(2), 91-116.
- Belsley, D. A., Kuh, E., & Welsch, R. E. (1980). Wiley Series in Probability and Statistics. *Regression Diagnostics: Identifying Influential Data and Sources of Collinearity*, 293-300. USA: John Wiley & Sons, Inc.
- Bhattacharya, M., Gibson, D. E., & Doty, D. H. (2005). The Effects of Flexibility in Employee Skills, Employee Behaviors, and Human Resource Practices on Firm Performance. *Journal of Management*, 31(4), 622-640.
- Boxall, P. (1999). Human resource strategy and industry based competition: A framework for analysis and action. *Research in Personnel and Human Resources Management*, 4, 145-174.
- Chang, S., Gong, Y., Way, S. A., & Jia, L. (2013). Flexibility-oriented HRM systems, absorptive capacity, and market responsiveness and firm innovativeness. *Journal of Management*, 39(7), 1924-1951.
- Chen, J., & Li, W. (2015). The Relationship between Flexible Human Resource Management and Enterprise Innovation Performance: A Study from Organizational Learning Capability Perspective. In *Information and Knowledge Management in Complex Systems* (pp. 204-213). Springer International Publishing.
- Damanpour, F., Szabat, K. A., & Evan, W. M. (1989). The relationship between types of innovation and organizational performance. *Journal of Management Studies*, 26(6), 587-602.
- De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management*, 19(1), 23-36.
- De La Lastra, S. F. P., Martin-Alcazar, F., & Sanchez-Gardey, G. (2014). Functional Flexibility in Human Resource Management Systems: Conceptualization and Measurement. *International Journal of Business Administration*, 5(1), 1-14.
- Eenink, A. J. (2012). *HR practices and Innovative Work behavior: The leader leads towards innovation* (Bachelor's thesis, University of Twente). Available on the internet at: <http://essay.utwente.nl/61983/>
- Janssen, O. (2000). Job demands, perceptions of effort reward fairness and innovative work behaviour. *Journal of Occupational and organizational psychology*, 73(3), 287-302.
- Jiménez-Jiménez, D., & Sanz-Valle, R. (2008). Could HRM support organizational innovation? *The International Journal of Human Resource Management*, 19(7), 1208-1221.
- Jørgensen, F., Becker, K., & Matthews, J. (2009). *Human resource management and innovation: What are knowledge-intensive firms doing?* In *Enhancing the innovation environment*: Proceedings of the 10th International CINet Conference, 6–8 Sept ember, Australia, Queensland, Brisbane. Available on the internet at: [http://eprints.qut.edu.au/27157/1/CINet\\_09\\_-\\_Jorgensen.pdf](http://eprints.qut.edu.au/27157/1/CINet_09_-_Jorgensen.pdf)
- Kanter, R. M. (1988). Three tiers for innovation research. *Communication Research*, 15(5), 509-523.
- Karlsson, J. (2013). *The role of HRM in innovation processes-Nurturing or constraining creativity* (Master's thesis, University of Gothenburg). Available on the internet at: [https://gupea.ub.gu.se/bitstream/2077/33647/1/gupea\\_2077\\_33647\\_1.pdf](https://gupea.ub.gu.se/bitstream/2077/33647/1/gupea_2077_33647_1.pdf)
- Kohli, S. (2013). Human Resource Management and Its Impact on Innovation: A Case Study on a Small Manufacturing Organisation in New Zealand. *Otago Management Graduate*, 43
- Kozica, A., & Kaiser, S. (2012). A sustainability perspective on flexible HRM: How to cope with paradoxes of contingent work. *Management Revue*, 23(3), 239-261.
- Kumari, I. G., & Pradhan, R. K. (2014). Human Resource Flexibility and Organizational Effectiveness: Role of Organizational Citizenship Behaviour and Employee Intent to Stay. *International Journal of Business and Management Invention*. 11(3), 43-51.
- Leonard, J., & Waldman, C. (2007). An Empirical Model of the Sources of Innovation in the US Manufacturing Industry. *Business Economics*, 42(4), 33-45.
- Manu, F. A. (1992). Innovation orientation, environment and performance: A comparison of US and European markets. *Journal of International Business Studies*, 23(2), 333-359.
- Ma Prieto, I., & Pilar Perez-Santana, M. (2014). Managing innovative work behavior: the role of human resource practices. *Personnel Review*, 43(2), 184-208.
- Martínez Sánchez, A., Vela Jiménez, M. J., Pérez Pérez, M., & de Luis Carnicer, P. (2011). The dynamics of labour flexibility: Relationships between employment type and innovativeness. *Journal of Management Studies*, 48(4), 715-736.

- Mei, S. (2010). The empirical study on flexible human resource management, strategic entrepreneurship and hi-tech enterprise. *Management of Science and Technology* (8), 157-162 (in Chinese).
- Ngo, H. Y., & Loi, R. (2008). Human resource flexibility, organizational culture and firm performance: An investigation of multinational firms in Hong Kong. *The International Journal of Human Resource Management*, 19(9), 1654-1666.
- Nie, H. (2009). *Human resource flexibility and its impact on organizational performance*. PhD. thesis. Management School, Wuhan University of Technology (in Chinese).
- Pukienė, A., & Škudienė, V. (2016). *Innovative work behavior-the role of human resource management and affective commitment* (Master's thesis, ISM University of Management and Economics). Available on the internet at: <http://archive.ism.lt/handle/1/635>
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37(3), 580-607
- Utterback, J. M., & Abernathy, W. J. (1975). A dynamic model of process and product innovation. *Omega*, 3(6), 639-656.
- Wright, P. M., & Boswell, W. R. (2002). Desegregating HRM: A review and synthesis of micro and macro human resource management research. *Journal of Management*, 28, 247-276.
- Wright, P. M., & Snell, S. A. (1998). Toward a unifying framework for exploring fit and flexibility in strategic human resource management. *The Academy of Management Review*, 23 (4), 756-772.
- Xerri, M. J., & Brunetto, Y. (2013). Fostering innovative behaviour: the importance of employee commitment and organisational citizenship behaviour. *The International Journal of Human Resource Management*, 24(16), 3163-3177.
- Youndt, M. A., Snell, S. A., Dean, J. W., & Lepak, D. P. (1996). Human resource management, manufacturing strategy, and firm performance. *Academy of Management Journal*, 39(4), 836-866.