

The mediating effect of knowledge sharing among intrinsic motivation, high-performance work system and authentic leadership on university faculty members' creativity

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ABSTRACT

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The aim of this research was to investigate the relationship among intrinsic motivation, authentic leadership and high-performance work system (HPWS) on university faculty members with the mediating role of knowledge sharing. A total of 286 full-time faculty members of public universities from 30 universities of Punjab, Pakistan were interviewed using a five-point Likert-scale questionnaire, adapted from the literature. The results of PLS-SEM indicate that authentic leadership and HPWS had a significant effect on faculty member's creativity whereas intrinsic motivation showed an insignificant relationship with creativity. Results further highlight that knowledge sharing mediated the relationship between HPWS and employee's creativity, however, no mediation effect was found for intrinsic motivation and authentic leadership with employee creativity.

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1. Introduction

The need for creativity has increased in the 21st century because organizations now are facing severe competition and survival or growth of an organization largely depends on how creative they are. Therefore, one of the goals of a manager is to boost employee's motivation and morale for creative ideas and solution to the customer's problems (Zimmermann, 1999; Bashir et al., 2011; Gürbüz, 2009). Creativity is not only vital for organizational sustainability and growth but it is also important for national advancement and competition (Burgelman, 1984; Kanter, 1984; Pözveh & Amini, 2017; Auger & Woodman, 2016; He et al., 2017). Individual creativity is an essential building block for organizational innovation. Creativity can be a fuel for the responsiveness, renewal and repositioning of a firm. It is a common belief that educational institutions are responsible for fostering creativity and innovation in contemporary societies, hence, creativity is relatively more important for educational organizations as compared with other service sectors. Faculty in any university is considered to be a source of creativity, innovation, and organizational learning. Oshagbemi (2000) reported that faculty mainly performs three functions such as teaching, management, and research to fulfil the creativity and innovation needs of the society, therefore, availability and number of competent faculty members are prerequisite for creativity. As a result, educational institutes and governments provide different fellowship, scholarships, and faculty development

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programs to meet creative faculty requirement. However, having a sufficient number of competent faculty members is not enough unless they work with motivation and enthusiasm. As pointed out by Paracha et al. (2014) and Veenman (1984), faculty's support, motivation, and enthusiasm are needed to build a reputable educational institution. Competent and dedicated faculty would play the role of a catalyst in the process of creativity and innovation. Therefore, the motivated, self-directed, and competent faculty is much needed, in the case of educational institutions to boost knowledge sharing, learning, creativity, and innovation. For instance, a study by Hattie (2003) revealed that students exhibit a greater understanding of ideas, concepts, and theories in terms of integration, coherence, and level of abstraction when taught by an expert and motivated teacher as compared with the students taught by an inexperienced, novice, and unmotivated faculty member.

According to the International Labour Organization (2016) statistics, on average, the 6 percent unemployment rate is observed in the world while the same remained at 5 percent in the case of Pakistan. Although it seems absolutely right having a lower rate of unemployment than the world's average the value is higher than the neighbouring countries like China and India with a value of 4.6 percent and 3.6 percent respectively. Lu et al. (2006) claimed that Universities can help society in controlling unemployment rate as they provide the necessary employment skills. Halai (2013) stated that higher unemployment rate in Pakistan is due to poor performance of universities and situation is even worse for the case of public sector universities (Hassan & Hashim, 2011). Several studies have been accomplished on creativity on primary and secondary education (e.g. Bramwell et al., 2011) but there is a substantial gap in research regarding creativity in higher education, especially for developing countries like Pakistan (Kampylis et al., 2009). According to QS World University Ranking (2017) there was not any single university listed as the top best 500 universities in the world in 2017. Grant Thornton Consulting (2016) highlighted some reasons for poor performance of the universities in Pakistan such as poor HPWS; including lack of training, poor evaluation measures, work overload or lack of knowledge sharing. There are also poor leadership; including classroom discipline, inappropriate behaviour, inadequate supportive materials and supplies, poor grading system and absence of proper students counselling service and low motivation and least expectations of career in teaching (Sarwar et al., 2012).

According to Cropley (2015), Häkkinen et al. (2017) and Kereluik et al. (2017), creativity and innovation are vital for teachers to help students learn well. Literature has suggested that intrinsic motivation, HPWS, knowledge sharing, and authentic leaders are the key factors among others which promote creativity in an organization (Andreeva & Sergeeva, 2016; Fareed et al., 2016; Lin, 2007; Malik et al., 2015, 2016; Paracha et al., 2014; Selden et al., 2013; Zhang et al., 2014; Zhang, 2010). Previous researchers explored a direct relationship between HPWS and performance or HPWS was taken as mediating variable along with other variables (Fareed et al., 2016; Heffernan et al., 2016). Demerouti (2006) suggested that the relationship between HPWS, intrinsic motivation and creativity need to be examined using some mediation for more robust results. The intent of this research is to examine the relationship between intrinsic motivation, HPWS, authentic leadership on faculty member's creativity with the mediating role of knowledge sharing.

2. Literature Review

The theories such as *Social Context Theory*, *leader-member exchange (LMX)*, and *self-determination* are used to support the research framework of this research. Authors like Ferris et al. (1998), Dansereau et al. (1975), and Deci and Ryan (1953) are considered to be the main contributors of the above-mentioned theories, respectively. In the context of this research, these theories indicate that independent variables such as HPWS, intrinsic motivation, authentic leadership, and knowledge-sharing are expected to explain the behaviour of a dependent variable, employee's creativity because social context theory holds that HPWS practices significantly contributes to creativity at individuals, groups, and organization level. Leader-member exchange theory deals with the concept of knowledge sharing, authentic leadership, and employee's creativity. The last theory, self-determination, emphasize on intrinsic motivation to improve performance and creativity. A brief description of these theories is given next.

The work of Deci and Ryan (1953) is considered to be one of the earliest studies that presented the idea of intrinsic motivation. They classified the motivational theories in two streams such as *mechanistic* and *organismic*. According to Deci and Ryan (1953), organismic theories are mainly responsible for the psychological and intrinsic needs that in turn provide sufficient energy to make proactive efforts to satisfy such needs. Organismic approach treats external stimuli as an opportunity whereas the mechanistic approach views the same as a threat and reacts accordingly. Historically, Freud (1915) claimed, in his drive theory, that only sex and aggression are motivational factors for a person while Hull (1943) asserted that there are four important drivers of motivation such as sex, hunger, avoidance of pain, and thirst. Deci and Ryan (1953) claimed that these motivational factors would fail to achieve the desired target if lacking self-direction. Theory of self-direction changed the previously accepted stimuli-response relation into choice and decision-making approach. Precisely, this theory believes that internal stimuli assert pressure on an individual's choice and his/her future outcome (decision) and external environment does not play a significant role in this choice and decision-making process.

Similarly, Martinaityte (2014) claimed that factors affecting individual, group, or organizational level creativity vary. For instance, according to social context theory, internal factors are important for motivating/de-motivating employees for an individual or group but HPWS is found to be the most significant factor among others. Social context theory holds that managerial action such as knowledge sharing, HPWS practices, and reward strategies would foster an environment for creativity (Ferris et al., 1998). Social context theory dovetails with creativity research that focuses on the social facets of the work environment such as the network of social relationships and the resources that can be mobilised through this network to motivate creativity (Bernard, 2013; Crossman & Crossman, 2011; He et al., 2017; Payne, 2015; Semedo et al., 2016; Zawawi et al., 2012; Barrena-Martínez et al., 2017; Dumont et al., 2016; Ramsay et al., 2000). Thereby, we posit the adoption of HPWS for creativity as a symbolic and rational managerial action to develop a work environment (climate for creativity) that engenders employee behaviours (unit creativity) critical to the implementation of a strategic objective leading to organisational success.

Another theory that could be cited to support a research framework is leader-member exchange (LMX) theory. The study of Dansereau et al. (1975) is considered to be the seminal work that laid down the foundation of leader-member exchange theory (Boal & Hooijberg, 2000; Malik & Dhar, 2017; Shin & Zhou, 2003). Mitchell and Daniels (2003 p.302) stated that Graen and Uhl-bien (1995) defined LMX theory as “the quality of exchange between a leader and followers”. Whereas Yukl (1989) referred to LMX as a transactional approach, “describes how leaders use their designated power to build relationships with subordinates”. The underlying principle of the LMX theory is associated with the transition between a leader and a member. According to Graen and Uhl-bien (1995), the main focus of LMX theory is the nature of relationship and exchange between a leader and a member (Bernard, 2013; Crossman & Crossman, 2011; He et al., 2017; Payne, 2015; Semedo et al., 2016; Zawawi et al., 2012). This theory believes in a two-way relationship, communication from top to bottom and from bottom to top, therefore, it could be also termed as vertical dyad linkage (VDL) theory. Deluga (1998) stated that LMX theory holds that the quality and nature of the leader-member relationship would leave a lasting impact on member's responsibility, knowledge sharing, decision-making, creativity, and performance.

In LMX, the quality of leader-member relationship could be classified into two groups: the in-group “high-quality exchange” and out-group “low-quality exchange” (Fisk & Friesen, 2012). Moreover, a high-quality exchange relationship requires both parties to accept their mutual interests and agree to pursue shared superordinate goals. High-quality exchanges include partnering with colleagues, in which individuals step further than formal organizational roles to achieve desired goals (Fisk & Friesen, 2012). There is a positive relationship between LMX and creativity. For instance, high-quality relationships enforce more creativity compared to low-quality relationships because employees are more concentrated on their challenging and difficult tasks in the workplace (Dhar, 2016; Hassanzadeh, 2014).

On the other hand, under low-quality relationship leaders and subordinates closely obey their respective organizational roles while trust, respect, and feeling of obligations between members and leaders are near to the ground (Barbuto & Gifford, 2012). Despite research efforts to examine organizational and social reasons as well as individual factors that foster or inhibit knowledge sharing (Lu et al., 2006), there are only a few studies about the mechanisms by which leadership may facilitate employee knowledge sharing, in particular by cultivating a social context in which employees share their knowledge (Carmeli et al., 2011). In addition, the best predictor of knowledge sharing, when compared to personality, tenure, team incentives, or goal commitment, is authentic leadership. Therefore, it can be said that high-quality LMX relationships may help promote knowledge sharing and creativity.

Tierney et al. (1999) said that under high-quality relationships, employees take higher risks, higher task-related recognition, support, and appreciation. Moreover, researchers have suggested that LMX is beneficial for innovation because enjoying a good LMX relationship is accompanied by encouraging climate perceptions. High-quality LMX encourages a social climate which motivates a creative work involvement (Dhar, 2016; Hassanzadeh, 2014; Scott & Bruce, 1994). Amabile et al. (1996), and Gagne and Deci (2005) stated that intrinsic motivation, HPWS, authentic leadership, and knowledge sharing from self-determination, social context theory's prospect and LXM could work as stimuli that provide sufficient energy to an individual to carry out a novel, complicated, and challenging task. All of the above-mentioned theories posit that intrinsic motivation, HPWS, authentic leadership and knowledge sharing are positively associated with employee's creativity as it allows the employee to enjoy their work because they are internally stimulated. Therefore, theories such as self-determination, social context and LMX are used to support the research framework presented in Fig. 1.

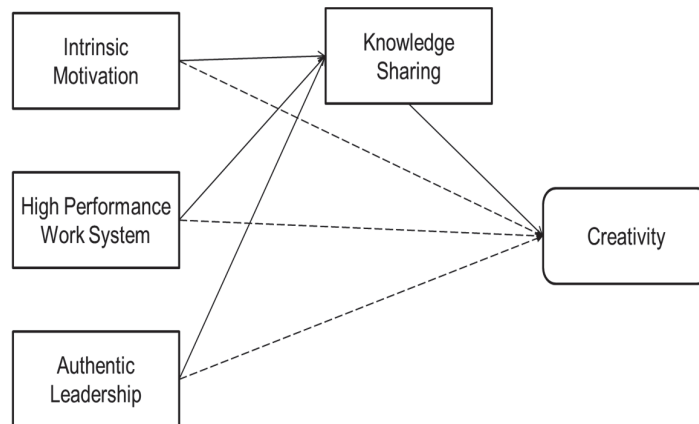


Fig. 1. Research Framework

Chiang and Hsu (2012) and Chiang et al. (2015) investigated the relationship the variables between HPWS and team creativity with the mediation effect of knowledge sharing and intrinsic motivation by applying the hierarchical regression model. The study found that domain knowledge and intrinsic motivation mediated the relationship between high-performance work system and workers' creativity performance. Similarly Muceldili et al. (2013) also invested the relationship between Authentic leadership and innovation with the mediating role of employee's creativity based on a linear and hierarchical regression. In their study, authentic leadership had a positive relationship with employees' creativity; employees' creativity had a positive impact on innovativeness and authentic leadership had a positive relationship with innovativeness.

Another study by Černe et al. (2013) checked the connection between Authentic leadership and innovation. In the second model, authentic leadership, and creativity with the mediation of organizational support and applied SEM model to analyse the data. The results indicate that whereas perceived team leaders' authentic leadership directly influenced team members' individual creativity and team innovation, the impact of self-ascribed team leaders' authentic leadership was not significant. In addition to that, the

relationship between team leaders' authenticity and creativity was mediated by the perception of support for innovation.

On the other hand, Zhang et al. (2014) verified the relationship between the HPWS, corporate social responsibility, and organization citizenship behaviour and using SEM model for the analysis of the data. The findings demonstrated that HPWS was positively associated with HPWS satisfaction and employees' perceptions of CSP. HPWS satisfaction fully mediated the relationship between HPWS and employees' affective commitment (AC). There are multiple mediators between HPWS and OCB, indicating more complicated mechanisms through which HPWS leads to the desired HR outcomes. Also Zhu and Chen (2014) checked the relationship between HPWS and creativity with the mediation of knowledge sharing with regression and reported that knowledge sharing mediated the relationship between HPWS and creativity for Chinese executive students. Like wise Zubair and Kamal (2015) found out the relationship between Authentic leadership and creativity with the mediating effect of work-load and psychological capital.

Another study by Rahman (2015) verified the relationship between knowledge sharing and employee's creativity with moderating effect of relationship quality and organization's politics for analysis. Authors found that destructive organizational politics had a negative impact on knowledge-sharing and hence creativity of employees. Also Ugheoke et al. (2015) investigated the relationship between three dimensions of HPWS and organizational performance and found that two out of three dimensions of HPWS were significantly associated with improved organizational performance. Similarly Fidan and Oztürk (2015) checked the relationship between Intrinsic motivation, innovative environment, and creativity and reported that intrinsic motivation was a significant predictor of the teacher creativity teachers working at private schools tend to be more intrinsically motivated and creative than teachers working at public schools. Moreover, Abdullayeva (2017) verified the relationship between HPWS practices and innovate using logistic regression analysis. The author found a significant relationship between HPWS and technical process innovation whereas an insignificant relation was observed for HPWS and product innovation. Another study by Aybas and Acar (2017) demonstrated the relationship between HPWS practices and employee engagement with the mediation of psychological capital. The result of this study confirmed the effects of motivation and skill enhancing HR practices on work engagement were significantly partial mediated by psychological capital but not moderated. On the other hand, the effects of opportunity enhancing HR practices and working conditions on work engagement were significantly partial mediated and moderated by psychological capital at the same time. Similarly Sanz-Valle and Jiménez-Jiménez (2018) invested the HRM practices and product innovation with the mediation of innovative work behaviour with SEM model for data analysis and reported a significant relationship between HRM practices, product innovation, and innovative work behaviour.

3. Methodology

The purpose of this research is to explore the relationship between intrinsic motivation, HPWS, authentic leadership and creativity with the mediating role of knowledge sharing. The targeted population for this research is 8,784 full-time faculty members serving at public universities in Punjab (Higher Education Commission, 2017) and as per Krejcie and Morgan (1970) formula, 368 full-time faculty members serving at public universities in Punjab were taken as the sample size for this research. Proportionate random sampling technique is selected for this research because of lesser personal biases. A five-point Likert scale questionnaire is used to collect data and the questionnaire is adapted from different studies such as employee's creativity (Ashkan & Khalili, 2015), knowledge sharing (Lee, 2001; Rahman, 2015), intrinsic motivation (Lin, 2007), HPWS (Ervin, 2012; Heffernan, 2012; Ozemoyah, 2016; Siddique, 2014), and authentic leadership (Walumbwa et al., 2008). The collected data is analysed using partial least square structural equational modelling (PLS-SEM) technique. Hair et al. (2017), Wahab (2016) and Hair et al. (2014) claimed that PLS-SEM technique is superior to other statistical methods in many ways such as no sample size restriction, effective for statistical model building along with forecasting, precise and accuracy in estimation, soft modelling assumptions, lack of requirement for normality of data, and suitable

especially in case of mediation (Iacobucci et al., 2007; Mattanah et al., 2004; Osborne, 2011; Ramli & Nartea, 2016; Wahab, 2016).

4. Results and Discussion

A total of 286 out of 368 distributed questionnaires have been collected, representing a response rate of 77.7%. Descriptive statistics of respondents are given in Table 1.

Table 1
Descriptive Statistics

Characteristic	Category	Frequency	Percentage
Gender	Male	200	70
	Female	86	30
Age	20-30 years	48	16.8
	30-40 years	189	66
	40-50 years	39	13.6
	Above 50 Years	10	3.6
Education	MPhil	207	72.4
	PhD	79	27.6

Descriptive statistics highlighted that 70% of the respondents for this study were males, the majority (66%) of the respondents belong to 30-40 age-group and holds (72.4%) mater of philosophy (MPhil).

Table 2
CR, AVE, & Cronbach Alpha

Variable	Number of Items	Cronbach's Alpha	CR	AVE
HPWS	43	0.75	0.74	0.91
Authentic Leadership	20	0.92	0.92	0.90
Intrinsic Motivation	12	0.94	0.94	0.74
Knowledge Sharing	17	0.91	0.91	0.73
Creativity	13	0.89	0.88	0.80

The results of CR, AVE, and Cronbach's Alpha are given in Table 2, as all the values were greater than 0.70, suggesting a good internal consistency, average variance extracted, and convergent reliability. Table 3 and Table 4 show the summary of the results of path analysis the direct and indirect effects.

Table 3
Path Analysis

	Direct Effect		Total Effect
	Knowledge Sharing	Faculty Member's Creativity	Faculty Member's Creativity
Intrinsic Motivation	0.127**	-0.051	-0.016
HPWS	0.414**	0.538**	0.652**
Authentic Leadership	0.235**	0.084**	0.149**
Knowledge Sharing		0.274**	
R ²	0.45	0.61	0.67

Note: *, **, and *** represents significance at 1%, 5%, and 10% respectively

Table 4
The summary of the direct and indirect effects

Variables	Total Effect		Direct Effect		Indirect Effect	
	β	P-value	β	P-value	β	P-value
Intrinsic Motivation	-0.016	0.12	-0.051	0.27	0.035	0.15
HPWS	0.652	0.00	0.538	0.00	0.114	0.00
Authentic Leadership	0.149	0.00	0.084	0.00	0.065	0.21

The results of the first path analysis, where HPWS, intrinsic motivation, knowledge sharing, and authentic leadership were regressed together, showed the value of R² (61%). In other words, all these variables

including HPWS, intrinsic motivation, knowledge sharing, authentic leadership describe faculty member's creativity by 61%. Further analysis highlighted a significant positive relationship between HPWS ($\beta=0.538$ & $p\text{-value}=0.02$), knowledge sharing ($\beta=0.274$ & $p\text{-value}=0.01$), authentic leadership ($\beta=0.084$ & $p\text{-value}=0.01$) and faculty member's creativity. For instance, one-unit increase (decrease) in HPWS would increase (decrease) in the faculty member's creativity by 53.8%. These findings are in line with the results of Aasheim et al. (2012), Azanza et al. (2013), Armenio-Rego et al. (2009), Cerne et al. (2013), Khan (2011), and Shropshire et al. (2012) who also found positive and significant relationship between HPWS, authentic leadership, knowledge sharing and faculty member's creativity.

However, intrinsic motivation has shown an insignificant relationship with faculty member's creativity. These findings of the current study are in line with the prior findings (Ryan & Deci, 2000; Shalley et al., 2004; Zhang et al., 2010). These studies also found an insignificant relationship between intrinsic motivation and creativity. The reason is because internal factors is less important than external motivation for having long-lasting effects and benefits regarding creativity. Furthermore, the workforce that is not internally motivated for the job is more likely to not find new ways and ideas that are creative and beneficial for their job as well as for the organization. In contrast, the workforces that are motivated by the external elements like rewards, money, bonuses etc. have more chances to be internally committed and thus chances of becoming creative increase for these employees who are not intrinsically motivated.

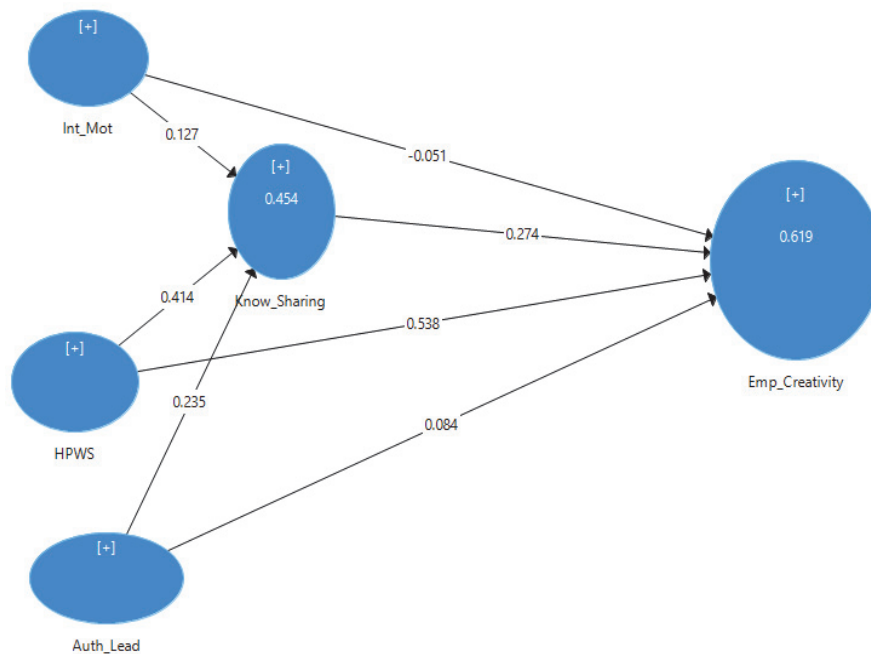


Fig. 2. The results of PLS-SEM

The result of PLS-SEM path-2 reported an R^2 value of 45%, suggesting that HPWS, intrinsic motivation, and authentic leadership are explaining 45% variation in knowledge sharing. More precisely, path-2 results revealed a positive and significant relationship between intrinsic motivation ($\beta=0.127$ & $P=0.02$), HPWS ($\beta=0.414$ & $P=0.01$), authentic leadership ($\beta=0.235$ & $P=0.02$) and knowledge sharing. The value of R^2 for path-3 is greater than Path-1 & 2, where intrinsic motivation, HPWS, and authentic leadership were regressed with the mediation of knowledge sharing on faculty member's creativity. However, knowledge sharing only mediates the relationship between HPWS and faculty member's creativity. The findings regarding the insignificant influence of intrinsic motivation are also aligned with the results and the study of Hung et al. (2011) where they suggested that intrinsic motivation had not had great potential to enhance the tendency of employees to participate in knowledge sharing within the organization.

5. Conclusion

The intent of this study was to investigate the relationship between HPWS, intrinsic motivation, and authentic leadership on faculty member's creativity with the mediating role of knowledge sharing. In order to achieve study's objectives, a total of 368 five-point Likert-scale questionnaires were distributed among full-time faculty members of public sector universities of Punjab, Pakistan. 286 were received back and completed in all aspects with a response rate of 77.7%. The results of PLS-SEM reported that authentic leadership and HPWS had a significant effect on faculty member's creativity whereas intrinsic motivation showed an insignificant relationship with creativity. Results further have highlighted that knowledge sharing mediated the relationship between HPWS and employee's creativity, however, no mediation effect was found for intrinsic motivation and authentic leadership with employee creativity. Theoretically, the current study is expected to add value to the present literature of knowledge sharing, employee creativity, authentic leadership and HPWS. Practically, the current study will be very beneficial and helpful for organizations struggling for enhancement of their employee creativity and knowledge sharing within the system and facing issues regarding hurdles in knowledge sharing and creativity of employees. The policy-making bodies will find this research and its findings helpful in many ways like understanding the factors needed for creative performance and knowledge sharing attitude, etc. By understanding the factors and elements of creativity and knowledge sharing, they will be able to make policies accordingly that will effectively work for enhancement of creativity and knowledge sharing of people. This research also has important social implications and it will determine which behaviours and attitudes are appropriate to interact with employees and people to develop their positive attitudes towards work.

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