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How Does Servant Leadership Enhance Worker Innovative Behavior in Pharmaceutical Industries: Mediating Role of Worker Creativity

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Abstract: *The complex rapidly expanding business environment has given more focus to the value of innovation. The aim of this research was to investigate the relationship between servant leadership (SL) and employee innovative work behaviour (IEWB) and explore the mediating role of worker creativity (WC) on the relationship between SL and EIWB. Data collected from 310 employees in pharmaceutical industries suggested that servant leadership has a significant and positive effect on employees' innovative work behaviour. Based on the findings, servant leadership positively influences employees' innovative work behaviour. Furthermore, worker creativity mediates the relationship between servant leadership and employees' innovative work behaviour. The impact of servant leadership on employees' innovative work behaviour is expanded, and the mediating processes by which servant leadership promotes employees' innovative work behaviour are explained. It concludes by exploring the essential responsibilities that leaders play in modern organizations.*

Key Words: Servant Leadership, Work Creativity, Employee Innovative Work Behavior, Pharmaceutical Industries

Introduction

Operating businesses face immense challenges as a result of the ever-changing and increasingly complicated business environment. Companies must regenerate for the purpose of effectively dealing with these hurdles and establishing as well as maintaining a competitive edge. To effectively deal with those problems and develop and retain competitive advantage, companies need to renew old-fashioned processes, products and services (Anderson et al., 2004; Jaiswal & Dhar, 2015). This is, irrespective of their industry or nature of the business, companies need to generate new ideas, goods, services, and technology in order to thrive in today's economy. According to Hon (2012), promoting creativity and innovation serves as essential for ensuring an organization's long-term achievement in business. In contrast to today's competitive environment, in which great innovative thinking and creativity are needed, organizations that decide not to consider the current demand and carry on providing the same old goods and services would struggle to survive (Al-Hakimi et al., 2021; Khan et al., 2022). Therefore, companies need to nurture creativity and innovation among workers, which will not only positively affect profitable business structures but also boost organizations' competitive advantages (Al-Swidi et al., 2022; Nieves et al., 2014). It comes without emphasizing that creativity and innovation have an unbreakable connection and have evolved into instruments for successfully navigating the quickly evolving business atmosphere (Ma et al., 2023; Robinson & Beesley, 2010). Hughes et al. (2018) carried out a review of the literature and concluded that a number of studies (Ahmad et al., 2022; Kao et al., 2015; Zhu et al., 2013) considered innovative thinking and creative thinking. Zhang et al. (2011) utilized them as only one construct or as convertible

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measures on only one scale. It seems that there is misunderstanding and uncertainty regarding the use of creativity and innovation in the workplace, especially in light of the fact that they produce diverse results. Thus, Hughes et al. (2018) offered a suitable assessment scale for both ideas as well as an accurate representation of creativity and innovation in the workplace. An in-depth examination of the literature reveals that, despite numerous definitions given for innovative work behaviour and worker creativity, it is evident that IWB is the process of adopting those ideas to solve a specific problem, while worker creativity is involved in the process of developing ideas about problems (Amabile, 1996).

Researchers have given the importance of WC and IWB an immense amount of academic study (Gelaidan et al., 2022). For instance, a number of earlier systematic review studies have emphasized the significance of investigating how leadership affects worker creativity and IWB (Manzoor et al., 2023; Anderson et al., 2014; Hughes et al., 2018). Hence, this research attempts to bridge the gap by deeply investigating the association between servant leadership and employee innovative behaviour. Dive into the unexplored realms of leadership and innovation within the dynamic landscape of pharmaceutical industries! While leadership styles and employee outcomes have been extensively studied, the captivating synergy between servant leadership, worker creativity, and innovative behavior in this unique sector remains an untapped reservoir of knowledge. Therefore, the present research investigation studied servant leadership, innovative employee workers in the workplace, and the mediation role of worker creativity in an effort to address this particular problem.

Hypothesize Literature

Servant Leadership and Employee Innovative behaviour

It is constantly possible for leaders to have an impact on followers' ability to generate innovative and helpful responses to their problems (Zhou & Shalley, 2003). By empowering people and giving them the confidence to take chances, servant leaders are able to enhance employee work and innovative behaviour. Several servant leadership characteristics are strongly related to influencing employee work innovative behaviour. In the workplace are empowerment, support in growth and success, and conceptual skills. According to studies conducted by Yoshida et al. (2014), servant leaders encourage creative behavior in the employees they supervise through relational engagement. There are few empirical studies where SL showed an advantageous effect on enhancing EIWB despite the lack of literature on this topic (Ghani et al., 2023; Panaccio et al., 2015; Rasheed et al., 2016). It's also essential when employing the theoretical framework of social exchange theory (Blau, 1964) to fully understand how SL affects EIWB. By establishing priorities, assisting, and being completely honest with their subordinates, servant leaders hope to build strong relationships with their team members. Frequent repeating by servant leaders establishes the responsibility on their subordinates to do the same in their place of employment. The impact of SL on various EIWB stages has not been the focus of any type of study. Thus, a study has been conducted to show the influence of other leadership philosophies, which include relational and authentic leadership, across different employees' innovative work behaviours. Using the same analogy, this study formulated the following hypothesis.

Hypothesis 1: *There is a direct and positive relationship between servant leadership and employee innovative behaviour.*

Mediating Role of Worker Creativity between Servant Leadership and Employee Innovative Behavior

One of the most intriguing concepts of leadership is the SL theory, which holds that leaders who reflect SL are more inclined to put the requirements of their followers ahead of their own wants (Greenleaf, 1970). Additionally, Madison and Eva (2019) asserted that the trait of servant leadership, also known as servant leadership, has a major impact on employees' performance. Employees who view their leaders as servant leaders, according to Eva et al. (2019), feel a connection to them because of their regard, concern, and responsibility. Because of this, people feel more pressure to exert themselves and make the most of their efforts (Blau, 1964; see also social exchange theory and self-efficacy theory). According to Ruiz-Palomino and Zoghbi-Manrique-de-Lara (2020), among the achievements that employees may seek in exchange for



their favourable opinions of their leaders are being more proactive, dedicated, inventive, and creative. Furthermore, by providing them with sufficient authority, assisting them in fulfilling their obligations, attending to their needs, and helping them reach their full potential, servant leaders can inspire and motivate their followers in a variety of ways. According to Liden et al. (2015), all of these activities will inspire their followers to be imaginative and creative. Thus, in the last few years, researchers have become more aware of SL's beneficial impacts on EC and IWB (Li et al., 2021; Yang et al., 2017; Yoshida et al., 2014). However, earlier studies haven't taken into account creativity's function as a mediator in the SL-IWB relationship. While some have focused on the indirect relationship and overlooked creativity's function as a mediating factor, others have examined the direct relationships between innovation and creativity. For instance, Yang et al. (2017) ignored the results of innovation in favour of focusing solely on the mediation effect of efficacy between SL and EC. Li et al. (2021) performed a study that focused mainly on the impact of SL on innovation, ignoring the creative component that is widely acknowledged as a necessary condition for innovation. Therefore, among Pakistani employees, the current study investigates the mediating effect of creativity between servant leadership and employee innovative work behaviour. Therefore, it is suggested that the following link be empirically investigated.

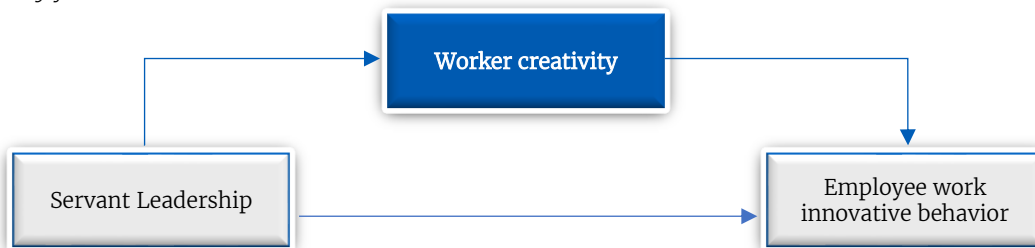
Hypothesis 2: Worker creativity positively mediates the relationship between servant leadership and employee-worker innovative behaviour.

Methods

This research uses quantitative techniques using an explanatory approach. Test notes can be used to measure data in quantitative techniques. Data was measured by using notes in the test. The placement of the variables within the study and the relationships between various variables were clarified by the clarification technique (Muzakki, 2016). SPSS version 25 was used as a statistical tool in this study, with the model to be constructed as depicted in the following Figure:

Figure 1

Study framework



Population

Margono (2005) states that the population as a whole, which includes people, animals, plants, test results, and events, is an area of research; sources of data are used in studies and have certain characteristics. Thus, the populations of this research study were the employees working in pharmaceutical industries.

Sample Size and Procedure

Conquest et al. (2023) emphasized that the sample is a subset of the population drawn by a sampling technique. The study's sample just needs to be able to characterize the population's state. The person in charge of the HR Department was contacted and asked for a list of all entry-level employees engaged by pharmaceutical industries operating in Peshawar. A probability sampling approach called systematic sampling was used to choose 310 samples. A self-administered questionnaire was used to gather cross-sectional data from the sampled respondents. In addition to the constructed data, demographic information was also gathered voluntarily to preserve privacy and anonymity. A survey questionnaire was used for data collection. Three hundred ten (310) fully filled questionnaires were received, and out of those, 450 questionnaires were retained for the final analysis. Forty-five (45) questionnaires were removed due to their lack of variation or incompleteness. Hence, 68.88% is the final response rate of this research study.

Considering English is the official language of Pakistan, the full questionnaire was designed in that language (Faraz et al., 2018).

Scale Measurement

Each item was assigned a score from 1 (strongly disagree) to 5 (strongly agree) on a five-point Likert scale.

Servant Leadership

An eight-item scale that was modified from Dennis and Bocarnea's (2005) past study was used to examine servant leadership.

Employee Work Innovative Behavior

this study examined the outcome variable through a five-item scale adapted from (De Jong & Den Hartog, 2010).

Worker Creativity

we measure servant leadership through a five-item scale developed by (De Jong & Den Hartog, 2010) and recommended by past researchers Hughes et al. (2018).

Respondent Profiles

The sample profile for this research is summarized in Table 1, which is shown below. The 310 respondents' gender, age, type of employment, length of service, and qualifications are all described in detail.

Table 1

Diversity	Description
Gender	Male (81.9%), Female (18.9%)
Age	20-30 years (29.7%), 31-40 (39.7%), 41-50 (26.1%), above 50 (4.5%)
Professions	Technical (67.4%), Non-technical (32.6%)
Service tenure	Less than ten years (38.1%), 11-20 (52.6%), above 20 (9.4%)
Qualifications	Below Graduation (38.1%), Graduation (51.9%), Post-graduation (11.0%)
Total respondents - 310	

Reliability Test

Model Table 1	Variables	Items	Questionnaire	Alpha values
Independent variable	SL	8	(Dennis and Bocarnea, 2005)	.916
Dependent variable	EIWB	5	(De Jong and Den Hartog 2010)	.829
Mediating variable	WC	5	(Hughes et al., 2018)	.863

The reliability of the instruments was verified using SPSS version 20 by measuring the alpha value. The Cronbach alpha was used to determine the reliability, which measures the degree to which items on a scale are closely associated with one another (Sekaran, 2003). Items of the variables that possess a Cronbach's alpha value of .7 or above have been considered reliable by Sekaran's prior research and should be retained in the study. Thus, in the above model, table 1, the alpha values of the study variables are greater than the suggested value and confirm that the scale used in the study is reliable.

Variables	KMO	BTS	P- value
Independent variable SL	.868	(701.518) Df - 15	.000
Dependent variable EIWB	.795	311.171 Df - 6	.000
Mediating variable WC	.802	(429.967) Df - 6	.000



Based on the aforementioned findings, the study's variables have KMO values of more than .5, and the study's sample is adequate. Similar to this, the BTS values of the study's variables are significant, indicating that the alternative hypothesis is supported.

Hypothesis Testing

Variable	Unstandardized beta	t	Standardized beta	p	Decision
SL	.690	19.767	.806	.000	H1 Supported
R ² = (.402) ANNOVA = (F = 141.345, p = .000)					
Predictor: SLDV: EIWB					

Based on the regression's findings, Servant leadership (SL) has significantly and positively fostered employee innovative work behaviour (EIWB) in pharmaceutical industries. A high beta value for SL suggests that they have a greater role in explaining employees' innovative work behaviour. R² values of servant leadership are .40, indicating that they account for 40% of the variation in employee innovative work behaviour. Consequently, a high value of F and a large value of p represent the overall fitness of the model. Thus, H1 is accepted.

Mediation Analysis			
SL on WC	b= .63	T= 17.92	P= .000
WC on EIWB	b= .52	T= 7.11	P= .000
Total effect	b= .6629	T= 15.63	P= .000
		(LLCI= .5793, ULCI= .7464)	
Direct effect	B= .3378	T= 5.41	P= .000
		(LLCI= .2084, ULCI= .4472)	
Indirect effect	B= .3350		
		(LLCI= .2336, ULCI= .4336)	
Sobel test	6.61		
Decision	Partial Mediation		

The mediation analysis for the potential mediator worker's creativity, servant leadership, and employee innovative work behaviour is shown in the above table. This relationship is an influential and positive mediating effect. The relationship between servant leadership and employee innovative work behaviour is partially mediated by worker creativity. Moreover, positive and significant values of z and p were also confirmed. Hence, H4 is supported.

Discussion and Conclusion

The objective of the current study was to add to the body of literature by investigating the relationships among innovation, leadership, and creativity in pharmaceutical industries in the Peshawar region. The current study investigated how employee innovative work behaviour through worker creativity at the workplace is affected by the influence of servant style. The study's proposed model was then evaluated in light of the data gathered from 310 individuals working in the pharmaceutical industries, and the SPSS version 26 was used for the analysis. The results of the study demonstrated the beneficial and noteworthy impact servant leadership had on employee creativity. This research adds to our understanding of the connection between leadership and innovation and provides practitioners with insightful information that will help them achieve their objectives by encouraging organizational creativity and innovation.

Management and innovation scientists are becoming more concerned with learning how different leadership philosophies encourage innovative behavior (Zheng et al., 2023; Dhar, 2022; Li et al., 2023). In order to respond to this question, a single word of research has investigated how servant leadership may inspire innovative thinking in workers (Cai et al., 2018; Wang et al., 2022). Servant leaders benefit their workforce by supporting their growth and development (Gotsis & Grimani, 2016; Liden et al., 2008). By investigating worker creativity as a mediating mechanism between servant leadership and worker

innovative behaviour, the goal of this study was to broaden the current research stream. Furthermore, as mentioned in H1, the study examined how SL affected employees' innovative work behaviour. The statistical findings corroborated the positive and significant impact of servant leadership on EIWB. These results are consistent with those of Li et al. (2023), who suggested that servant leadership encourages employees to perform in novel ways. Lastly, a significant contribution of the research examined how worker creativity mediated the relationship between servant leadership and employee innovative work behaviour. The statistical findings supported the partial mediation of worker creativity in the sample groups and the entire mediation of WC in the SL-IWB relationship. As a result, this research supported the effectiveness of WC as the mechanism explaining how servant leaders might affect their workers' IWB (Li et al., 2021; Yang et al., 2017).

Theoretical and Managerial Implications

The following are some significant advances and new perspectives that this study has contributed to theory and practice.

Theoretical Implications

This study represents the use of servant leadership theory to explain the relationship between leadership, creativity, and innovation. The findings showed that the suggested model had a good ability to explain that relationship. Lastly, by investigating the mediating role of worker creativity between SL and EIWB, our study significantly advances theory. The findings confirmed this mediated relationship. This result is consistent with other research findings (e.g., Li et al., 2021; Gelaidan, Al-said, & Al-Hakimi, 2023). The combination of servant leadership and worker creativity acts as a catalyst for sustainable innovation within pharmaceutical companies. Servant leaders inspire a sense of purpose and intrinsic motivation among employees, leading to a continuous flow of innovative ideas and solutions. Moreover, by leveraging the creative potential of workers, organizations can adapt more effectively to changing market demands, anticipate future trends, and maintain a competitive edge in the industry. Therefore, understanding the mediating role of worker creativity in the relationship between servant leadership and innovative behavior is crucial for fostering long-term innovation and success in pharmaceutical industries. Exploring the relationship between servant leadership and worker innovative behaviour, mediated by worker creativity, contributes to enriching leadership theory in the context of the pharmaceutical industry. By identifying servant leadership as a significant driver of worker creativity and subsequent innovation, scholars can further refine theoretical frameworks to better understand the dynamics of leadership styles and their impact on organizational outcomes in highly specialized sectors like pharmaceuticals.

Managerial Implications

This study proves extremely valuable to practice as well due to the insights it offers on how to encourage creative behaviour in workers. It specifically has a lot of managerial implications. To foster an environment that encourages innovation among their teams, managers in the pharmaceutical industry should place a high priority on implementing servant leadership techniques. This means giving staff members the tools and support they need to advance professionally, letting them take responsibility for their work, and actively listening to them. Managers may stimulate innovation, encourage teamwork, and inspire creativity in their teams by adopting the concepts of servant leadership. Even public sector organizations should abandon their administrative systems in favour of an incorporated, flexible, and adaptable innovation system that will promote worker creativity and innovative employee work behaviour in a dynamically changing environment. The study's findings showed leadership influences creativity and innovation. Given the ways, practitioners should be able to create programs that have been designed to improve employees' creativity and innovation.

Limitation and Future Research

In the context of the pharmaceutical industries in the Peshawar area, this study offers the first scientific analysis of the relationships between servant leadership, worker creativity, and employee innovative work behaviour. The article provides potential avenues for future research due to a few key shortcomings. The



sample data, which is limited to the pharmaceutical industries in the Peshawar region, is one of the drawbacks. The findings from the research are, therefore, limited to organizations that manufacture products. The study's conclusions are not generally applicable. Secondly, data was obtained from workers who work in the pharmaceutical industry, and servant leadership and worker creativity were investigated. Future studies could investigate the environmentally conscious creativity of employees by gathering information from diverse administrative settings and extensive organizational levels. Thirdly, this study investigated the mediating role that worker creativity played in the relationship between green creativity among servant leadership and employee innovative work behaviour. In order to improve this area of study, future studies may examine the role of age, gender, and education as control variables in addition to utilizing a small number of mediating variables that strengthen the stated relationship. Fourth, this study adopted a cross-sectional research approach. A longitudinal research design could be used in future studies to assess the relationship between employee work innovative behavior and servant leadership.

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