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THE RELATIONSHIP BETWEEN KNOWLEDGE SHARING AND INNOVATION PERFORMANCE: A CASE OF MANUFACTURING SECTOR OF THE EMERGING ECONOMY

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ABSTRACT

This study investigates the relationship between knowledge sharing and innovation performance. Quantitative survey using cross-sectional sampling was used. Sample included 355 different staff members. A questionnaire that was self-administered and was based on previously used metrics was chosen. The percentage of those that responded was 73.9%. A statistical method known as partial least squares structural equation modelling was used in order to examine and evaluate hypotheses that were proposed. The software program SPSS and Smart PLS were used in order to do the analysis on the data that were obtained. Findings reveal that knowledge sharing has a significant effect on innovation performance. In addition to this, data demonstrated a favorable and substantial association between the sharing of knowledge and innovation of both products and processes. The findings of research have significant implications for further developing and enhancing the relation between knowledge sharing and innovative performance.

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INTRODUCTION

Today's corporate world is fast-paced and intensely competitive, it is often considered that the survival of an organisation depends on two factors: quality of the firm's resources and quality of the personnel within the company (Donard, Hidayat, Fhardilha & Kurnia, 2022) they proposed that in future, competitive advantage would be determined by knowledge resources, commonly known as knowledge workers. Because of the importance of knowledge to any business, it must be exactly handled as intangible asset. As result, information acquisition, transfer, management and retention have received high attention from academics and professionals alike (Adegoke, Prajogo, Idiagbon & Edwin, 2022). How well information is disseminated within the company is

crucial, especially in new dispersed types of businesses (Qiao, Wang & Guo, 2021). It has been stated that behaviours involving sharing of knowledge contribute to the production of different organisational capacities, one of which is innovation, which is essential to success of a company (Hanifah, Halim, Zadeh & Nawaser, 2021). Today's globally viable market requires businesses to use variety of methods to compete, succeed and grow their market share and performance. One of these methods is product and service innovation that results in long-term performance benefits and increased market share. Still, not necessarily greater return on total assets, which implies, investing in innovative activities takes time to yield positive results in terms of success, though it may aid in gaining customer loyalty (Games, Hidayat, Fhardilha, Fernando & Sari, 2022).

Although, the short-term financial advantages are created when service innovation is separated from product innovation, loss of long-term knowledge and market performance may also occur. As a result, manufacturers may need to focus on one of the two areas (either service or product innovation) so as to optimize short-term profitability. Deploying service and product innovation independently tends to result in increased performance the next year; however, deploying them jointly appears to result in a decline in performance following year, since combined deployment may result in an initial increase in coordination costs (Xia, Li, Weng, Zhang & Gao, 2021). To achieve long-term success and sustainable competitive advantage, organizations should focus proper knowledge management in their core culture (Awan, Arnold & Gölgeci, 2021). Product, service, and manufacturing development and knowledge management and knowledge sharing are all important components of the success. To put it simply, knowledge sharing is the method through which resources like experience, expertise, and data are converted into the actionable outcomes like innovation (Castaneda & Cuellar, 2020). Knowledge sharing helps firms enhance their ability to innovate. As such, it is a vital component of strengthening employees' abilities to innovate, which are in turn part of a company's overall innovation capabilities (Sein & Prokop, 2021).

The link that exists between the sharing of knowledge and the creation of new ideas has been the subject of a great number of research that have been conducted in industrialized countries. These studies have shed light on the nature of this interaction. In contrast to other emerging nations, Pakistan has not shown the level of interest in this field of study that was expected. In addition, publicly sharing one's knowledge is not valued in Pakistan; rather, it is seen as the sharing of one's power and is therefore frowned upon. In addition, there is a dearth of written material about the sharing of knowledge and the promotion of innovation in Pakistan (Azeem, Ahmed, Haider & Sajjad, 2021). Previous research has explored a wide range of issues, such as how incentives affect workers, the nature of employees' perceptions and levels of trust, effects of cultural diversity on workers' ability to assimilate new information, value of cultural diversity and effectiveness of collaborative cultures (Ullah, Ullah & Jan, 2021). However, none of these studies looked at how the factors that promote knowledge sharing relate to the impact that it has on the efficiency of innovation inside an organisation. Therefore, the purpose of this study was to fill this gap by probing the nature of knowledge sharing and its impact on innovation performance.

LITERATURE REVIEW

Researchers view the sharing of knowledge to be source of both innovation and value creation, regardless of whether it occurs within or outside. Sharing of information is also prerequisite for inventive performance due to fact that innovation fundamentally involves connecting the many

external cognitive components. Many pieces of evidence suggest that sharing of the knowledge from one organisational unit to another results in competitive advantages. In following section researcher shed light upon the major empirical studies relevant to the concepts discussed in this research.

Knowledge Sharing

Scholars and practitioners alike have been interested in the concept of sharing one's knowledge as it has been determined to be essential factor in producing sustainable long-term performance and, as a consequence, an advantage over one's competitors (Singh, Gupta, Busso & Kamboj, 2021). Explicit knowledge refers to knowledge that can be written down and shared, whereas tacit knowledge is learned through experience and is passed down from person to person over oral tradition. Tacit and explicit knowledge sharing both promote strong approach to business knowledge process (Lei, Gui & Le, 2021). Another way to measure knowledge sharing involves an individual's involvement in knowledge- sharing behavior, that is measured through conduct and participation (Islam, Zahra, Rehman & Jamil, 2022). Knowledge sharing between companies comprises two processes: knowledge collection and knowledge donation. Knowledge sharing helps firms develop their abilities to innovate. It is vital component of strengthening employees' abilities to innovate, that are in turn part of company's overall innovation capabilities. Nguyen and Prentice (2022) suggest three enablers of knowledge sharing: individual, organizational and technological. Individual enablers drive employees to share knowledge about job-related expertise.

The ability of employees to concurrently acquire knowledge inside their business, which then leads to the creation of the purpose to share knowledge, increases likelihood that employees will contribute knowledge. According to Cavaliere, Lombardi and Giustiniano (2015), second kind of knowledge-sharing facilitator (organisational), knowledge-sharing activities between workers become more effective when the business unit barriers are lowered and organization members' openness grows. A leadership style that is supportive might be seen to be a facilitator of the empowerment of the workers (Nham, Nguyen, Tran & Nguyen, 2020). The collaboration, empowering employees, and trusting one another all have a good impact on the sharing and accumulation of knowledge. Thus, managers should place a primary emphasis on encouraging employees to participate in knowledge donation and collection activities; cultivate a positive culture of knowledge-sharing in which all the employees believe they are making the beneficial contribution to common good, rather than expecting reciprocal rewards as a result of sharing their knowledge; consider the ideas of as many employees as possible; and reward employees for sharing all information that they obtain from internal and external sources that contribute towards innovative performance leads to success (Ahbabi, Singh, Balasubramanian & Gaur, 2018).

Innovation Performance

The literature shows that organizational innovation can be divided into product and service innovation, process innovation and marketing innovation (Benitez, Arenas, Castillo & Esteves, 2022). Process innovation refers to changes made to methods with which business produces and provides its goods and services (Singh, Mazzucchelli, Vessal & Solidoro, 2021). Thus, result is product and service innovation. Hameed, Nisar & Wu, (2021) identify three distinct product innovation stages in Chinese context. The first, called Yin, refers to the initial stages of product innovation development, which focus primarily on applying existing knowledge

and technology at production. In this connection, the second stage of the product innovation development, called Tiao, focuses on adopting new knowledge and skills gained to improve innovation. The final stage, Chuang, refers to stage of product innovation. An organization's innovation capabilities characterise the manner in which it reorganizes its resources and capacities to create the new products and services. The innovation capability of employees is defined as their ability to think of and act on the novel ideas that enhance the company as a whole.

Martínez-Noya and García-Canal (2021) state that a firm's overall innovation capabilities are the total sum of its employees' individual innovation capabilities, such that higher levels of individual innovation will lead to higher levels of organizational innovation. Thus, strategic HRM practises boost a company's capacity for the innovation, which in turn boosts the firm's success in this area (Santoro et al., 2020). Dziallas and Blind (2019) categorized innovation indicators into two dimensions: the company-specific and contextual. The company-specific dimension includes the company structure, which defines, controls, and coordinates norms, hierarchies and responsibilities, and the organization's open innovation culture, wherein the supportive and participative leaders inspire mutual trust, cooperation, and learning, which in turn boost knowledge donation efficiency and lead to greater firm innovation potential (Lam et al., 2021). Enhancement of buyer–supplier relationship is linked with advances in innovation orientation, which in turn promotes the sharing of tacit and explicit knowledge among the trade partners and improves performance of the learning alliances (Ferraris et al., 2020).

Knowledge Sharing & Innovation Performance

Knowledge sharing has potential to significantly influence corporate performance and is thus critical for innovation. The innovation is contingent upon knowledge sharing, which results in invention of new services, products, business models, processes, and organizational structures. Organizations that encourage knowledge exchange improve their ability to innovate (Games et al., 2022). Hassan et al. (2018) illustrate that donating and collecting the knowledge both have positive and significant impacts on employees' innovative work behaviors. In actual, knowledge donation has been found to have direct positive effect on product innovation. Also, it assists in the development of knowledge collection, which indirectly impacts the overall organizational performance. One feature of innovation is the establishment of beneficial processes, which may be accomplished through knowledge sharing. When implementing new ideas or processes, the knowledge-sharing culture is necessary so as to disseminate knowledge throughout organization. It is critical to link all employees and foster synergy, as each employee's individual innovation capability plays a critical mediating role in enhancing impact of knowledge sharing on product, process, and management of innovation capabilities (Ferraris et al., 2020). Qiao et al. (2021) addressed the way to enhance organization's overall innovation capacity, in which knowledge sharing be introduced into workplace, as it can enhance employees' creativity. Participating in knowledge-sharing process enables workers to generate new product and service development ideas.

Research Hypothesis

H_1: Knowledge sharing has significant and positive impact on innovation performance
H_2: Knowledge sharing has significant and positive impact on the process innovation
H_3: Knowledge sharing has significant and positive impact on the Product Innovation

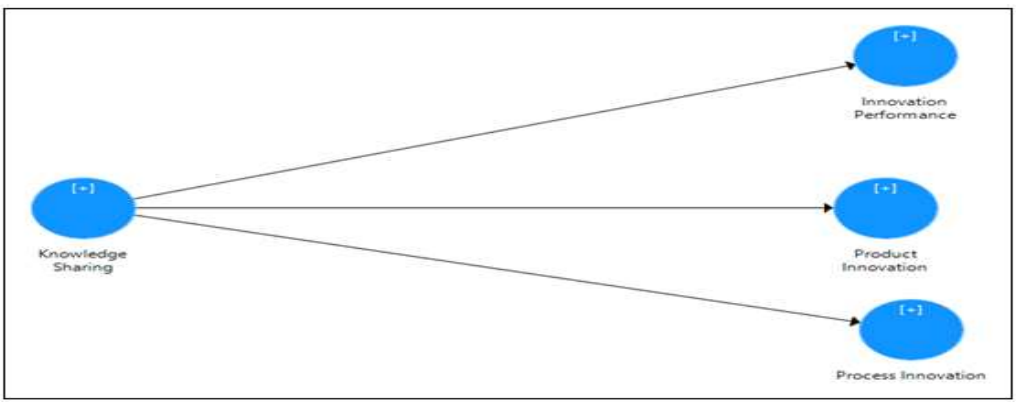
RESEARCH METHODODOLOGY

The present research is quantitative in nature. The researcher implied positivism philosophical approach to conduct the study. The major unit of analysis in this study was staff members from multiple manufacturing companies. The researcher majorly targeted cement sector companies working from selected cities in Pakistan (Lahore and Faisalabad). Researchers used probability research design and simple random method was used to collect the data from respondents. The sample included 355 different staff members working in manufacturing companies. Researcher chose the sample of study by using statistical formula proposed by (Krejcie & Morgan, 1970). The data were collected from the sample using a self-administered questionnaire adapted from existing measures. The questionnaire was divided into three sections. The first section collected respondents' basic demographic information (gender, age, education & tenure at conventional banks).

The second section, which measured knowledge sharing, was developed based on (Vries et al., 2006). Knowledge sharing was broken down into two components: knowledge donation, in which individuals contribute new knowledge, and knowledge collection, in which individuals acquire new knowledge. The final section of questionnaire measured innovation performance and was adapted from (Prajogo & Ahmed, 2006; Prajogo & McDermott, 2011). This section was developed to track two measures of innovation performance: product and process innovation. The percentage of those that responded was 73.9%. Structural equational modeling was utilized as a statistical analysis approach to test the hypotheses of study and evaluate the overarching hypothesis. The data collected were evaluated using the Microsoft Excel, SPSS, and SmartPLS software.

Figure 1

Theoretical Framework



RESULTS OF STUDY

Demographic Profiles

Male respondents accounted for 84.2% of the total, with female respondents accounting for the remaining 15.8%. With regard to respondents' ages, 47.4% of respondents were between the ages of 36 and 40 years, 15.5% of them were between ages of 26 and 30, 12.3% were between the ages of 31 and 35, 12.3% were between the ages of 41 and 45, and 15.5% were beyond the

age of 45. 10.5% of the population was older than 45, and 1.8% of those were older than 45 year age.

Validity & Reliability

The validity and reliability has evaluated quality of questionnaire useful prediction. Convergent validity (using AVE) was utilised to evaluate the measurement model's construct validity, while factor loadings were used to evaluate the model's reliability. The information shown in Table 1, values of factor loadings for both of variables are higher than threshold value of 0.6 (Hair et al., 2010).

Table 1

Convergent Validity and Reliability for Knowledge Sharing

	Construct	Item	Loading	Extracted (AVE)a	Reliability (CR)b	Cronbach Alpha
K-Sharing	K-Donating	KS1	0.852	0.567	0.925	0.914
		KS2	0.774			
		KS3	0.706			
	K-Collection	KS4	0.725	0.537	0.846	0.822
		KS5	0.609			
Innovation	P-Innovation	IP1	0.975	0.758	0.814	0.754
		IP2	0.992			
		IP3	0.981			
	P-Innovation	IP4	0.924	0.586	0.79	0.709
		IP5	0.949			
		IP6	0.941			

Table 1 present findings pertaining to discriminant validity. To fulfil requirements of Fornell–Larcker criteria, correlations amid elements must be higher than 0.85. Fornell–Larcker criteria yielded findings that varied from 0.125 to 0.811, that is less than value that serves as cutoff. This information is shown in Table 2. Outcomes of cross-loadings criteria varied from a low of 0.775 to a high of 0.983. TResults provide discriminant validity of questionnaire to a very high degree.

Table 2

Discriminant Validity of Constructs

Constructs	Knowledge	Knowledge	Process	Product
Knowledge Donation	0.876	0	0	0
Knowledge Collection	0.1851	0.775	0	0
Process Innovation	0.1373	0.161	0.938	0
Product Innovation	0.246	0.125	0.811	0.983

Testing of Hypothesis

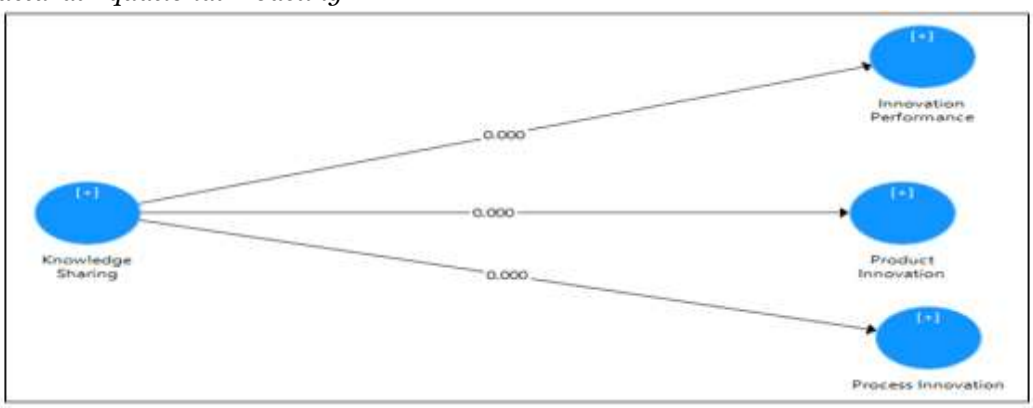
Based on the research framework, direct effects between studied variables were analyzed using SEM and are presented in Table 3. It illustrates the values of path coefficients, standard errors, t-statistics, and p- values for knowledge sharing as a predictor of innovation performance and its two constructs. Results of study indicated that all null hypothesis are rejected. In conclusion, knowledge sharing has significant effect on both types of innovation performance i.e. process

and product innovation.

Table 3
Direct Effects Between Studied Variables

	OS (O)	SM (M)	SD	TS	P Values
Knowledge Sharing -----> Innovation Performance	0.506	0.512	0.039	12.979	0.000
Knowledge Sharing -----> Process Innovation	0.776	0.777	0.019	40.038	0.000
Knowledge Sharing -----> Product Innovation	0.400	0.409	0.046	8.679	0.000

Figure 2
Structural Equational Modeling



DISCUSSION

The research found that knowledge sharing has substantial impact on manufacturing innovation performance. Hassan et al. (2018) illustrate that donating and collecting knowledge both have positive and significant impacts on the employees' innovative work behaviors. In particular, the knowledge donation has been found to have a direct positive effect on the product innovation (Nham et al., 2020). This study's findings are in line with those of previous research (Qiao et al., 2021; Santoro et al., 2020; Sein & Prokop, 2021). The results also suggested that the sharing of knowledge has the considerable influence, both positively and significantly, on the innovation of products and services. The findings are consistent with Zhan et al. (2017) define three unique phases of product innovation. Company-specific dimension includes the company structure, which defines, controls, and coordinates norms, hierarchies and the responsibilities, and the organization's open innovation culture, wherein supportive and participative leaders inspire mutual trust, cooperation, and learning, which in turn boost the knowledge donation efficiency and lead to greater firm innovation potential. The first is denoted by the Chinese innovation Yin and refers to the preliminary phases of developing a new product. These stages are largely concerned with the making usage of the knowledge and technology that is already available.

The implementation of newly acquired knowledge and abilities is the primary emphasis of the Tiao stage of product innovation development, which is the second stage of product innovation development. The last stage is called Chuang, and it's stage that deals with product innovation. The results revealed that knowledge sharing has significant influence upon the innovation performance as recommended by previous studies and validated through the results of present study. Findings of this research have real-world applications. The links between performance of innovations and knowledge sharing may give a roadmap for how businesses might improve their performance by using knowledge sharing and innovations. One feature of innovation is establishment of beneficial processes, which may be accomplished over knowledge sharing. If a company wants to improve pace or quality of its innovation, it should give some thought to crucial factors that contribute to sharing of explicit or tacit knowledge. In addition, different methods and plans for pace or quality of innovation have to be developed for various business performances.

CONCLUSION

This research aimed to determine the effect of knowledge sharing on innovative performance of manufacturing companies. Employees of the business were surveyed for information. Excel, SPSS, and SmartPLS were used for data evaluation and analysis. Knowledge sharing has a considerable and favourable effect on innovation performance of manufacturing organisation, according to the study's results. This research has important implications for enhancing and expanding the relationship between factors examined (i.e., knowledge sharing and innovation performance). This strategy may be bolstered by including rewards for the workers and similar incentives into other administrative functions, such as the performance reviews and employee promotions. Additionally, creating a corporate culture of learning may motivate employees to seek out additional opportunities for the knowledge sharing in which they may acquire and contribute information. This research is limited to Pakistan’s major cities. Sample size is also limited.

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