The Impact of Knowledge Governance on Knowledge Workers' Productivity: Mediating Role of Knowledge Sharing

Muhammad Umar[*], Syed Ahmad Ali[†], Maqbool Hussain Sial[‡]

Abstract

This research investigates the impact of knowledge governance on the knowledge workers' productivity with the mediating role of knowledge sharing through the knowledge governance approach. The study used a quantitative survey-based technique to gather data from one hundred and twenty knowledge workers selected with stratified random sampling. The researchers analyzed the primary data collected through a self-administered survey using an adapted instrument through Smart_PLS software. The partial least square structural equation model results revealed that knowledge governance significantly impacts knowledge sharing and knowledge workers' productivity, respectively. At the same time, knowledge sharing mediates the relationship between knowledge governance and knowledge workers' productivity. The study adds significant value to the theory and literature and carries widespread implications for knowledge workers and knowledge-based organizations. The study provides future directions for further strengthening the knowledge governance approach with similar studies in different contexts and populations for generalization and theory validation.

Keywords: Knowledge Governance, Knowledge Sharing, Knowledge Workers' Productivity, Knowledge Governance Approach

Introduction

Drucker (1999) highlighted the challenges for 21st Century managers to improve knowledge workers' productivity and denoted productivity as efficiency to optimize knowledge work. Present-day researchers agree on the exponential growth of knowledge workers and their value for business organizations (Acsente, 2010; Kianto et al., 2019; Sahibzada et al., 2020). They are highly significant wealth creators in the present economy (Drucker, 1999; Palvalin et al., 2017).

Seeing the rapidly increasing strength of knowledge workers across the globe, research on the knowledge management process and knowledge workers' performance within firms has climbed up during the present decade (Nguyen et al., 2019; Razzaq et al., 2019). Besides, managing the knowledge-based workforce is challenging without a precise classification (De Sordi et al., 2020). Henceforth, tackling the productivity of these knowledge workers through organizational knowledge management strategies is of significant importance.

In the context described above, Kianto et al. (2019) revealed a significant impact of knowledge management on organizational productivity. Additionally, the workplace is a vital factor among the various facets mentioned earlier that influence the productivity of knowledge workers (Palvalin, 2019; Palvalin et al., 2017). Consideringly, renowned academics in management have emphasized the role of organizational factors in knowledge-based strategies to attain sustained competitive advantages (Nonaka, 1994; Nonaka & Takeuchi, 1996; Spender, 1996).

Subsequently, scholars reveal that the knowledge management process, i.e., knowledge sharing, contributes to increasing productivity, efficiency, effectiveness, shaping employees, and developing a knowledge database (Rice et al., 2019; Singh et al., 2019). Moreover, knowledge sharing is an essential component of the knowledge management process to bring innovation. Nevertheless, there are hindrances in the organizational processes and functions that serve as barriers to knowledge sharing (Hernaus et al., 2019).

Further perusal of the literature discloses that Nicoli J. Foss introduced the knowledge governance approach to tackle the obstacles in the knowledge management process (Foss et al., 2003; Foss, 2007; Foss & Mahnke, 2000). They contended that it has the potential to challenge the

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[*] Muhammad Umar, PhD Management Scholar, School of Business & Economics, University of Management and Technology, Lahore. uwarraich786@gmail.com
[†] Syed Ahmed Ali, Assistant Professor, School of Business & Economics, University of Management & Technology, Lahore.
[‡] Maqbool Hussain Sial, Professor, School of Business & Economics, University of Management and Technology, Lahore.

knowledge-based view. According to Foss and Mahnke (2003) and Michailova and Foss (2009) knowledge governance approach is an "emerging attempt to think systematically about the intersection of knowledge and organizations." Likewise, "governing knowledge process means choosing governance structures and coordination mechanisms to influence knowledge management process" (p. 8). A closer look at the literature transpired that Pinho et al. (2019) scrutinized the scarcely available literature on knowledge governance to theorize the term "knowledge governance."

It is evident from the earlier work by Gooderham et al. (2011) that knowledge governance and knowledge sharing are indirectly associated. In contrast, Cao and Xiang (2013) found a significant direct relationship between knowledge governance and knowledge sharing. The literature on the relation between knowledge processes and governance issues is scarce theoretically and empirically. A perusal of literature proves that there has been little consideration of research heuristics connecting governance and knowledge management (Cao & Xiang, 2012, 2013; Foss & Michailova, 2009).

In light of the above information, the increased strength of knowledge workers has raised questions regarding the efficiency and effectiveness of the prevailing knowledge management practices, knowledge management systems, and productivity of knowledge workers that lack governance systems. Therefore, scholarly attention is vital to address the gap for increasing efficiency and productivity of knowledge workers through the knowledge governance framework (Cao & Xiang, 2013; Foss, 2007; Foss & Michailova, 2009; Kianto et al., 2019; Pinho et al., 2019; Pinho & Pinho, 2015; Shujahat et al., 2018).

Furthermore, this work aims to examine the significant role of knowledge sharing in influencing knowledge workers' productivity. Also, the current study has vital implications for practice and theory. Hence, the present research empirically tests the above-stated conceptualized framework on Pakistani knowledge workers to examine their productivity and address the gap.

Literature Review

Knowledge Governance

Knowledge governance has attracted researchers due to the increasing importance and the scarcity of related literature during the present decade. Therefore, scholars presume it will gain vital significance in the knowledge management literature soon (Cao & Xiang, 2012, 2013; Foss et al., 2010; Foss & Michailova, 2009). Existing research has characterized Knowledge Governance as a vitally important phenomenon for knowledge-oriented organizations, yet it remained the least studied (Foss et al., 2010; Foss & Michailova, 2009). "Knowledge governance, therefore, means deploying governance mechanisms to maximize the net benefits from processes of transferring, sharing, and creating knowledge" (Foss, 2007, p. 45). According to Pinho and Pinho (2015, p. 492), "knowledge governance refers to choosing structures and mechanisms that can influence the processes of knowledge, looking the interrelation between micro, meso and macro levels, with a strategic focus."

Knowledge Workers' Productivity

Drucker (1999) highlighted the importance of measuring the productivity of knowledge workers. "Knowledge work" is a widely recognized term first used by Bredemeier and Drucker (1959), alternatively referred to as "white-collar work" (Ramírez & Nembhard, 2004). Bosch-Sijtsema et al. (2009) denote knowledge workers performing unstructured, contingent work with conflicting demands beyond set norms and practices (Scarbrough, 2003). Knowledge workers use theoretical and practical knowledge acquired through formal education (Drucker, 1994), training and experience, or create knowledge, or the workers involved in creating, sharing, or applying knowledge (Davenport, 2015). Ramírez and Nembhard (2004) mentioned that not many researchers agree on the definition of a knowledge worker. In contrast, Peter Drucker referred to them as "service workers" and workers who perform manual and knowledge work. Researchers agree that knowledge workers comprise intangible knowledge and means of production (Drucker, 1999).

Different researchers have conceptualized the productivity measurement of knowledge workers in a different context; however, no consensus is available in the literature. According to Ramírez and Nembhard (2004), the distinctive dimension of knowledge workers' productivity includes quantity, timeliness, autonomy, cost and profitability, effectiveness, quality, efficiency, customer

satisfaction, project success, creativity, and responsibility regarding the importance to work, respectively.

However, the present study follows the knowledge workers productivity defined by Palvalin (2019) and Palvalin et al. (2015), i.e., "productivity is measured by statements related to work efficiency and effectiveness, achieving results, goals, utilizing skills, quality of work, customer satisfaction, and team performance."

Knowledge Sharing

Knowledge sharing is considered an essential knowledge management process. It has gained vital importance (Nguyen et al., 2019) due to its connection with organizational effectiveness and performance (Iqbal et al., 2019; Le & Lei, 2019). Although, enforcement of knowledge sharing is challenging to managers due to its voluntary nature (Ashraf Fauzi et al., 2019; Liu et al., 2019). An extensive literature review transpires that knowledge management practices are becoming extremely important to organizations. Knowledge sharing is one of the core elements of such practices, especially in knowledge-intensive and learning organizations and professions.

Researchers remain unconvinced over a single definition of knowledge sharing. Hence, different researchers have defined knowledge sharing in their perspectives (Wu & Zhu, 2012). Knowledge sharing is the diffusion or distribution of knowledge among colleagues. Few researchers referred to it as placing personal knowledge freely within the organization at the disposition of colleagues. In comparison, others call it performing organizational knowledge transmission.

Nevertheless, scholars termed it the act of individuals exchanging knowledge with colleagues to foster organizational learning (Rahman et al., 2017). Realistically some employees avoid knowledge sharing while others are willing to share their knowledge at the workplace. These differences in employees' knowledge sharing accept influence from different organizational, situational, and psychological factors that need investigation (Teh & Sun, 2012).

Knowledge Governance and Knowledge Sharing

Knowledge governance has a strong association with knowledge management. Though both work at different scopes, they focus on capitalizing on the knowledge and creating value. However, knowledge management is concerned with knowledge processes at the organizational level (Pinho & Pinho, 2015). O'Dell and Grayson (1998, p.6) defined knowledge management as "the conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organizational performance."

Knowledge governance is concerned with the effect of governance mechanisms on knowledge management processes, i.e., an interplay between knowledge management processes and organizational processes. It also deals with Human Resource Management practices, organizational structures, strategic management, and the convergence of knowledge management view and organizational economics (Foss et al., 2010). Although, Cao and Xiang (2012, 2013) studied knowledge governance with the knowledge management process, i.e., knowledge sharing. However, scarce empirical evidence is available on the relationship between knowledge governance and the knowledge management process.

Thus, the present research aims to investigate the impact of knowledge governance on the knowledge management process, i.e., knowledge sharing. Henceforth, researchers propose the following hypothesis:

H_1: Knowledge governance has a significant positive relationship with knowledge Sharing

Knowledge Governance and Knowledge Workers Productivity

Knowledge governance researchers think that knowledge governance mechanisms can direct and foster knowledge management processes (Cao & Xiang, 2012, 2013), influencing knowledge workers' productivity (Kianto et al., 2019). Previously, knowledge management research depended on the knowledge-based view of the firms, while the knowledge governance framework dominates this at present (Cao & Xiang, 2012, 2013; Foss, 2007; Foss & Michailova, 2009). A bare review of the literature collected from various databases reveals that only a few empirical studies have been conducted regarding knowledge governance and knowledge workers separately or to measure their mutual relationship (Pinho et al., 2019; Palvalin, 2019).

Therefore, one of the critical objectives of the current study is to investigate the impact of knowledge governance on knowledge workers' productivity to produce solid empirical evidence in its support or otherwise. Based on the above-produced model following hypotheses were framed for the research:

H₂: Knowledge governance has a significant positive connection with knowledge workers productivity

Knowledge Sharing and Knowledge Workers Productivity

In light of extensive literature review, researchers divided the factor or determinants of knowledge worker productivity into two types, i.e., individual and organizational factors, respectively (Bosch-Sijtsema et al., 2009; Butt et al., 2019; Drucker, 1999). Kianto et al. (2019) found a relationship between knowledge management and knowledge workers' productivity. Also, the knowledge management process affects individual performance (Razzaq et al., 2019). Similarly, Knowledge worker productivity mediates the link between organizational innovation and the knowledge management process (Shujahat et al., 2019). However, literature is scarce on the subject.

Thus, the present study focuses on positively linking the knowledge management process (i.e., knowledge sharing) with knowledge workers' productivity to fulfill the gap. Hence, we proposed the following hypothesis:

H₃: Knowledge Sharing has a significant positive relationship with knowledge workers productivity

Mediation of Knowledge Sharing

Some researchers focused more on creating knowledge, yet many others preferred knowledge sharing. Knowledge management processes/practices affect the performance and productivity of individuals and organizations (Kianto et al., 2019; Razzaq et al., 2019). Knowledge Governance Approach (Foss, 2010) explains that knowledge governance mechanisms influence the knowledge management process. However, limited empirical evidence is available in the literature on the approach described above. On the contrary, the literature supports the relationship between the knowledge management processes (i.e., knowledge sharing) and knowledge workers' performance and productivity (Shujahat et al., 2019). However, the mediating role of the knowledge management process, i.e., knowledge sharing, is the least studied in the association between knowledge governance and knowledge workers' productivity.

Thus, current research focuses on the mediating role of knowledge sharing in the relationship between knowledge workers' productivity and knowledge governance to gather empirical evidence and strengthen the argument on the knowledge governance approach. Based on the above-produced model following hypotheses were framed for the research:

H₄: Knowledge Sharing mediate the association between knowledge governance and knowledge workers productivity

Theoretical Framework

The researchers framed the current research model into exogenous and endogenous constructs, and that would be measured by different items/constructs independently. The researchers relied primarily on the knowledge governance approach (Michailova & Foss, 2009; Foss, 2007, 2013; Foss & Mahnke, 2003; Foss et al., 2000; Pinho et al., 2019; Pinho & Pinho, 2015) for conceptualizing the below-mentioned present study framework.

Figure 1: Theoretical Framework
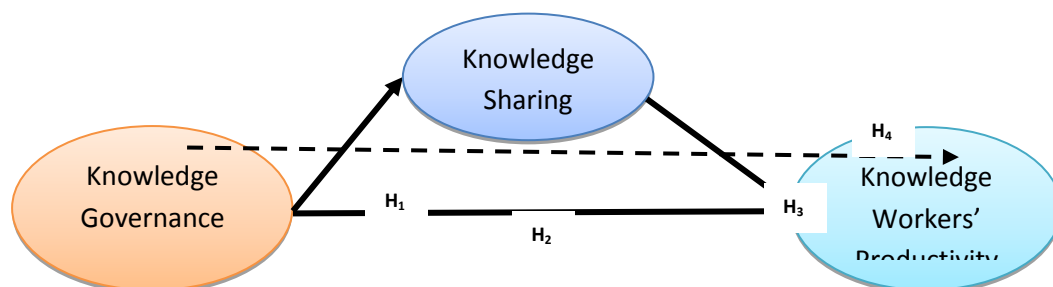
Research Methodology

The present work follows the post-positivism paradigm of research philosophy (Sönmez, 2013). In light of the principles laid down by Saunders and Thornhill (2007) and Forza (2002), current research is deductive and explanatory, and descriptive. It was a quantitative survey-based mode of inquiry to gather primary data from the respondents.

Study Population and Its Rationale

Scrutiny of the literature reveals that only a few studies are available concerning Pakistani knowledge workers' productivity (Kianto et al., 2019; Razzaq et al., 2019). They are becoming a vital element of the national economy. Moreover, the response varies due to different locations, working environments, job descriptions, governance mechanisms, leadership, networks, and mental approach of respondents hailing from diverse regions employed in multiple organizations. Most studies have used three or more populations for examining knowledge workers (De Sordi et al., 2020). The above facts highlight a gap in the subject and provide direction for examining knowledge workers' productivity.

The population includes medical practitioners (qualified from CPSP), chartered accountants (working with multinational financial/auditing firms), HEC approved Ph.D. supervisors (working in universities of Punjab), and architects/town planners (registered with PCATP) working in the organizations based at Lahore. Lahore, a business hub, is the capital of Punjab Province of Pakistan, the highly populated province of the country, and recognized for its infrastructure development and contribution in all walks of human development. Therefore, the population mentioned above was chosen in light of the existing literature on the subject of knowledge workers and considering the scarcity of literature on knowledge governance in the areas mentioned above, especially in the Pakistani context (Cao & Xiang, 2012, 2013; Drucker, 1999; Kianto et al., 2019; Pinho et al., 2019; Razzaq et al., 2019; Shujahat et al., 2019).

Sampling Methodology

Given the above-referred population, the study opted for stratified random sampling for data collection from knowledge workers of the chosen segments. The researchers considered the list of the sampling units obtained from governing bodies of the selected sectors. As mentioned earlier, the scholars considered every individual knowledge worker working in the organizations as one sampling unit.

The present work opted for a stratified random sampling technique and divided the sampling process into two different stages. In the first stage, we separated the sampled population into four strata: education, health, financial, and architects (Mushtaq & Umar, 2015; Saunders & Thornhill, 2007; Sekaran, 2003). Every knowledge worker within each stratum referred to as a sector was considered a sample unit (Mushtaq & Umar, 2015; Obedgiu et al., 2020). After stratifying the population, researchers used random sampling at the next stage. Primarily, this study considered all knowledge workers among the four strata as units of strata and randomly chosen as samples. Hereafter, we selected a disproportionate sample using systematic random sampling among these strata and gave each stratum an equal sample size (Mushtaq & Umar, 2015; Obedgiu et al., 2020; Raza & Awang, 2020).

Furthermore, the current work draws the sample size using the Hair et al. (1998) principle by allocating a minimum of five responses to each question/item included in the study (McQuitty, 2004). In this regard, sample data of one hundred and twenty responses were gathered to run the structural equation model to test the results.

Survey and the Instrument

Based on a five-point Likert scale, this study used a self-administered quantitative survey to gather primary data from the target respondents. Accordingly, we used a questionnaire to generate a response to measure the constructs/variables to test the conceptual framework (Forza, 2002; Sekaran, 2003). The Likert scale assisted in collecting data with greater accuracy and relevancy for analysis and interpretation of results. To avoid common method bias by binary source data, the researchers obtained knowledge workers' productivity data from organizational representatives, i.e., managers, directors, heads of departments. This research collected the data for all other constructs, i.e., knowledge governance and sharing, from the knowledge workers identified within all four strata explained above.

Notably, present research collected data for knowledge governance and knowledge sharing at one point and for knowledge workers' productivity at a different time.

It is pertinent to mention that the instrument consisted of the eight adapted items to measure the formal and informal knowledge governance scale from Cao and Xiang (2012, 2013), initially developed by Lawson et al. (2009). The Cronbach alpha for formal knowledge governance was 0.747, and that for informal governance was 0.827, respectively. The items for formal governance include "In my organization, I have more opportunities to cooperate with employees from other departments." While for informal governance, the question "My organization has a favorable culture atmosphere for sharing" included, respectively. This study adapted the scale of seven items initially developed by Palvalin et al. (2015) and Palvalin (2019) with Cronbach Alpha 0.84 to measure knowledge workers' productivity. An item of the scale is "achieve satisfactory results about organizational goals." Moreover, the study adapted five items scale for knowledge sharing with Cronbach Alpha 0.88 (Obeidat et al., 2016). Noticeably, the researchers sought the necessary permission from the scholars to use the instrument.

Data Processing and Analysis

The primary data collected through a self-administered survey was assigned numeric codes and entered in statistical software, i.e., SPSS 21. We measured the reliability of the data through statistical tests. Afterward, we applied descriptive and inferential statistics for data analysis and interpretations.

This research applied structural equation modeling through smart_PLS software for model and hypothesis testing and inference of the results from data (Hair et al., 2017; Razzaq et al., 2019). Structure equation modeling for data analysis in social sciences and management studies is widely accepted. The co-variance-based structure equation modeling emerged and gained popularity during the first decade of the 21st Century and is still considered a valuable technique for data analysis (Mushtaq et al., 2014). However, the variance-based structure equation modeling technique has emerged in recent years and gained wide acceptance and popularity due to its unique characteristics (Butt et al., 2019; Jamshed & Majeed, 2019). The scholars have emphasized the significance of Smart_PLS for knowledge management research (Cepeda-Carrion et al., 2019). The development of Smart_PLS software for measuring and analyzing data using variance-based structure equation modeling received considerable recognition from quality journals.

Markedly, the current study opted for variance-based structure equation modeling, using Smart_PLS, mainly for: its predictive power, accuracy for small data sets, suitability for composite/conceptual constructs, helpful in testing relatively new phenomenon/theory, application for non-normal data, equally valid for both reflective and formative models, running hierarchical regression for dyadic data sets, surpass covariance caused by covariance-based structural equation modeling, handling CMB (biased stemmed by instrument), testing two different models for structural and measurement with two different fits and also the contemporary research allows calculation of goodness of fit (GOF) in PLS instead of software output. Moreover, in Smart_PLS, the moderation relationship is measured/analyzed by developing an interactional link without splitting data (Ali et al., 2018; Cepeda-Carrion et al., 2019; Cepeda Carrión et al., 2016; Hair et al., 2017; Joe F. Hair et al., 2011, 2012, 2014; Jamshed & Majeed, 2019; Leguina, 2015; Sarstedt et al., 2018; Shiau et al., 2019).

Results

Respondents Profile

Table 1 reported the profile of respondents, which reveals the work experience, income, age, qualification, profession, and gender of the respondents of the current study. The results show dynamic profiles of the respondents called knowledge workers having diverse characteristics. Mainly, the respondents belonged to four professions: chartered accountants, medical practitioners, educationists, and architects, with almost similar percentages. Among them, most of the respondents were male.

Furthermore, the respondent's experience varied from three years or below to fifteen years or more. Most of the respondents had eighteen years of education, while almost all the respondents had a minimum of sixteen years of education. In addition, most of the respondent's monthly income varied

from ≤75000 Rupees to ≥200000 Rupees. The above characteristics of the population reveal a dynamic and well-to-do profile of the respondents that is important for undergoing present research.

Table 1: Profile of Respondents

Demographic Indicator Stats	
Work Experience	≤3Years= 9.7%, ≤6 Years = 24.2%, ≥9 Years = 25.8%, ≥12 Years = 15.8%, ≥15 Years =24.5%
Qualification/Education	≤16 Years = 22.9%, ≤18 Years =50.6%, ≤18 Years = 26.5%
Monthly Income	≤75000PKR= 36.5%, ≥150000 PKR = 35.8%, ≥200000 PKR = 27.7%
Age	≤30Years= 12.2%, ≤31 Years = 29.6%, ≤36 Years = 21%, ≤45 Years =11.6%, ≥46 Years =25.6%
Job Nature	Chartered Accountants=23%, Doctors=24%, Architects=28%, Professors= 25%
Gender	39% Female, 61% Male

Partial Least Square Structural Equation Modeling

Measurement Model Analysis

Primarily, this study evaluated the measurement model through the reliability and validity of the measurement model constructs. The study assessed the internal consistency reliability of the latent constructs from the values (≥0.80) of composite reliability (CR) exhibited in Table 03 (Hair et al., 2014). The extent of variance shared by the items of constructs indicates estimates of average variance extracted (AVE≥0.50) (AVE) that was greater than the minimum accepted value (Hair et al., 2014). Moreover, the outer loadings of each item of the constructs exceed the minimum benchmark of 0.70 (Hair et al., 2011), as shown in Table 02. Likewise, Variance Inflation Factor (VIF) values were ≤2, thus signifying the most negligible chances of multicollinearity among items of the constructs. Hence the conditions of the convergent validity are fulfilled (Hair et al., 2014).

Table 02: Variables Reliability & Validity Statistics

Latent Construct	Items	Outer Loads	VIF	Cronbach Alpha	rho_A	CR	AVE
KG	KG1	0.775	1.728	0.846	0.847	0.886	0.565
	KG2	0.758	1.690				
	KG3	0.754	1.702				
	KG4	0.751	1.673				
	KG5	0.744	1.642				
	KG6	0.727	1.630				
KS	KS1	0.741	1.499	0.825	0.826	0.877	0.589
	KS2	0.781	1.708				
	KS3	0.761	1.684				
	KS4	0.779	1.682				
	KS5	0.773	1.670				
KWP	KWP1	0.727	1.686	0.879	0.880	0.906	0.681
	KWP2	0.762	1.864				
	KWP3	0.780	1.905				
	KWP4	0.783	1.974				
	KWP5	0.765	1.830				
	KWP6	0.781	1.933				
	KWP7	0.734	1.667				

*KG= Knowledge Governance, KS= Knowledge Sharing, KWP= Knowledge Workers Productivity, VIF= Variance Inflation Factor, CR= Composite Reliability, CR=Composite Reliability, AVE= Average Variance Extracted

In addition, the current study assessed the discriminant validity of the measurement model using Fornell and Larcker's (1981) criteria and through Hetro-trait Mono-trait ratio (HTMT ratio). The measurement model's discriminant validity was examined to identify one latent concept from others (Hair et al., 2014). The square root of the AVE values of each construct, referred to as Fornell-Larcker

values, are higher than inter-construct correlation values to assess discriminant validity, as reported in Table 03. We used the HTMT ratio as an alternate and more reliable approach to measure the discriminant reliability and validity (Henseler et al., 2015). As illustrated in Table 03, the values of HTMT are less than the standard values of 0.85 (Kline, 2015) and 0.90 (Gold et al., 2001). Thus, based on reliability and validity data, all research constructs were verified, as depicted in Tables 02 and 03 (Joseph F. Hair et al., 2019; Jamshed & Majeed, 2019; Tan & Ramayah, 2018; Umar et al., 2021). Figure 2 exhibited the final measurement model.

Table 03: Discriminant Validity- Fornell-Larcker Criterion (FLC) and HTMT Ratio

	KG		KS		KWP	
	FLC	*HTMT*	*FLC*	*HTMT*	*FLC*	*HTMT*
KG	*0.752*					
KS	0.652	*0.778*	*0.767*			
KWP	0.689	0.798	0.824	*0.843*	*0.825*	

Structural Model Assessment and Hypotheses Testing

Smart-PLS used the bootstrap resampling approach to assess the significance of path coefficients (Hair et al., 2014). According to the results shown in Table 04, all four hypotheses were supported. Significance test found that knowledge governance had the most significant influence on knowledge sharing (b = 0.652, p < 0.05) and after that on knowledge workers productivity (b= 0.265, p<0.05). The indirect path coefficient demonstrates that knowledge sharing mediates the association between knowledge governance and knowledge worker productivity (b= 0.424, p< 0.05). Although the direct association between knowledge sharing and knowledge workers' productivity was also statistically significant (b = 0.651, p < 0.05). Overall, the models account for 42.5 percent of the variance in knowledge sharing and 71.9 percent of the variance in knowledge worker productivity. Figure 2 depicts the statistical analysis results of the structural model.

Table 04: Hypothesis Testing through SEM Model Estimates: Direct, Indirect and Total Effects

H	Relationship	Effect	P*	sT	p**	Results
H_1	(KG) → (KS)	Direct	0.652	22.488	0.000	Supported
H_2	(KS)→(KWP)	Direct	0.651	21.290	0.000	Supported
H_3	KG→KS→KWP	Indirect	0.424	16.437	0.000	Supported
H_4	(KG)→(KWP)	Direct	0.265	7.412	0.000	Supported
	(KG)→(KWP)	Total	0.689	24.826	0.000	Supported

Note: *Significant (p**) at **α ‹ 0.05** levels, P*= Path coefficient

Structural Model Fitness

The model's goodness of fit (GoF) is estimated in this study to measure its fitness. According to the criteria for evaluating GoF values are divided into four categories for no fit (≤0.1), small fit (≥0.1-0.25), medium fit (≥0.25-0.36), and a great fit (≥0.36), respectively (Wetzels et al., 2009). As presented in Table 05, the computation of GoF for this research study indicated 59.2 % fitness, hence considered globally fit in line with past research (Hair et al., 2014, 2017; Cepeda-Carrion et al., 2019). Overall model fitness was determined based on Goodness of Fit (GOF) ≥ 0.36, Normed Fit Indices (NFI) ≥ 0.9, Standardized Root Mean Square Residual (SRMR) ≤ 0.08, and d_ULS ≤ 99% threshold (Cepeda-Carrion et al., 2019; Jamshed & Majeed, 2019). Depending on the model, data, and constructs for each model evaluated, the GOF indices may differ from the standardized values (Hair et al., 2011).

Figure 2: Structural Model
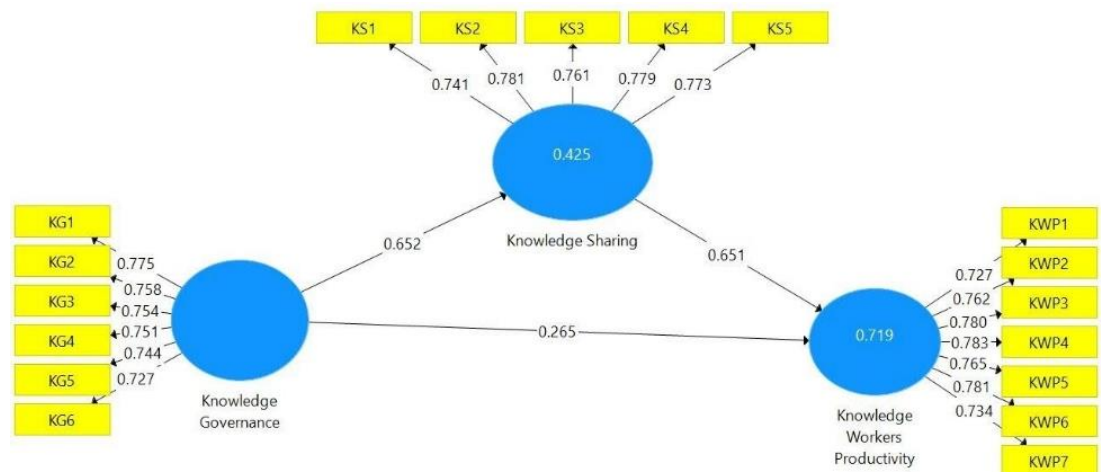
Table 5: PLS-SEM Model Summary

Measure	Estimated Value	P-value
SRMR	0.054	0.000
d_ULS	0.490	0.000
d_G	0.160	0.000
Chi-Square	1445.2	
NFI	0.899	0.000
GOF= $\sqrt{\text{Average RSquare} * \text{Average communality (AVE)}}$	0.592	Above Average

Discussion

The research aimed to study a theoretical framework to investigate empirical relationships through the lens of knowledge governance approach among knowledge governance, knowledge sharing, and knowledge workers' productivity among Pakistani knowledge workers categorized as health service professionals, chartered accountants, higher education professionals, and architects respectively. Consideringly, the study's primary objective was to observe the association between knowledge governance and knowledge sharing. Secondly, it aimed to examine the affiliation between knowledge governance and knowledge workers' productivity. The third objective of the study was to study the relationship between knowledge sharing and knowledge workers' productivity. Lastly, the key objective was to study the mediating role of knowledge sharing in the relationship between knowledge governance and knowledge workers' productivity.

The analysis of data and results transpire that a positive and significant association exists between knowledge governance and knowledge sharing, reflecting the acceptance of the H_1 hypothesis. The findings are consistent with an earlier study (Cao & Xiang, 2012, 2013). The results transpire that effective knowledge governance fosters knowledge-sharing activities within organizations. Therefore, the study achieved its foremost objective. Similarly, the results presented in Table IV reveal a significant positive impact of knowledge governance on the knowledge workers' productivity. Hence, the H_2 for the present research is accepted. This finding is a valuable addition to the existing literature, and it allows knowledge-based organizations and knowledge workers to develop mechanisms for governing knowledge to boost productivity. The findings meet the second objective of the study.

In addition, the results for the relationship between knowledge sharing and knowledge workers' productivity reveal a significant positive connection between knowledge sharing and knowledge workers' productivity. The research findings are consistent with earlier empirical evidence (Kianto et al., 2019). Hence, H_3 for the present research is also accepted, achieving the third objective of the study. These results strengthen the scarcely available empirical evidence on the subject and have widespread implications in knowledge management to boost knowledge sharing and knowledge workers' productivity. The fourth objective of the study was to analyze the mediating role of knowledge sharing in the relationship between knowledge governance and knowledge workers'

productivity, reflected in the H_4 hypothesis. The structural equation model extracted through smart_pls revealed a partial mediation and confirmed the H_4 hypothesis. This finding is a valuable addition to the scarcely available literature and opens widespread areas of empirical investigation for future researchers. These results have valued implications for knowledge management organizations and knowledge workers. Hence, the study achieved its fourth objective.

Accepting the four proposed hypotheses and achieving desired research objectives open new research horizons for future researchers. It confirms the significance of the knowledge governance approach in knowledge-based organizations and invites the attention of managers and strategy experts to think about strengthening knowledge governance mechanisms to boost knowledge processes and foster knowledge workers' productivity. Since productivity relates to innovation and performance of the organizations, therefore, in the knowledge economy perspective, and to boost efficiency and effectiveness of organizational strategies, the implementation of knowledge governance approach is vital for 21st-century organizations. It will help manage the dynamic knowledge workers' performance and enhance organizational profitability, innovation, and performance by improving the efficiency and effectiveness of the knowledge processes and systems.

Research Limitations, Implications, and Conclusion
Limitations and future research directions

The study delimitations include the bounded population of specific sectors and regions. Thus, the study may carry limitations due to the limited sample, reliability, validity, and other factors affecting the hypothesized relationships simultaneously. Moreover, some cultural, religious, geographical factors may also harm the broader generalization of results.

The scarcity of empirical evidence invites the attention of knowledge management scholars to critically examine the relationship between knowledge governance, knowledge management processes, and knowledge workers' productivity and performance in numerous conditions, frameworks, and populations to strengthen the knowledge governance approach.

Research Implications

The current research has manifold implications for theory and practice. Firstly, acceptance of the four proposed hypotheses and achieving desired research objectives confirms the significance of the knowledge governance approach in knowledge-based organizations. Thus, it adds theoretical value and opens new research horizons for future researchers.

Secondly, it invites managers and strategy experts to strengthen knowledge governance mechanisms to boost knowledge processes and foster knowledge workers' productivity to contribute to the knowledge economy. From the knowledge-economy perspective, implementing the knowledge governance approach is vital

for 21st-century organizations to boost the efficiency and effectiveness of organizational strategies as productivity relates to the innovation and performance of the organizations. Therefore, it will help manage the dynamic knowledge workers' performance and enhance organizational profitability, innovation, and performance by improving the efficiency and effectiveness of the knowledge processes and systems as it implies the impact of macro-foundations on micro-foundations.

Conclusion

In a definitive conclusion, the researchers accepted the proposed hypotheses and the study's objectives with the support of the statistical interpretation of data using the partial least square structural equation modeling technique. This work revealed that knowledge governance influences knowledge sharing and boosts knowledge workers' productivity through the lens of the knowledge governance approach. At the same time, knowledge sharing is a mediator between knowledge governance and knowledge workers' productivity. Hence, the current research findings are valuable to the literature and carry widespread implications for knowledge-based organizations, knowledge workers, and knowledge strategy experts.

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