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An Empirical Study Using the PLS-SEM Approach on the Knowledge Sharing Factors in Higher Educational Institutions among Library Professionals

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Abstract

The purpose of this research study is to identify the factors of knowledge sharing among library professionals of higher educational institutions of Pakistan. There are very few studies on the knowledge exchange between library professionals in Pakistan's higher education institutions. In this study model which has all the elements used to examine the knowledge sharing, in the study researcher investigate the impact of technological, organizational and individual variables on library professionals' knowledge sharing behavior. The study adopted a descriptive survey design as research design and quantitative as type of research type. Questionnaire was adapted and used to collect data from 240 librarians through Google form survey in the higher educational institutions. The population of study is higher educational institutions of Pakistan. Convenience sampling techniques was used for data collection. The data were analyzed through the measurement model and structural equation model (PLS-SEM). The results of the study technological and organizational factors are significant for knowledge sharing in higher educational intuitions.

Keywords: Knowledge sharing factors, Higher Educational Institutions, PLS-SEM, Library Professionals.

1. Introduction

Knowledge sharing among librarians in higher education institution libraries is a critical factor in promoting the effective dissemination of information and enhancing the quality of academic services. Various factors can influence knowledge sharing within this context, and understanding these factors is essential for optimizing the performance of library staff and ensuring the provision of quality services to students and researchers. Here are some of the key factors which can impact on knowledge sharing among librarians in higher education institution libraries. The perception of information based on comprehension is known as knowledge (Ahmad et al., 2021). It normally focuses on understanding, considering, and providing a suitable response to a topic. Knowledge is contained in both documents and people's thinking, as well as in their attitudes and behaviour. Knowledge cannot be detected in the human mind. Despite this, information can be preserved. In the literature, explicit knowledge and implicit knowledge have been defined. Implicit knowledge is knowledge that has been learned subconsciously and is transferrable through observation and application. It is based on behavioral patterns that have been acquired through training and job experience (Jain et al., 2007). There is no perfect agreement among scholars on what the concept of knowledge sharing means because of the strong presence of many diverse viewpoints, such as the information collaboration, knowledge market, education, and communication perspectives.

The idea of knowledge has evolved in the modern era to be applied to improving information. As a result, knowledge evaluation methodology has improved. Knowledge is one of the strategic sources, thus organizations that want to execute and reach a high level of performance while remaining competitive must give their strategic resources greater attention. Information is the key of competencies for organizational effectiveness (Al-Delawi, 2019; Raewf and Thabit, 2015). According to Zahari (2014), information is an important resource that can be leveraged to obtain a competitive advantage. It is required for semi-permanent organizations in both the public and commercial sectors. Knowing information means that it may be applied to make things much simpler and produce accurate results. Additionally, observations, understandings, and valued skills are crucial tools that enable people to determine intelligence (Omotayo, 2015). In addition, the focus of the financial world has switched from labor to supplementary data (Ngah and Patriarch, 2010).

Knowledge cannot be appropriately shared inside the organization, it is difficult to govern the actions that are related to knowledge when information is dispersed and embedded in people, facilities, or procedures. Without a robust knowledge-sharing program, it will be less probable for an organization to inherit the skills that its members have acquired and shared. The staff members who need to know about the information must be informed of its existence before the information is of any use (Raewf and Mahmood, 2021; Thabit and Jasim, 2017). The purpose of the study is identifying the impact of individual factors, organizational factors, and technological factors among library professionals of higher educational institutions of Pakistan.

2. Literature Review

A review of the literature indicated that the principle of information sharing is not well understood. Knowledge sharing has been characterized in several ways by academic researchers in the field. Academics or researchers approach information sharing from a variety of perspectives, including knowledge sharing, education, the knowledge market, and networking, according to Zahari et al. (2014). Knowledge sharing, according to Lin, is also a social networking culture that involves exchanging ideas, experiences, and skills across departments and organizations as a whole. Knowledge sharing occurs when workers are willing to work well together, exchange information, and actively include peers in learning from it, claims Lin. Methods for sharing knowledge are also provided, both at the individual and organizational levels: At the organizational level, the sharing of knowledge collects, organizes, re-uses, and shares experience-based expertise that is already present within the enterprise and makes the knowledge accessible to others in the company (Lin, 2007).

It is described as sharing or sending private information within an organization. Furthermore, new knowledge will be developed through interaction and the dissemination of existing information (Krok, 2013; Al-Delawi and Ramo, 2020). In this context, Grunfelder and Hartner (2013) noted that conveying information between entities and transferring information through written documents are two separate ways of moving knowledge across organizations.

Companies that want to foster a culture of knowledge sharing must provide their employees with the tools necessary to do their tasks more effectively as a team, collaborate more effectively, and share organizational information more effectively (Jain et al., 2007; Al-Delawi, 2015). Better knowledge sharing among individuals has developed into a strategic necessity for organizations, according to Gaal et al. (2015). Implementing information exchange among staff

will therefore assist the firm in achieving its goals. Only a small number of prior studies have addressed information sharing from the standpoint of interpersonal interaction inside an organization, and more work has to be done to concentrate on this (Cheng et al., 2009).

According to Cheng et al. (2009), knowledge management systems were initially used in profit-driven businesses; as a result, the majority of research on knowledge management and information sharing is focused on corporate organizations.

Knowledge sharing has been a popular subject at academic institutions as a result of the recent application of knowledge management methodologies to educational institutions and other information-based companies. Academics not only conduct research but also instruct, counsel, and teach (Jolaee et al., 2014). To improve the quality and quantity of their own knowledge, develop new knowledge, and improve the university's overall success, librarian must share their expertise. In an academic atmosphere, especially in universities where all employees frequently connect with knowledge, sharing knowledge is essential (Trehan and Kushwaha, 2012).

According to some academics, educational institutions have a lower motivation or capacity for information sharing than profit-driven organizations do in order to accomplish common objectives (Kong, 1999). Cheng (2009) acknowledged that the sharing of documented information rather than intelligence is more typical in academic settings. Knowledge exchange between academics is assumed to be limited to specific subjects or concentrated among those with related expertise within academia (Harjan et al., 2016). University biologists, for instance, will exchange their knowledge with their peers in the same department and with researchers from other natural science departments, including chemistry, physics, or the medical faculty.

In the previous literature, several social and behavioural theories are used to describe the factors that affect knowledge sharing in various organizational contexts. The latest version of the Behaviour Theory of Planned Behaviour (TPB) and Fishbein and Ajzen's Theory of Reasoned Action (TRA) are two behavioural models that have been used to study the interchange of intelligence (Jolaee et al., 2014; Krok, 2013; Jameel and Ahmad, 2020). The majority of human behaviour, according to TRA, can be characterized by specific beliefs and behaviour (Lin, 2007).

According to the TRA theory (Jolaee et al., 2014), people have moral principles, and their action is influenced by three factors: behavioural attitudes, societal expectations, and behavioural

intents. The concept of purposeful actions holds that behaviour is preceded by a conscious intention to take some action, which is influenced by a person's inclination for that activity, cultural norms, and the desired behavioural outcome (Mahmood and Raewf, 2019). However, TRA and TPB are both used to predict and describe human behaviour as opposed to chance events brought on by an unknowable variable (Krok, 2013). Furthermore, according to Bousari and Hassanzadeh (2012), the theory of expected behaviour could be used to investigate the factors impacting information sharing behaviour. However, in order to evaluate the criteria for successful behaviour, further aspects and variables should be provided and taken into account in addition to the theoretical factors. A lack of facilities and sufficient operational, cultural, and financial resources may also prevent people from sharing their expertise, which they might otherwise want to do (Bousari and Hassanzadeh, 2012).

The study of information sharing behaviour and motivation in organizations has greatly benefited from the application of these theories. However, it would be insufficient to use all ideas to explain the value of information sharing. It is challenging to pinpoint a paradigm that addresses this problem from operational, business, sociological, psychological, and technical views due to the multiplicity of components at play (Krok, 2013). To fit the hypothesis using the same theory, various investigations prefer to use different variables (Liang et al., 2008).

Individual factors: They are characteristics that have internal motivations. After all, it starts with the person themselves (Cheng et al., 2009). Individual traits include things like intelligence, self-efficacy, confidence, interpersonal relationships, personal preferences, and the need to communicate.

These are aspects of an organization that are external to the employee. They are external causes that may be caused by the environment or by someone else in order to promote the knowledge-exchange mindset (Cheng et al., 2009). According to Massoudi and Hamdi (2017), organizational concerns can be divided into organizational philosophy, incentive programs, management support, policies, and strategies.

Technological influences: These are crucial for information sharing because it needs to be sent via various channels and networks. Two technological issues are the availability of IT resources and the use of social media (Massoudi and Hamdi, 2019; Bousari and Hassanzadeh, 2012). H3: Technology has a huge impact on knowledge exchange. A computational model that is recommended for library professional at higher educational institutions of Pakistan is shown in

Fig. 1. It is based on variables that have been identified, retrieved from the literature, and updated to reflect the study.

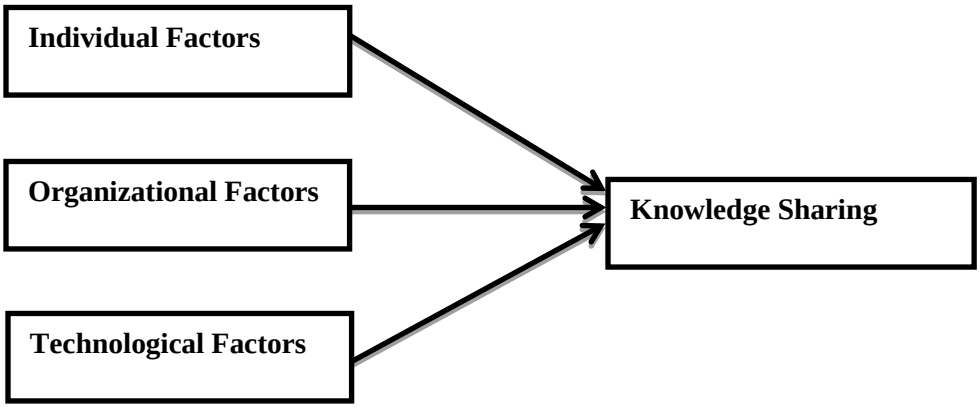

Figure 1: Research Framework

3. Research Hypothesis

- Individual Factors has a significant impact on knowledge sharing among library professionals.
- Organizational Factors has a significant impact on knowledge sharing among library professionals.
- Technological Factors has a significant impact on knowledge sharing among library professionals.

4. Research Methodology

The study adopted a descriptive survey design as research design and quantitative as type of research type. Questionnaire was adapted which has two parts, in first part demographic information of respondents, second part questions related with variables. Google form was used to collect data from 240 librarians through Email in the higher educational institutions of Pakistan. Library professional were the study's target population all over the Pakistan. Convenience sampling techniques was used to select the respondent from higher educational institutions of Pakistan. Surveys were conducted through Google form from library professional's higher educational institutions of Pakistan. The PLS-SEM was used for data analysis.

5. Results and Discussion

5.1 Table 1: Demographic Information

Characteristics	Values	Frequency	Percentage
Gender	Male	150	62.50
	Female	90	37.50
	Total	**240**	100.00
Designation	Library Assistant	95	39.58
	Assistant Librarian	50	20.83
	Deputy Librarian	45	18.75
	Additional Librarian	10	4.17
	Senior Librarian	25	10.42
	Chief Librarian	10	4.17
	Any Other	5	2.08
	Total	**240**	100.00
Qualification	Diploma PGD	35	14.58
	Bachelor/Master (16 years)	187	77.92
	MS/M.Phil.	13	5.42
	Ph.Ds.	5	2.08
	Total	**240**	100.00
Type of HEIs	Public	131	54.58
	Private	109	45.42
	Total	240	100.00

The male respondents were 62.50 and female 37.50 participated, maximum library assistant were 39.58, assistant librarian 20.83, deputy librarian 18.75, additional librarian 18.75, senior librarian 10.42, chief librarian 4.17, and lastly any other 2.08 respondents were participated in this study. In the qualification variable maximum participated have graduate 16 years 77.92, MS/M.Phil. 5.42 Ph.D. 2.08 respondents. Lastly type of higher educational institutions maximum participation form public sector which was 54.58 and 45.42 from private sector respondents participated in this research study.

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5.2 Measurement Model

The measurement model defines the relationships between the latent constructs and their observed indicators. It specifies how the latent variable(s) and observed variables are related. In structural equation modeling (SEM) and confirmatory factor analysis (CFA), which are common statistical techniques used for measurement modeling, the model is often represented using path diagrams and equations. The measurement model describes how the observed variables "load" onto the latent constructs (Hair et al., 2017).

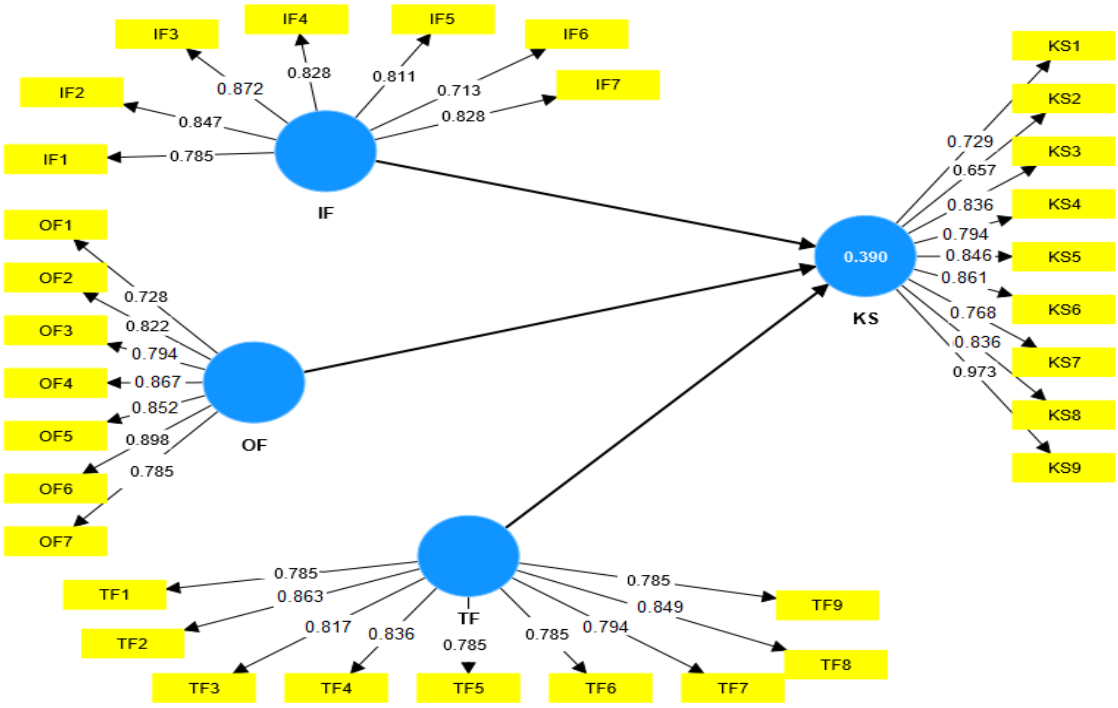

Figure 2: Factor Outer loading

5.3 Table 2: Normality test (Kurtosis and Skewness)

Variables	Number	Skewness (statistic)	Skewness (SD)	Kurtosis (statistic	Kurtosis (SD)
Individual factors	240	0.473	0.273	0.532	0.541
Organizational factors	240	-0.348	0.273	0.407	0.541
Technological factors	240	-1.324	0.273	0.834	0.541
Knowledge Sharing	240	0.657	0.273	1.648	0.541

According to the test results in Table 2, the skewness statistics of all variables ranged from -2 to 2, the kurtosis statistics ranged from -3 to 3, and the standard deviation ranged from -2 to 2.) As a result, the research data were discovered to be regularly distributed.

5.4 Table 3: Convergent Validity and reliability tests

Variables	Items	Cronbach's alpha	AVE	CR	CVR	CVC
Individual factor	7	0.899	0.621	0.904	0.482	0.482
Organizational factors	7	0.886	0.523	0.889	0.291	0.291
Technological factors	9	0.878	0.580	0.889	0.507	0.507
Knowledge Sharing	9	0.825	0.258	0.839	0.385	0.385

The extracted average variance (AVE) should always be greater than 0.4, the composite reliability (CR) value should always be greater than AVE, and Cronbach's alpha should be greater than 0.7 for all variables. The dependability of the research variables is thus proven by this analysis. The model's quality and dependability are acceptable because quality indices should always be positive. Table 3 shows the reliability and validity of the variables and other relevant indices.

5.5 Structural Model

The latent variables' relationships with one another are explained by the structural model. The coefficient of determination (R2) and hypothesis testing are two crucial techniques that are suggested to be looked at in order to assess the structural model. Table 4 and Fig. 3 present the results and data analysis demonstrated that, while hypothesis H1, H2 and H3 were confirmed by empirical evidence.

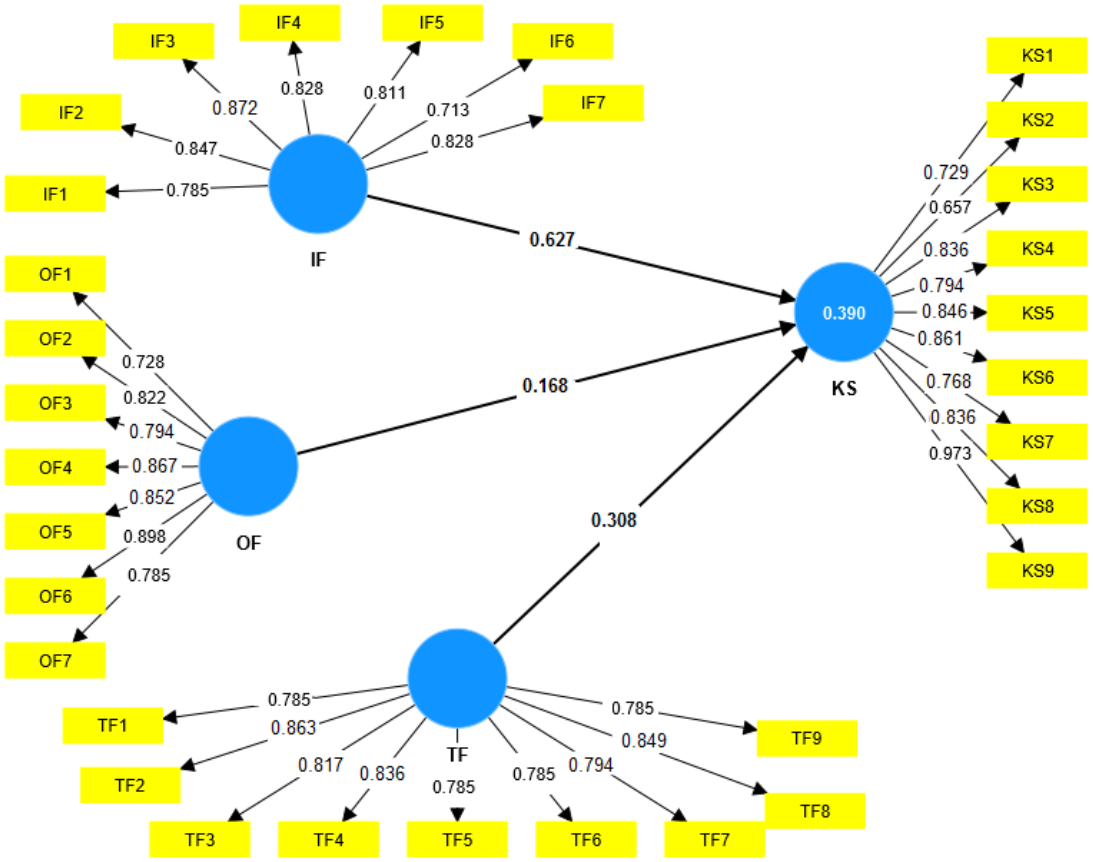

Figure 3: Path Coefficient

5.6 Table 4: Hypotheses Testing

Hypothesis	Relationship	Path Coefficient	t-statistics	Result
H1	IF→ KS	0.627	8.131	Confirmed
H2	OF→ KS	0.168	2.751	Confirmed
H3	TF→ KS	0.308	2.834	Confirmed

The bootstrapping approach, which is regarded as a reliable tool for evaluating mediation effects, was utilized in this work to confirm the mediation influence using 5000 bootstraps (K. Singh, 2010). The findings supported hypotheses H1, H2 and H3 positively on knowledge sharing among library professionals of higher educational institutions.

5.7 Table 5: R-square Coefficient of research

Variable	R-square	R-square adjusted
Knowledge Sharing	0.390	0.360

A common method for evaluating the structural model's predictive power is to look at its R2 value. By explaining 0.384 of the variation in the motivation to share knowledge, Table 5 demonstrates the model's predictive power.

6. Conclusion and Future Work

The goal of the study was to investigate the variables that can affect knowledge sharing among the library professionals of Pakistan. The study provided empirical information about Pakistani higher education institutions' librarians' knowledge-sharing practices. The PLS-SEM technique was used to validate the suggested model. The research results showed that organizational and technical factors significantly influence the sharing of information. These results brought to light the importance of technological and organizational aspects in creating a knowledge sharing environment in educational institutions. In order to improve staff performance, decision-makers must focus on the key factors affecting knowledge exchange in educational institutions. The data were restricted to being acquired only from Pakistani librarians at higher education institutions. As a result, it's possible that the conclusions can't be used to compare higher education institutions that are public and private. More research at more public universities is required to evaluate the similarities and differences between public and private higher education institutions in terms of the suggested model.

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