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Evaluating The Effectiveness Of Information Systems In Media Organization: A Study Of Pakistan News TV

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Abstract

Information technology (IT) based information management systems in different organizations have gained a lot of attention from researchers around the globe. The effectiveness of information systems is a challenge in emerging media organizations. The present study extends Delone and Mclean's theoretical framework to check the effectiveness of information systems in media organizations in Pakistan. The employees of the top 15 news channels using the survey method have been selected to collect the sample data for the study. Stratified sampling technique is used to collect the data of 400 news channel employees who are using information systems for news processing. SEM (structural equation modelling) technique is used to analyse the collected data. It is evident from the results of the study that system, service, and information quality are significant contributors to use and user satisfaction. User satisfaction is supported with the use of the system. Use and user satisfaction positively contribute to an individual as well as organizational performance. A positive relationship is also found significant between individual performance and organizational performance. The study provides ground to the researchers who want to further explore information systems in media organizations. The media industry may also be get benefitted from the findings in decision-making about information systems.

Keyword: *Service Quality, Information Quality, System Quality, User Satisfaction, Organizational Performance*

Introduction

The introduction of new technologies and information systems has greatly influenced news gathering and processing over the

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years (Stein, 2019). The advent of information technology has influenced the entire news system i.e. from gathering, processing to the dissemination of the news. Journalistic practices and roles in media organizations are also affected by technological developments (Gomez-Mensah, 2016).

The use of news management systems has significantly influenced the development of organizations. The software used in organizations has suggestively reduced complexity and improved organizational performance (Oliveira & Fraga, 2011). Organizations all across the globe are replacing their traditional management with new Information technology or software-based practices. This software-based management commonly known as an information system (IS) is helping organizations to manage their resources optimally (Ifinedo, 2006).

Different organizations have developed information and management systems (e.g. ERP systems, e-government systems, knowledge management systems, e-portals for external and internal publics of organizations) to attain specified objectives. Some of the systems are need-based while others are general with a capacity to modify/customize according to the requirement of the organizations (Lodhi, 2016).

Similarly, media organizations are also incorporating information systems and newsrooms are now digitized and work practices have also been revised. These revised practices are not only facilitating the speedy processing of news and helping media professionals to do their job on time but also bring some challenges as well (Todorovic, 2014).

Implementation of information technology-based systems brings the debate on the effectiveness of the information system as well. Different theoretical perspectives and models were and are being developed by researchers to help organizations to know the usefulness of information systems. Some of the commonly known models are the TAM (Technology Acceptance Model), Delone and Mclean model, updated D&M model, and others (Petter & McLean, 2009).

The current study aims to test the Delone and Mclean model in the media organization. The model is being tested in news TV channels operating in Pakistan. Before explaining the rationale of D&M model testing in TV channels first the basic terms need to be defined in the context of news TV channels. Information system in media organization is considered CMS (Content management system) that help different media professionals to do their job (Weiss & Schwingel, 2008). Information systems are found helpful, easy to use, and have customization featured when used in print media and advertising (Rodgers, 2015). Different studies explain Information systems in media organizations by highlighting different functionalities it performs for an organization. Lawson-Borders (2003) studies new media and information systems as an opportunity to transform traditional media and align the practices with modern-day technologies.

The advancement of new technologies is changing the journalistic practices, not only the practices but also influencing the way they develop stories and do other work (Hawk, 2017). Holmberg (2002) designated Information systems for media

organizations as one of the very important tools to help journalists' inefficient news making, good support for smooth information flow to meet the deadline within time. It also helps news professionals to avoid working on the same news in parallel and make access to information very easy without any time and space constraints across the different offices of the same organization.

The dispersion and application of information systems for media organizations invited researchers to look into the usefulness and challenges of the systems. While Seddon (1997) discusses that organizations seem less interested in finding the effectiveness of the information technology-based systems due to various reasons. The reasons may differ from organization to organization but mammoth literature suggests that among all theoretical perspectives and models developed by researchers Delon and Mclean find attentions of industry and researchers to find the effectiveness of information systems in different organizations (Al-Kofahi, Hassan, Mohamad, Intan, & Com, 2020).

There are very few studies available that discuss the effectiveness of information systems in media organizations, some of those are discussed above, among those studies effectiveness of information systems in TV news channels is very hard to find.

Literature Review

Information systems in different organizations are one of the favourite areas of research for academia as well as industry. New technologies are helping newsrooms in developing news whether

it's handwritten, notes, audio-video content. New technologies are helping in fast processing as well Pavlik (2001). The introduction and placement of technologies have helped media organizations to be cost-effective and bring multiple tasks under one information system (Stein, 2019).

Literature on information system success may be divided into two broader categories: a) Pre-implementation and b) post-implementation. The diffusion of innovation (DOI) process has been employed as one of the frequent theoretical grounds to study pre-implementation phases in various organizations (Wainwright & Waring, 2007). Several studies are available that discuss opportunities and challenges in the pre-implementation stage. Mustonen-Ollila and Lyytinen, (2003) studied factors affecting more than 200 Information system adoption decisions for 40 years in three different organizational settings. The results of the study suggest that different factors mentioned in DOI affect Information system procedure innovation adoption.

Among all of the available literature discussing information systems, Delone and McLean theory of IS success is the most frequently used theory to measure the success of Information systems in different organizations like ERP systems, knowledge management systems, health & governance, and E-commerce (Petter, DeLone & McLean, 2008). The famous D&M model was first developed by William H. DeLone and Ephraim R. McLean in 1992. The six main variables are divided into three main phases, in the first phase system quality and information quality show their effect on user satisfaction, system use. The second phase shows combined or interactive outcome on the user

and user satisfaction and their impact on individual performance the third phase indicate organizational impact based on individual impact. The relationship is explained through the diagram below.

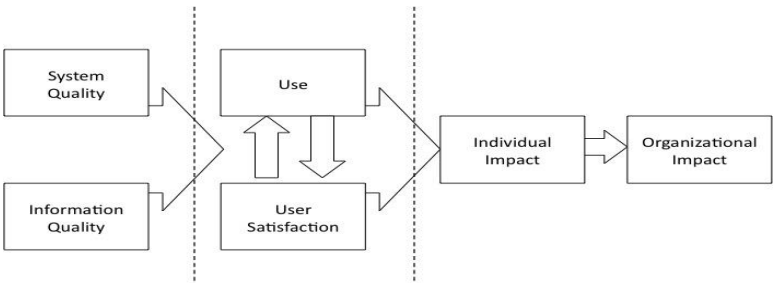

Figure 1: *Delone & Mclean Information System Success Model. Adapted From (Delone & Mclean, 1992)*

Delone and McLean in their model developed in 1992 proposed six main variables to gauge the success of information systems. Two of the variables belong to a quality dimension which included system and information quality. The interactive effect was observed through the use of the system and user satisfaction. The impact of both variables was also seen on individual impact as well. While the organizational impact was also seen regarding individual impact (DeLone & McLean, 1992). Among many theoretical guidelines to study information systems like TAM (Technology Acceptance Model), TOE (Technology Organizational, environmental), TPB (Theory of Planned Behaviour), UTAUT (Unified Theory for Acceptance and Use of Technology), and many others, Delone and McLean model found a lot of attention by researchers. That is why this theory is studied in e-commerce, library systems, hospital management systems, and many other organizational backgrounds (Petter et al., 2008).

The original model by Delone and McLean was not only appreciated by the IS research fraternity but it received immense criticism as well. The critique of the model includes: with service quality, System and information quality alone might not be able to explain the success of IS system while others studied suggested that "system usefulness" is comprehensive and right variable instead of "use" and user satisfaction. The individual and organizational impact were also criticized and other alternatives were suggested in various studies (Ifinedo, 2006; Pitt, Seddon, 1997; Watson & Kavan, 1995). Based on criticism and suggestions made in several studies Delone and Mclean model is revised in 2003.

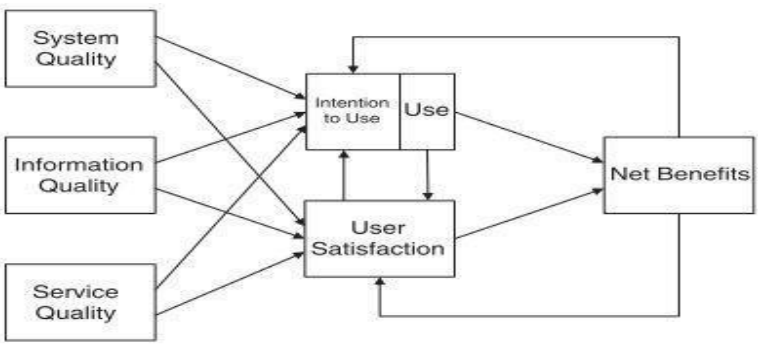

Figure 2. *The DeLone and McLean Model of Information Systems Success: A Ten-Year Update (Delone & McLean, 2003)*

The initial Delone and Mclean IS success theory was validated in more than three hundred studies from 1992 to 2003. (Ifinedo, 2006; Pitt, Seddon, 1997). Based on criticism of the original model "service quality" was added along with system and information quality. Net benefit was another change replacing individual and organizational impact, suggested by the literature (Delone & McLean, 2003). D&M is not only studied in

different organizations but it has been compared with different IS success frameworks as well. Technology Acceptance Model (TAM), Delone and McLean original (1992), Delone and McLean updated (2003), and Gabel and fellows' frameworks were compared, D&M model was found to have great scope for measuring information system success, while other frameworks were found suitable in a particular scenario (Manchanda and Mukherjee, 2015). The D & M was tested in the health sector (Ojo, 2017), in the knowledge management system (Wu & Wang, 2006), in private organizations (Almutairi & Subramanian, 2005) in E-governance (Jafari, Ali, Sambasivan, & Said, 2011), in web portals (Al-Debei, Jalal, & Al-Lozi, 2013) and many other organizations. Information systems are in use for media outlets i.e. print and electronic media (Rodger, 2015, zangana, 2017, Brautović, 2009) but the D&M model has not been tested in the context of information system success in a media organization, especially for media outlets in Pakistan.

Extended Theoretical Framework

This study tested the updated Delone and McLean (2003) model in the context of Pakistan news channels. Based on studies done on D&M following hypotheses are proposed for the present study.

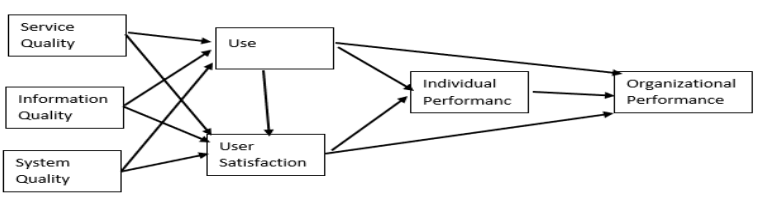

Figure 3. *Extended Conceptual Model of Information Systems in News Channels*

There are many studies discussed in the literature that suggest a positive relationship between service quality and the use of the system and user satisfaction. A recent study explains that service quality has a positive influence on use and user satisfaction in e-commerce success (Angelina et al., 2019). Similarly, service quality is also studied in use and user satisfaction for e-commerce in covid-19, which also suggests that service quality has a positive impact on the use and user satisfaction (Dirgantar et al., 2020). Based on the literature following hypotheses are proposed

H 1: Service quality positively influences the use of the system.

H 2: Service quality positively influences user satisfaction.

Information quality is one of the key aspects, especially in media organizations. Many studies in various disciplines discuss in the literature above, suggest information quality is positively influenced by use and user satisfaction. Recently the same has also been suggested in the context of modeling digital library success as well (Alzahrani et al., 2019). So the proposed hypotheses are as:

H 3: Information quality positively influences the use of the system.

H 4: Information quality positively influences user satisfaction.

Almutairi, & Subramanian (2005) found in a study of Kuwaiti private sector companies, that system quality influence in a positive manner for use of the system as well as for user satisfaction. A recent study also suggests the same in the context of the e-commerce organization scenario (Angelina et al., 2019). So, the hypothesis based on the study suggests are following

H 5: System quality positively influences the use of the system.

H 6: System quality positively influences user satisfaction.

As news is the main commodity in media organizations and journalists are bound to use information systems for news processing, so it is seen that the greater use of the system positively affects user satisfaction. Tam and Oliveira (2016) also found that the use of the system for mobile banking positively influences user satisfaction. So, the hypothesis is as

H 7: Use of the system positively influence user satisfaction.

Many studies found, when information systems were used for news processing, it improved the performance of the journalists. This improved performance ultimately leads to the betterment of organizational performance (Gomez-Mensah, 2016). Similar results were found by Roky and Al Meriouh (2015) in a study of industrial information systems, where the use of the system has a positive impact on individual and organizational performance.

H 8: Use of the system positively influence organizational performance

H 9: Use of the system positively influence individual performance

Improved performance of journalists enhances user satisfaction. A satisfied user of the system leads to a better individual as well as organizational performance. (Spyridou et al., 2013). The same has been found by Tam and Oliveira (2017) in information systems form-banking where user satisfaction positively influences individual and organizational performance. So, the hypotheses are stated as:

H 10: User satisfaction positively influence individual performance

H 11: User satisfaction positively influence organizational performance

computer systems for newsrooms commonly known as information systems improved the overall productivity of individuals working in media organizations. Better individual performance has positively contributed to organizational performance (Brautović, 2009). A study about technology for Ghana TV also discusses that better individual performance led to improved organizational performance. So, the hypothesis is as: H12: Individual performance positively influences organizational performance.

Methodology

The current study employed a quantitative approach. The survey method is used to collect data from the journalist who are using software for news processing. The sample for the current study is the top 15 news channels that are using content management systems for news processing and production. The top 15 news channels are categorized based on Television Ratings of Programs commonly known as TRP. The data was collected using a stratified sampling technique from a defined population. A sample of 400 journalists who are using news software that includes news reporters, bureau staff, assignment editors, copy editors, producers, and other persons who are involved in news processing has been selected for the study. The details of the sample taken are explained in the table below

Table 1: *Selection of sample through Stratified Sampling Technique*

Channel	Islamabad	Karachi	Lahore	Total	%	% Strata
PTV News	1000	40	30	1070	0.14	56
GEO	30	800	25	855	0.11	44
ARY	32	900	20	952	0.13	52
Dunya	28	15	100	143	0.02	8
Samaa	30	800	18	848	0.11	44
92 News	25	28	80	133	0.02	8
Express	28	25	90	143	0.02	8
Aaj news	25	700	15	740	0.1	40
Dawn News	23	500	20	543	0.07	28
Bol News	22	425	18	465	0.06	24
News one	20	400	15	435	0.06	24
GNN	32	28	150	210	0.03	12
Hum News	480	25	22	527	0.07	28
24 News	22	25	250	297	0.04	16
NEO News	13	17	115	145	0.02	8
Total				7506	Sample= 400	

Initial analysis was done using SPSS. The collected data showed that most of the the respondents were males (80%) while female journalists were only 200 (20%). Males respondents were

between 20 to 70-year age group while females were between 20 to 50 years age range. The salary ranges of male participants of the study were between 30,000 Pakistan rupees to 150,000 Pakistan rupees while female workers were getting salaries between 20,000 to 100,000 Pakistan rupees. Most of the respondents, about 50% have the minimum qualification of master degree in media and communication, 35% hold Bachelor or BS degree while 5% respondents have MPhil degree while 10% respondents were qualifying matric i.e., 10th standards to intermediate 12th standard. The majority of the respondents about 80% belong to cities while the other 20% belong to rural areas.

Measures

Established scales are used to measure the main variable of the study. The reliability and validity of the scales are evaluated after making small adjustments according to the requirements of TV news channels. The scale of Gable et al. (2008) is adapted to measure system quality. Pitt et al. (1995), Delone and Mclean (2003) scale is adapted to find service quality. Pitt et al. (1995) scale is adopted to measure information quality. Lin (2007) and Wang et al. (2007) scale was adapted to measure User Satisfaction. Measuring the "use" of information systems a scale by Urbach et al. (2010) and Iivari (2005) was adopted. Measuring "individual performance" a space by Urbach et al. (2010) was adopted. Organizational performance scale is adopted from Harr et al. (2019)

Data Collection Procedure

Ethical consideration was followed during data collection. SOPs were followed for collecting data from news channels. Permission from the administration of each news channel was taken. Formal consent was taken before data collection from each respondent. Each participant was also informed of the purpose of the research. The respondents were also informed that their information, collected through data collection would only be used for research and would not be shared with anyone. The identity of each respondent would not be disclosed at any stage of research. The employees who showed some concerns and were not willing to participate in the study were excluded.

Data Analysis

SPSS 25 version was used for data entry and initial data screening. Smart PLS version 3.2.9 was employed to test the hypothesis of the study.

Results

The collected data were analyzed using partial least square 3.3.2 (Chin, 1998). The analysis was performed in two stages. In stage one, the measurement model was tested and in stage two structural model was tested. In the measurement part, reliability, discriminant, convergent validity of scales, and loading of items were examined. In the structural part, the relationship between variables and hypotheses was analyzed.

Measurement Model

In the current study, the measurement model Cronbach alpha, composite reliability, and average variance extracted (AVE) values are above the threshold value (Fornell & Larcker, 1981). The minimum acceptable value for Cronbach alpha and

composite reliability is 0.70 (Bland & Altman, 1997; Tavakol & Dennick, 2011). On the other hand, the minimum acceptable value for AVE is 0.50. The average variance extracted value of the model is also above the acceptable range. There is no multicollinearity issue between independent variables. The results of reliability and average variance extracted are shown in table 1.

All the items determining the level of information quality, service quality, and system quality have factor loading higher than .70. According to Nunnally (1994) factor loading higher than .50 shows the convergent validity of constructs. Moreover, Thomson et al. (1995) argue that factor loading value equal to or higher than .70 shows good convergent validity of the construct. Other, constructs such as use, user satisfaction, individual performance, and organizational performance have convergent validity values above the threshold value.

Table 1: *Results of Factor Loading, Cronbach Alpha, CR, and AVE*

Construct category	Research construct	Factor Loading	Cronbach's value	Composite Reliability	AVE Value
	Serq1	0.744			
	Serq2	0.796			
Service Quality	Serq3	0.857	0.7891	0.877	0.591
	Serq4	0.827			
	Serq5	0.591			
	IQ1	0.546			
	IQ2	0.738			
Information Quality	IQ3	0.724	0.813	0.900	0.569
	IQ4	0.67			
	IQ5	0.806			
	IQ6	0.775			
	IQ7	0.957			
	SQ1	0.865			
	SQ2	0.757			
	SQ3	0.702			
	SQ4	0.684			
System Quality	SQ5	0.530	0.845	0.933	0.561
	SQ6	0.744			
	SQ7	0.578			
	SQ8	0.584			
	SQ9	0.815			
	SQ10	0.673			
	SQ11	0.970			
	US1	0.915			
	US2	0.912			
	US3	0.909	0.958	0.856	0.968
User Satisfaction	US4	0.936			
	US5	0.954			
	Use1	0.923			
	Use2	0.898			
Use	Use3	0.915	0.923	0.950	0.793

	Use4	0.901			
	Use5	0.811			
	IP1	0.725			
	IP2	0.751			
	IP3	0.681	0.931	0.886	0.528
Individual Performance	IP4	0.704			
	IP5	0.783			
	IP6	0.726			
	IP7	0.712			
	OP1	0.666			
	OP2	0.723			
Organizational Performance	OP3	0.796			
	OP4	0.801	0.879	0.899	0.529
	OP5	0.810			
	OP6	0.707			
	OP7	0.636			
	OP8	0.657			

On the other hand, we use the Fornell-Larcker criteria to measure discriminant validity. To ensure the discriminant validity we checked the HTMT (heterotrait-monotrait ratio) value. The threshold value for HTMT is lower than 0.85 (Ngah et al., 2019). Table 2 shows the HTMT values and all these values are lower than 0.85. Therefore, there is no issue of discriminant validity in the data.

Table 2: *Inter construct correlation Matrix*

Factors	1	2	3	4	5	6	7
Service Quality	.73*						
Information Quality	0.23	.71*					
System Quality	0.35	0.42	.74*				
User Satisfaction	0.28	0.42	0.49	.70*			
Use	0.29	0.16	0.39	0.39	.76*		
Individual Performance	0.64	0.12	0.13	0.1	0.19	.77*	
Organizational Performance	0.31	0.06	0.24	0.28	0.6	0.16	.73*

*Note: *Discriminant Validity*

Structural Model

The structural model was used to test the hypotheses of the study. The result of the analysis of the model is shown in figure 1. We used bootstrapping with 5000 samples to test the significance of the path coefficient. The bootstrapping of 5000 samples is suggested by Hair et al. (2011). We used the path coefficient (β), coefficient of determination (R2), and effect size (f2) measures to assess the structural model.

In the first step, path coefficients were checked based on their signs and magnitude. Moreover, these path coefficients were checked on the significance level of .050 level. The three-quality constructs (system, service, and information) path toward use construct was analyzed. We found that system quality is positively related to use (System Quality Use, β =.117, $p<.01$). We have also found that service quality is positively related to use (Service Quality Use, β =.473, $p<.01$). Moreover, information quality is also positively related to use (Information Quality Use, β =.110, $p<.05$). Thus, H1a, H1b, and H1c are accepted.

After that three quality constructs (system, service, and information) path toward user satisfaction construct was analyzed. We found that system quality is positively related to User Satisfaction (System Quality□User Satisfaction, β =.199, p<.01). We have also found that service quality is positively related to User Satisfaction (Service Quality□ User Satisfaction, β =.110, p<.01). Moreover, information quality is positively related to User Satisfaction (Information Quality□ User Satisfaction, β =.336, p<.01). Thus, H2a, H2b, and H2c are accepted.

Moreover, the use and user satisfaction construct path toward individual performance was analyzed. The result shows that use is positively related to user satisfaction (Use□User Satisfaction, β =.383, p<.05). The result shows that use is positively related to individual performance (Use□Individual Performance, β =.137, p<.05). Use is also positively related to organizational performance (Use □Organization Performance, β =.299, p<.01). Thus, H3a, H3b, and H3b are supported. On the other hand, the result shows that user satisfaction is positively related to individual performance (User satisfaction□Individual Performance, β =.002, p<.05). User satisfaction is also positively related to organization performance (Use Satisfaction□Organization Performance, β =.430, p<.01). Thus, H3d and H3e are supported.

In addition to this, the path between individual performance construct and organizational performance was examined. The result shows that individual performance has positively predicted organizational performance (Individual

Performance Organizational Performance, β =.021, p<.05). Thus, H4 is also supported.

Table 3: *Result of Hypothesis Testing*

Hypothesis	β	f^2	Support	Effect size
H1a: System quality → use	.117**	.013	Yes	Small
H1b: Service quality → use	.473**	.314	Yes	Large
H1c: Information quality → use	.110*	.002	Yes	Small
H2a: System quality → user satisfaction	.199**	.019	Yes	Small
H2b: Service quality → user satisfaction	.110**	.024	Yes	Small
H2c: Information quality → user satisfaction	.336**	.170	Yes	Medium
H3a: Use → user satisfaction	.383*	.209	Yes	Medium
H3b: Use → individual performance	.137*	.039	Yes	Small
H3c: Use → Organizational Performance	.299**	.168	Yes	Medium
H3d: User satisfaction → individual performance	.002*	.002	Yes	Small
H3e: User satisfaction → individual performance	.430**	.057	Yes	Small
H4: individual performance → Organizational Performance	.021*	.006	Yes	Small

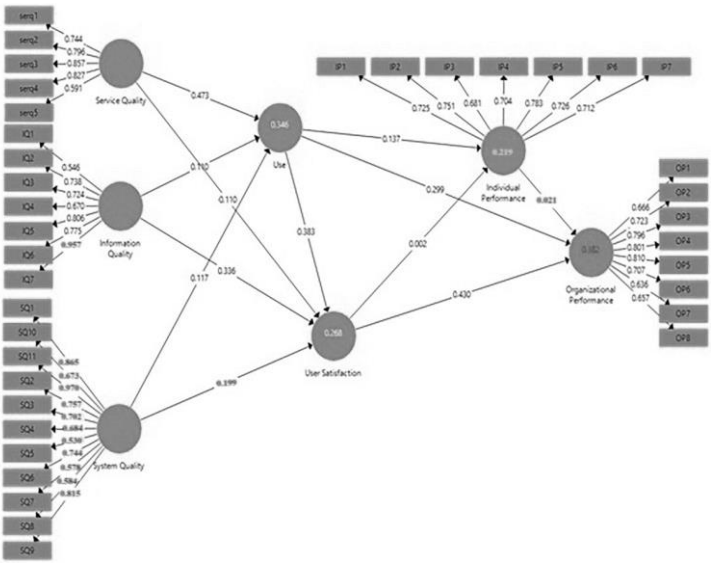

Figure 4. *Structural Model for Information System in News Organizations in Pakistan*

Discussion

This study is conducted to see if previous findings of the Delone and Mclean model and the effect of quality constructs (Service, System, and information) on individual and organizational performance could be replicated. Moreover, this study is set out to analyze the generalizability of the Delone and Mclean model to a larger and representative sample of media journalists of Pakistan. In addition to this, this study is extending the model to software used in media organizations.

In recent years, replication of previous models and theories has been widely discussed (Dienlin & Metzger, 2016). Therefore, the major finding of this study is to compare the findings of previous studies of the Delone and Mclean model with the current study results. Especially, this study finds that whether software used in the media organization helps the organization to

improve their individual and organizational performance. Most of the studies conducted before have focused on the software used in schools, hospitals, universities, banks, mobile companies, and libraries. The results of this study add to a growing body of research that does not provide evidence in the context of a media organization.

The result of the study shows that all the hypotheses are supported by data. We found that system quality is positively related to use, service quality is positively related to use and information quality is also positively related to use. Moreover, system quality is positively related to user satisfaction, service quality is positively related to user satisfaction and information quality is positively related to user satisfaction. Use is positively related to user satisfaction, individual performance, and organizational performance. On the other hand, user satisfaction is positively related to individual performance and organizational performance. The result shows that individual performance has positively predicted organizational performance.

The positive relationship between quality constructs (System, Service, and Information) and use seems logical because all the organizations focus on their software quality part, so they can create a better experience with the software. Previous research has shown similar findings where organizations have improved their quality of software (Alketbi et al., 2021; Lau, 2020; Lian et al., 2021; Prasetyo et al., 2021). On the other hand, the positive relationship between quality constructs (System, Service, and Information) and user satisfaction shows that the smooth functioning of software leads towards user satisfaction. The

quality of the system, information, and service influence an individual satisfaction with the software. These findings are following the various previous studies (Hsu, 2021; Jeyaraj, 2020; 2020; Shim & Jo, Yamin & Sweiss, 2020).

Use and user satisfaction have a significant and positive influence on individual and organizational performance. These results are in line with the previous findings of the Delone and Mclean model (Al-Hattami, 2021; Al-Adwan et al., 2021; Petter et al., 2008; Tahu & Yuesti, 2021). Most of our respondents have more than two years of experience in the media organization and they were working on the available software. So, they could provide us with real-time information related to quality constructs and their satisfaction with the software. The value of R2 in the structural model shows that all the constructs are validating individual performance and organizational performance. In summary, all the factors are important in determining the success of software in a media organization. Moreover, the results of the study are suggesting that Delone and Mclean's model is a useful lens to study the role of news management software in measuring individual and organizational performance.

Conclusion

This study is grounded in Delone and Mclean model. We have examined the D&M is success model in the context of the media organization. Our results indicate that all the constructs have a significant effect on individual and organizational performance. All the variable has their importance in the adoption and smooth functioning of the software. One of the limitations of the study is,

majority of the participants are males, further study may be carried out by comparing the males and female journalists regarding the success of the D&M model. A comparison may also be drawn about the ease of use and adaptability of information systems. D&M model is widely discussed in various disciplines of academia and different organizational setups in industry, different amendments have also been made in the original as well as updated D&M model. As the D&M model has not been tested for media organizations, so it is tested with only one change. Further researchers may add or subtract variables according to their requirements. The study may help provide basic guidelines for further research as well as industrial implications of information systems in media organizations.

Theoretical Implications

This research distinctly contributes to the existing literature. Delone & McLean model has been tested in various Information systems but no significant study discusses the implications of the model in the media industry. This research invites academia to further explore and validate the Delone & McLean model in print as well as electronic media.

Practical Implications

Three major implications can be derived from the present study. First of all, the study discusses the quality indicators for the success of information systems in media organizations. News management and the human resource attached to the news process are better benefited from information systems in media organizations. Use and user satisfaction are the second implication of the study. Organizations usually pay less attention

to user satisfaction (Khosravi et al., 2013). The present study discusses and finds the positive contribution of use and user satisfaction in the news process. Last but not least, the study offers media organizations a framework to check the effectiveness of information systems deployed in their organizations.

Future Research

The data collected for the present study is from the top fifteen news channels. The effectiveness of software can be tested in low-rank TV channels. Furthermore, a comparison can also be made among organizations, using software and the organization not using software for news processing. A comparison of using software in media, among developing countries and developed countries can also lead to interesting findings

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