Assessing the Impact of Usage of Social Networking Sites (SNSs) on Job Performance: Mediating Role of Information Overload

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Abstract

Key Words
Information overload, Usage of SNSs, Job Performance

Social Networking Sites (SNSs) have been playing a crucial role in influencing the overall performance of an organization and the job performance of employees. It leads to information overload that is a significant barrier for the general effectiveness of a business model. Thus, the study evaluates the role of SNSs in job performance of employees by the mediating effects of information overload in the context of telecom sector of Pakistan. The Sample of 522 was used for statistical analysis of questionnaires. The findings of the study reveal strong relationship between the usage of SNSs and job performance of employees while information overload play a mediating role. Managerial implications, limitations and directions for future studies are also discussed..

Introduction

The digital media and technological innovations have been affecting people and their daily lives. These innovations in this digital world have been provided people immeasurable amount of data which can be accessed from any place in this world (Berzin, Singer & Chan, 2015). This shows that the digital world has resulted in availability of sufficiently large amount of data that has not only affecting the people, but the corporate sector is also influenced. In light of the comprehensive theory of social development, it has been identified that the world has already been shifting towards the world of digitalization where, life of the people are influenced by film, TV, radio and other forms of digital media (Manovich, 2001). Amongst these forms of digital media, SNSs and internet has become the basic necessity of an individual as well as the corporate sector in order to communicate and share their experiences over internet. Among these,SNSs are the latest form of communication where the communication is one to one, one to many and multifaceted.

The study of Lenhart et al. (2010) reveals that the SNSs and internet have been one of the most reliable and fastest media which are used to exchange the information and helping people and corporate sectors as well to communicate with each other. However, the use of SNSs have been affecting the job performance of individuals as well (Moqbel 2012). This is because SNSs helps in formation of an online platform while making it available for a larger population who is present online. This fast sharing of information can be reflected in the overall efficiency of employees and their job performances, as they can receive the information faster and work immediately, without waiting for several hours or days to proceed (Freeman et al., 2015).

This research paper is aimed towards evaluating the role of SNSs in the context of job performance of employees while exploring the mediating effect of information overload. The mediating effect of information model is evaluated on the basis of applying Information Theory into social setup. The information theory is considered as the study of quantifiable data into databases under the concepts of signal processing and communication operations (Lovejoy & Saxton, 2012). The human brain works like computer processor and can handle a specific amount of information. Hence, the study evaluates the role of SNSs on the job performance of employees while exploring the mediating effects of information overload in the context of telecom sector of Pakistan.

Literature Review

Usage of SNSs and information overload

SNSs are a network that consists of wide variety of information, which sometimes can lead to information overload for a user who is absorbing information from several sites. This is proven by the study of Bontcheva, Gorrell and Wessels (2013) which claims that users of these SNSs have

frequently complained about the information overload. The authors have highlighted that the bloggers have frequently mentioned the need for a tool that can filter out the irrelevant stuff to reduce information overload. This suggests that a relationship exists between over usage of SNSs and the overload of information. As per the statements of Can and Kaya (2016) this over usage of the SNSs is because of the commonness of electronic devices such as smartphones, tablets and laptops.

SNSs have been a cheaper and an easier source of marketing for the businesses that have access to huge number of customers globally however on the other side, it has created serious concerns regarding information overload for individuals (Lüders, Brandtzæg et al. 2017). The usage of SNSs have influenced the decision making of individuals in a significant manner due to the available information regarding any product or service. According to the study Liang & Fu (2016) SNSs have huge amount of information being shared on daily basis regarding any topic that might cause a negative perception in an individual's mind and can result in information overload. Grineva and Grinev (2012) also agreed to this statement.

Information Overload and Job Performance

Information overload (IO) is the excess of information that is beyond the handling capacity of an individual (Bawden, & Robinson, 2009). It can be caused by several reasons. SNSs are a major source of causing information overload (Hiltz&Plotnick, 2013). It can also be caused due to overload of professional work as employees engage in numerous tasks at one time (Sweerts, 2015) and also the overload of responsibilities of the personal life can result in information overload. According to the study of Sweerts (2015) information overload can have both negative and positive impacts. For instance, when employees communicate with other employees, this type of information can be useful in improving their work performance. It can be useful in reducing the pressure of varied tasks that are to be performed by the employee (Bloom et al., 2014). On the other hand, researchers like Bawden and Robinson (2009) have claimed that information overload increases the probability of psychological risk which has a negative impact on the performance of the employee. The information theory studies the input, storage and output of the information (Pierce, 2012). According to the theory every individual has a specific tendency to store information and if the information exceeds that limit, it leads to information overload that might result in stress and unusual behaviour.

Usage of SNSs and Job Performance

SNSs have been a trending topic of research due to several reasons. One major element of discussion regarding SNSs have been the impact of SNSs on job performance. There has been a conflict of opinion amongst different authors who have worked in this domain. According to the study of Kishokumar (2016) SNSs have completely transformed every sphere of an individual's life and it also has a positive impact on the job performance of employees as it keeps an individual updated. Cao et al. (2016) stated that SNSs is a source of entertainment and learning for the employees and have resulted in improved job performance. SNSs like YouTube and LinkedIn are used professionally by the employees around the world to earn valuable information regarding their field.

Contrary to the opinion of above mentioned authors, some researchers have had the opinion that SNSs have a negative influence on the job performance of individuals. According to Moqbel, Nevo and Kock (2013) SNSs have led to anti-presentism at work which is a state in which the employees are not mentally present at work and, therefore, several renowned organisations in the past have implemented ban on the usage of SNSs at workplace (Palmer, 2011). This debate of regarding the effectiveness of SNSs on job performance is still unresolved.

The Mediating Role of Information Overload between Usage of SNSs and Job Performance

One of the major drawbacks of the usage of SNSs is regarded as the information overload where, employees can gain significantly large amount of information at the same instant which results in confusion and distraction as well (Gomez-Rodriguez, Gummadi et al. 2014). It has been suggested to explore the impact of SNSs on employees in various mediation models so that the concept can be further explored (Verduyn, Ybarra et al. 2017). SNSs can have both positive (Cao et al., 2016) and negative impact (Moqbel, Nevo & Kock, 2013) on the overall job performance of the individuals which is dependent upon the information overload that acts as a mediator between good performance and bad performance. SNSs have loads of valuable information and it is not necessary that a person might be using it for his or her personal use. Therefore, it is completely dependent on the capacity of the individual whether he or she is able to create a balance between the usage of SNSs which can keep the individual updates and secure from information overload that leads to negative productivity.

Theoretical Framework

Information Theory

The information theory is about quantifying, storing and communicating data or information (Aftab et al., 2001). This theory was put forward by Claude E. Shanon with an aim to find limits on process and communication of the information (Aftab et al., 2001). It is basically about the input, storage and output of the information that an individual possess (Pierce, 2012). This theory indicates that every individual is limited to store certain amount of information however if the information goes beyond that tendency, it might result in information overload and which leads to negative consequences like anxiety.
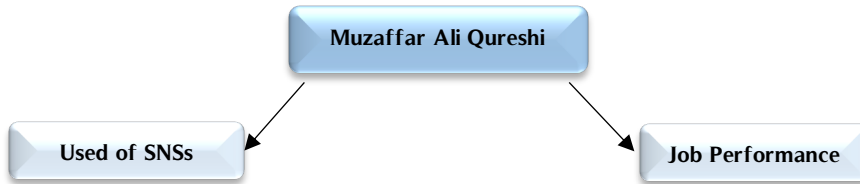
Research Methodology

This study employed quantitative type of research design where, the data collection and analysis is carried out in quantised manner using SPSS and Amos. The data is collected through survey questionnaire while the validity and reliability of the questionnaire was evaluated through pilot study. A pilot study has been conducted on 100 items for validity and reliability analysis, few items were removed and the main study was conducted on remaining items.

Sampling and Data Collection

The samples under the study were selected by stratified randomly sampling with equal allocation considering top, middle and lower management as a strata's with 200 sample from each with simple random sampling from the employees working in telecom companies of Pakistan (Telenor, Zong, Jazz, Warid, and Warid). A total of 600 questionnaires were distributed, after data entering and cleaning it remain 522 which is usable. The questions adopted and included in the survey were taken from the study of Williamson & Christopher (2013), Murphy, Duchnick et al. (2001) and Ellison, & Lampe (2008).

Results and Analysis

The results and analysis section of the study is completed through the application of validity, reliability, regression and correlation analysis that were used in order to determine the impact of usage of SNS on job performance while evaluating the mediating role of information overload.

Table 1. Frequency Distribution of Demographic Variables

Variables	Categories	Count (%)	Variables	Categories	Count (%)
Gender	Male	391 (74.9)	Experience in organization	1--15	217 (41.6)
	Female	131 (25.1)		16--30	232 (44.4)
	20 – 30	139 (26.6)		>=31	73 (14)
Age (Years)	31 – 40	132 (25.3)		<=30	63 (12.1)
	41 – 50	108 (20.7)	Time Spent on SNSs in minutes	30-60	77 (14.8)
	>=51	143 (27.4)		60-120	110 (21.1)
	HSSC	159 (30.5)		120-180	133 (25.5)
Education	Graduation	175 (33.5)		>=180	139 (26.6)
	Post-Graduation	188 (36)		<=50	122 (23.4)
Position in organization	Low-level	164 (31.4)	Total SNSs Contacts	50-100	103 (19.7)
	Middle-level	172 (32.9)		100-200	98 (18.8)
	Top-level	186 (35.6)		200-800	82 (15.7)
				>= 800	117 (22.4)

The mixture of various characteristics ofrespondents used for the study which shows the sampling scheme well represents population characteristics under study.

Factor Analysis

Exploratory Factor Analysis and Confirmatory Factor Analysis has been used for validity analysis. However, in order to check whether the Factor Analysis is computable for the data, Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity have been applied, and their results are given in the following Table:

Table 2. KMO and Bartlett's Test

KMO Measure of Sampling Adequacy.	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	P-value
0.972	11875.047	351	0.000

The table shows that KMO index value is 0.972 with highly significant value of Bartlett test which shows that sample size and data are much reliable to perform EFA. Furthermore, the Factor Loadings shows the overall validity construct and above 0.5 is considered appropriate to consider in construct. Similarly, the Rotated Factor Matrix used to check classification of items in their relevant factors.

Table 3. Explanatory Factor Analysis

S. No	Item	Factor Loading	Rotated Component Matrix		
			1	2	3
1	SNSU1	0.731		0.824	
2	SNSU2	0.71		0.788	
3	SNSU3	0.724		0.806	
4	SNSU4	0.757		0.85	
5	SNSU5	0.712		0.81	
6	SNSU6	0.706		0.785	
7	SNSU7	0.708		0.806	
8	SNSU8	0.728		0.808	
9	IO1	0.752	0.816		
10	IO2	0.789	0.832		
11	IO3	0.779	0.826		
12	IO4	0.718	0.791		
13	IO5	0.788	0.835		
14	IO6	0.795	0.831		
15	IO7	0.735	0.803		
16	IO8	0.79	0.838		
17	IO9	0.796	0.833		
18	IO10	0.741	0.804		
19	IO11	0.779	0.829		
20	IO12	0.537	0.658		
21	JP1	0.608			0.705
22	JP2	0.52			0.639
23	JP3	0.556			0.67
24	JP4	0.594			0.703
25	JP5	0.535			0.659
26	JP6	0.573			0.675
27	JP7	0.624			0.72

The above table shows factor loading are more than 0.50 for all items and rotated matrix shows classification of each item in particular factors which shows that the questionnaire is well constructed for analysis purpose.

Structural Equation Model

The following tables and diagram shows results of Structural Equation Model (SEM):

Table 4. Model Summary of Confirmatory Factor Analysis

Chi-Square	df	P-value	X^2/df	GFI	AGFI	RMSEA
544.30	321	0.000	1.69	0.925	0.912	0.037

The table demonstrates the SEM fit indices and it is also shown that Chi-Square ratio is 1.69 that is lower than 3; implies the satisfaction of primary condition of model fitness. The values of GFI and AGFI also above 0.9 and RMSEA value of less than 0.06 is considered as good model fit. Entirely the above mentioned results illustrates that projected model of SEM was flawlessly fitted and outcomes of SEM are consistent.
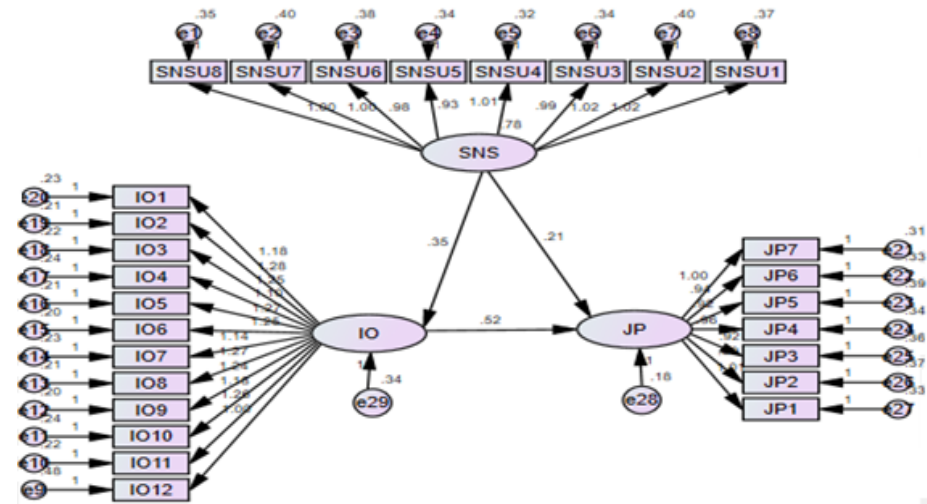

Figure 1: Proposed Structural Equation Model

Table 5. Reliability Analysis

S. No	Factor	Items	CA	CR	AVE	MSV	ASV
1	Usage of SNS	8	0.944	0.9252	0.6077	0.308025	0.149346
2	Information Overload	12	0.969	0.9627	0.6835	0.473344	0.150655
3	Job Performance	7	0.876	0.7854	0.5124	0.473344	0.229936

Thresholds: Reliability: CR >0.7
Convergent Validity: CR>AVE; AVE>0.5 Discriminant Validity: MSV<AVE; ASV<AVE
Values of reliability are also consistent with the threshold values as given above, hence the data is reliable and validity has been shown through Convergent and Discriminant validity.

Table 6. Correlation Analysis

	Job Performance	Usage of SNS	Information Overload
Job Performance	1		
Usage of SNS	0.508**	1	
Information Overload	0.637**	0.452**	1

** Significant at the 0.01 level (2-tailed).

The table of correlation shows that all Job Performance has moderate positive correlation with usage of SNS with coefficient value 0.508, whereas its high correlation with information overloadwith a coefficient value 0.637 whereas later has lessor correlation with job performance with coefficient of 0.452 however all significance level of coefficients was very high.

Analysis for Mediation through Preacher and Hayes Method

Table 7. Mediation Analysis

Model No.	Coefficient Estimates						Model Summary		
	DV	IV	Coefficient	SE	t-test	P-value	R2	F-test	P-value
1	IO	Constant	2.019	0.124	16.20	0.00	0.20	138.8	0.00
		SNS	0.4035	0.034	11.78	0.00			
2	JP	Constant	2.939	0.093	31.39	0.00	0.26	205.3	0.00
		SNS	0.355	0.024	14.32	0.00			
3	JP	Constant	2.12	0.104	20.44	0.00	0.47	235.3	0.00
		IO	0.401	0.035	11.36	0.00			
		SNS	0.193	0.026	7.22	0.00			

Sobel Test   Effect 0.162   SE 0.0181   Test Value 8.95   P-value   0.000

The above table shows the results of mediation analysis; which subdivided into three sections. The first model is to check weather IV significantly effectsmediator, the unstandardized coefficient of is 0.4035 with p-value 0.000 which is considered as statistically significant. The second model is to check weather IV effect DV; the unstandardized beta coefficient is 0.355 with p-value 0.000 which is also significant. Third model is a multiple regression, used to check effect of IV in presence of mediator. The coefficient of IV now become 0.193 with p-value 0.000 which is significant, however including mediator in model the effect of IV reduced and become half of its original (direct) effect on DV so this shows that partial meditation exists in the model. Sobel test shows that indirect effect of IND on DV is 0.1620 with p-value 0.000 which shows that mediation is present.

Table 8. Hypothesis Decision

Hypothesis	Hypothesis Statement	Decision
1	Usage of SNSs is directly related to job performance	Accepted
2	Usage of SNSs is directly related to information overload	Accepted
3	Information overload is directly related to job performance	Accepted
4	Information overload mediates the relation between usage of SNSs and job performance.	Accepted

Discussion

This study aims at identification of the impact of SNSs on the job performance of employees while exploring the mediating effects of information overload in the context of telecom sector of Pakistan. The latest inventions have allowed the corporate sector to implement new methods to keep their employees productive (Kishokumar, 2018). The use of SNSs is considered as the latest approach to keep all the employees connected under one platform. The study of Bawden and Robinson (2009) reveals that the SNSs have been considered as the major and the most effective medium to connect within the corporate sector; however, there are some barriers that need to be catered in order to maintain effective communication between the sender and the receiver. Moreover, it has also been revealed from the same study that the use of SNSs not only produces opportunities for employees to connect and to solve queries, on the other hand, there are incidents where information shared between employees is subjected towards the risk of information overload (Moqbel, 2012). This information overload sometimes results in the loss of actual meaning of the message that is to be conveyed to the other person (Sweerts, 2015). Hence, in this research, statistical techniques were applied to analyse whether there is an influence of SNSs on the job performance of employees working in the Telecom sector of Pakistan and how information overload can play a mediating role in affecting both these variables.

It has also been identified that SNSs usage between employees of telecom sectors of Pakistan is significantly noticeable while these SNSs helps them in communicating with each other and with the upper management as well. The study of Bloom et al. (2014) reveals the same results while exploring that sometimes, information overload

affects the job performance and the usage of SNSs as well. This is because of the fact that when large number of people or employees are using a single networking site, the amount of information gathering increases on the platform which consequently results in distorted messages and confusions within employees (Kishokumar, 2018). The acceptable p values in this study also reveals the same results that relation between SNSs usage and the job performance of the employees in the Pakistan's telecom sector is significantly strong; which implies that the results from the current study are highly consistent with the previous studies.

The regression analysis applied in the study shows that there is 92.2% cumulative influence of usage of SNS and information overload on the job performance in the case of telecom sector of Pakistan. The study of Bontcheva, Gorrell and Wessels (2013) has identified that the SNSs have become the latest trend where, corporate sector has been employing these methods in their daily operations due to their higher efficiency and fastest speed. Employees through these SNSs transfer messages between each other in a much faster speed, thus affecting the overall job performance and productivity of employees. However, on the other hand, it has also been identified from the study of Feng et al. (2015) that the information overall in the case of usage of SNSs affects the performance and productivity of employees in a negative manner, thus revealing that there is a strong but negative influence in the case of information overload and job performance of employees. The current study reveals the same results; hence the results from this study are consistent with the previous studies. In short, as per the findings of the current research, it has been identified that all the main hypotheses are proved. Moreover, it has also been established in the research that there is a strong influence of SNSs usage on the job performance while information load has been acting as the mediating variable between both the variables.

Conclusion

This study was aimed to investigate the role and impact of SNS usage on the job performance of employees while exploring the mediating effects of information overload in the context of telecom sector of Pakistan. In order to fulfil this aim, quantitative research methodology has been selected while out of 600 questionnaires, the response of 89.8% was received and 522 questionnaires were analysed. Moreover, the data was collected from the employees of five main telecom companies of Pakistan including Telenor, Jazz, and Zong, Warid and Warid. SPSS has been used in order to analyse and interpret the results while reliability, multiple regression and Preacher and Hayes methods were applied to fulfil the main aim of the research. A pilot study was also carried out in the study which showed that there is 93.8% reliability of results in the data set collected from 100 responses initially. The findings from the study reveals that there is strong relationship between the SNSs usage and job performance of the employees working in telecom sector of Pakistan while information has been playing the mediating role between these variables.

Limitations and Future Research

One of the major limitations of the research is related to the confinement of these research findings under the research method of quantitative research design. The use of survey has been adopted as per the convenience of the researcher; however, the mixed methodology research design could better help in understanding the hidden facts and figures of information overload and the job performance of employees. Therefore, future researchers may adopt mixed method research design in order to have a deep insight of the research problem and gather sufficient amount of data in terms of objective and subjective means. Another limitation of the research can be seen in terms of sampling size used in this study. Due to limited time and budget to conduct the research, a limited sample size was selected for the research process; however, a large sample size could give more accurate findings and results that could be applied on a large scale. Hence, future researchers are also suggested to select a much larger sampling size in order to improve the generalizability of the research findings. This research is limited to the national context of Pakistan which limits its scope to the geographic region of Pakistan only. Conversely, future researchers can contribute by implementing the findings obtained from current research on other geographical region.

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