

Review

Unveiling the Factors Influencing Social Media Usage Among A'Sharqiyah University Students: Exploring Impacts and Pathways to Optimization

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Abstract: Social media networks facilitate global connectivity and communication by providing platforms for users to interact, share information, and build communities online. This study aims to explore the impact of utilizing Social Media Networks (SMNs) on the academic attainment of A'Sharqiyah University students in the Sultanate of Oman. It recognizes the global significance of SMNs in modern society, emphasizing their role in communication, content sharing, and fostering connections. To achieve this, a structured questionnaire was formulated to collect primary data from 300 participants utilizing a purposive sampling technique, and its reliability was assessed through Cronbach's Alpha. The study formulated and tested four hypotheses via linear regression and one-sample t-tests. Results indicated overall satisfaction among participants and their intention to continue using SMNs for educational purposes. However, factors like perceived ease of use, usefulness, and reliability surfaced as key influencing factors in their decisions. This study offers valuable insights for practitioners and policymakers, pinpointing crucial dimensions that need emphasis to improve the utilization of SMN with the goal of enhancing students' academic achievements.

Keywords: Social Media Network (SMN), Purposive Sampling, Perceived Ease of Use, Perceived Usefulness, Reliability

Introduction

Social Media Networks (SMN) play a pivotal role in the global economy by facilitating the sharing and exchange of information, pictures, and videos. These platforms enable individuals to share, comment, and express appreciation by clicking "like" on others' content within virtual communities. They significantly contribute to broadening social and professional connections both within and across communities. Notably, a large portion of today's younger generation utilizes SMNs as a means to interact globally, communicating and exchanging user-generated content, including photos, videos, and social games.

The current market offers a diverse array of Social Media Networks (SMNs) including platforms like Facebook, Instagram, YouTube, Twitter, LinkedIn, Google +, Pinterest, Flickr, Tumblr, Snapchat, and WhatsApp. These platforms are consistently gaining increasing popularity among both social and business

communities, particularly in developed countries like the USA and China. In today's context, SMNs have evolved to become integral components of both personal and professional lives for individuals as well as businesses, serving as crucial tools for communication, networking, and engagement.

Social media has become a fundamental aspect of daily internet usage, with the average internet user dedicating around 151 min per day to engaging on these platforms. As per statistics published by the Statista research department, as of January 2023, Northern Europe led in social network penetration, reaching 83.6%, followed by Western Europe at 83.3% and Southern Europe at 76.7%. Social media penetration was considerably lower at 8.4% for the Eastern region and 7.4% for Middle Africa. Worldwide, about six out of every ten individuals are active social media users (Stacy Jo, 2023).

SMN can serve as powerful tools in the educational sector, fostering collaboration, knowledge sharing, and

innovative learning experiences for students and educators alike. Prominently, developed nations like the USA have utilized SMN channels to impact their educational decision-making processes, aiming to foster and advocate for advancements in their educational sector.

Ogundijo (2014); Oluwatoyin (2011); Kirschner and Karpinski (2010) authors studied the effect of SMN on academic performance and found mixed results, particularly in the case of students whom they spent more time on their SMN than their studies.

Despite Oman's commitment to economic growth and development, there's a notable gap between the country's educational sector and those of most developing and developed nations. Particularly, Oman's educational sector appears to have lagged in investing adequately in educational advancements and the adoption of SMN technologies crucial for its development. Therefore, this study aims to explore the impact of SMN usage on the academic performance of university students in Oman, seeking to offer a comprehensive understanding of the effective adoption and utilization of SMNs.

SMNs with their various tools are now an essential and significant component of daily lives (Abu-Shanab and Al-Tarawneh, 2015; Salvation and Adzharuddin, 2014). Particularly, SMNs are mostly related to daily students' activities of teaching and learning as they usually spend a significant number of hours on these platforms at the expense of their study time (Abdulahi *et al.* (2014). As such, it is believed that student's engagement in the SMNs has a significant positive and negative impact on their academic performance (Owusu-Acheaw and Larson, 2015). Nevertheless, numerous studies have also indicated that the wise and rational use of these SMNs might improve students' academic performance (Helou and Rahim, 2014; Tayseerd *et al.*, 2014). Hence, the nature of the effect on students' academic performance as well as the factors that influence it are still unclear. Thus, through its comprehensive and analytical nature, the current study attempts to clearly unravel the nature of the relationship between SMNs and students' academic performance, as well as the related factors that affect it.

Overall, the survey attempts to assess the effect of SMN acceptance and its usage on university students' academic performance in the Omani context. Specifically, through advanced statistical tools the study covers not only the students' perception of the SMNs but also the actual effect of SMNs acceptance and usage on performance. The results are tabulated for different levels of students' performance as well as for different levels of SMN usage.

Theoretical Framework and Hypothesis

Research on models for accepting and adopting technology and innovation has seen extensive application

across diverse environments. These models primarily encompass the Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), and Diffusion of Innovation Theory (DIT).

Fishbein introduced the Theory of Reasoned Action (TRA) in Fishbein (1975). Subsequently, in 1980, they enhanced their model based on empirical evidence to validate and establish its reliability. Additionally, they emphasized that an individual's Behavioral Intention (BI) is shaped by both their attitude and subjective norm.

Following his earlier work, Ajzen identified limitations in the TRA model in Ajzen (1991). He suggested that an individual's behavior is influenced not only by external factors but also by the individual's control over their own actions. As a result, Ajzen modified his model, creating the Theory of Planned Behavior (TPB). In this updated paradigm, he advanced a new component termed Perceived Behavioral Control, defined as the "presence or absence of necessary resources and opportunities" as discussed in Ajzen and Madden (1986).

In Davis introduced his own conceptual framework known as the Technology Acceptance Model (TAM) (Davis, 1989). Based on the Theory of Reasoned Action (TRA), TAM was developed to assess the way system attributes impact users' willingness to adopt computer technology. The author reasoned that the inclination to utilize computer technology relies on two fundamental factors: Perceived usefulness and perceived ease of use.

Additionally, the Diffusion of Innovation Theory (DIT) was formulated by Stacks and Salwen (2008). He sustained his theory as "the process by which an innovation is communicated through certain channels over time among the members of social systems" (p. 5). The author proposed that the acceptance of an innovation is shaped by five perceived characteristics of the innovation: Relative advantage, compatibility, complexity, trialability, and observability.

This study identified three factors drawn from prior research that were associated with the acceptance and utilization of SMN. These factors are perceived ease of use and perceived usefulness (Davis, 1989; Zinatelli *et al.*, 1997; Rogers, 2003) reliability from Rogers and subjective norms from Ajzen (1991).

Therefore, the variables perceived ease of use, perceived usefulness, and reliability were explored from the perspective of Omani university students' academic performance and its influences on social network usage. The Fig. (1) shows the research model with the four hypotheses (H₁-H₄).

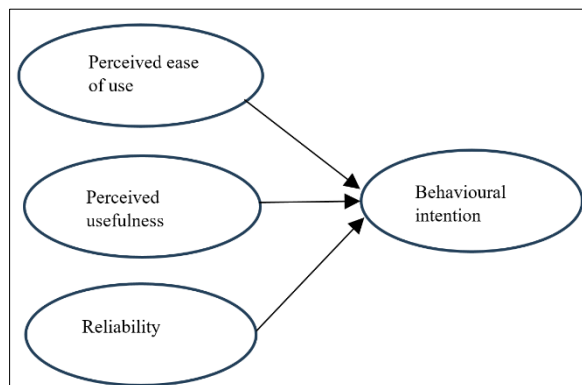


Fig. 1: Theoretical model

- H₁: Perceived ease of use of social networks has a positive impact on student's attitudes toward using them for educational purposes
- H₂: Perceived usefulness of social networks positively influences students' attitudes toward using them for educational purposes
- H₃: Reliability of social networks positively influences students' attitude to use them for educational purposes
- H₄: The respondents intend to use SMNs for educational objectives

Methods

This study used questionnaires as the primary tool to collect data. A pilot study was done on a small group of selected students to teach them the impact of social media on academic performance. Then, the research model was designed by contemplating empirical support of previous research studies, and four hypotheses were formulated accordingly. The purposive sampling technique was employed for data collection from an intended sample size of 300, only 214 questionnaires were appropriately completed and returned, resulting in an attained response rate of approximately 72%.

The survey questionnaire was structured to gather data on students' perspectives regarding the characteristics of social networks within the educational sphere and their inclination to embrace or continue using them in the future. To evaluate these perspectives, Likert-type scaling was employed, with a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was divided into two sections, the first section collects data about demographic information about respondents including gender, age, education level, frequency of social network use, and other relevant details. The second section focussed on the variables of the study which are perceived ease of use, usefulness, reliability, and their intention to continue use of social media for education needs. It's important to note that the questionnaire was developed and distributed in English. Two types of methods were followed to distribute the questionnaire to

respondents: Paper, printed form, and online questionnaire. Multiple regression analysis and correlation analysis were employed to identify the relationship between independent and dependent variables and to test the formulated hypothesis. The respondents' demographic factors were analyzed using t-tests and descriptive analysis such as mean and standard deviation. To measure the reliability of the variables, the statistical tool Cronbach's Alpha value was utilized.

The data collected was analyzed using linear regression and one-sample t-tests. The selection of these analytical techniques was influenced by the methodology outlined by Hair Jr *et al.* (2010) and similar research conducted within this field. Notably, SPSS 18 software was used to perform the analysis.

Results

From Table 1, the demographic data reveals that 67.8% of the participants are female, whereas 32.2% are male. In terms of educational level, around 82.2% of the respondents are undergraduate students and 17.8% are postgraduate students across various academic degree levels.

Reliability Test

Prior to hypothesis testing using linear regression and t-test, it is important to evaluate the reliability of the questionnaire items. The study employs Cronbach's Alpha as the primary measure of reliability. It is recommended that a Cronbach's Alpha of 0.6 or higher is considered acceptable. The observed Cronbach's Alpha values, ranging between 0.618 and 0.723 as presented in Table 2, consistently exceed the acceptable threshold of 0.6. Hence, the research successfully satisfies the required reliability standards, affirming the robustness and consistency of the study's measurements or scales.

Descriptive Statistics for Independent and Dependent Variables

The linear regression analysis was applied to examine the first three hypotheses, while a t-test was utilized to assess the fourth hypothesis. Table 3 presents the results of the descriptive analysis and t-tests conducted for the variables BI1, BI2, and BI3. The t-tests were performed with a test value of 3. The table shows the t-values, degrees of freedom (df), Significance (Sig.) for a two-tailed test, mean differences, and the 95% confidence intervals for each variable. From the data in Table 3, all three behavioral intention constructs (BI1, BI2, and BI3), the t-test results indicate highly significant differences from the test value of 3. The significant p-values (all <.000) associated with these tests suggest that the mean differences observed are unlikely to have occurred by chance.

Table 1: Profile analysis

Demographics	Categories	Percentage
Gender	Female	67.8
	Male	32.2
Education Level	Secondary school	-
	Undergraduate	82.2
Academic Degree level	Postgraduate	17.8
	First	35.8
Degree level	Second	32.2
	Third	21.4
	Fourth	10.6

Table 2: Reliability measures

Variables	Cronbach alpha
Perceived ease of use	0.705
Perceived usefulness	0.723
Reliability	0.648
Behavioural intention	0.618

Table 3: Results of T-tests comparing test value 3 across variables BI1, BI2 and BI3

Test value = 3					
t	df	Significance (2-tailed test)	Mean difference	95% Confidence interval for each variable	
				Lower	Upper
BI1	7.192	213	.000	.45327	.3290 .5775
BI2	7.885	213	.000	.57944	.4346 .7243
BI3	9.701	213	.000	.69159	.5511 .8321

*** Refer to significant t-test at 1%

Table 4: Regression Analysis of Factors Influencing [Dependent Variable]

Variables	Unstandardized coefficients		Standardized coefficients		Sig.
	B	Std. error	Beta	t	
(Constant) perceived	1.224	.280		4.363	.000
Ease of use perceived	.303	.063	.331	4.795	.000
Usefulness	.151	.057	.174	2.637	.009
Reliability	.167	.056	.186	2.980	.003

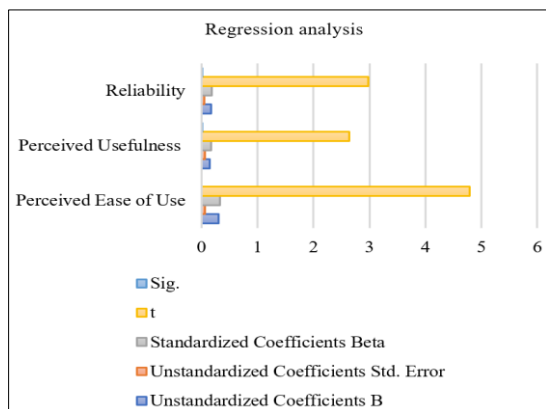


Fig. 2: SMN decision-making factors in an educational context

The findings from the regression analysis, as depicted in Table 4, reveal a significant positive relationship between perceived ease of use and the intention to utilize social media networks (SMN) for educational purposes. Consequently, hypothesis 1 is supported. These results align with Davis (1989) findings, suggesting that the ease of comprehending and employing social networks significantly impacts students' decisions to utilize these platforms for educational activities.

The analysis reveals a noteworthy finding: A substantial and positive influence of perceived usefulness on the inclination to utilize social networks for educational objectives. This supports hypothesis 2 and coincides with the conclusions drawn by Davis (1989). This signifies that students' recognition of the utility and ease of operation of social media is integral to their everyday academic pursuits at the university. Furthermore, students acknowledge that their respective universities possess the necessary infrastructure and system quality required for the consistent operation of social media networks.

On the contrary, the analysis demonstrates that reliability significantly and positively impacts students' inclination to utilize SMN for educational purposes. Therefore, hypothesis 3 is supported. This aligns with Rogers (2003) findings, indicating that students with an elevated proficiency in computer and Internet skills are more motivated to utilize social media networks to advance in their studies compared to other groups with lower knowledge levels.

Thus, the three variables included were found to be influential in the decision of the Omani students to engage in social media networks for education purposes instead of traditional information sharing and learning methods. These factors explain 25.7% of the variation in the adoption of SMNs for education purposes.

Perceived ease of use: The unstandardized coefficient (B) is 0.303 with a standard error of 0.063. The standardized coefficient (Beta) is 0.331. The t-value is 4.795, indicating a significant influence ($p < 0.05$) on the decision-making process.

Perceived usefulness: The unstandardized coefficient (B) is 0.151 with a standard error of 0.057. The standardized coefficient (Beta) is 0.174. The t-value is 2.637, also indicating a significant influence ($p = 0.009$) on the decision-making process.

Reliability: The unstandardized coefficient (B) is 0.167 with a standard error of 0.056. The standardized coefficient (Beta) is 0.186. The t-value is 2.98, showing a significant influence ($p = 0.003$) on the decision-making process.

According to the regression analysis from the value tabulated in Fig. 2, the three variables perceived ease of use, perceived usefulness, and reliability play a significant role that influences the decision-making towards the usage of SMN for educational purposes.

Table 5: Summary of hypotheses testing

Hypothesis	Correlation	Regression
Perceived ease of use of social networks has a positive impact on students' attitudes toward using them for educational purposes	Supported	Supported
The perceived usefulness of social networks positively influences students' attitudes toward using them for educational purposes	Supported	Supported
The reliability of social networks positively influences students' attitude to use them for educational purposes	Supported	Supported
The respondents intend to use SMNs for educational objectives	Supported	Supported

The study shows that all tested hypotheses summarized in the Table 5, are supported by both the correlation and regression analyses, indicating that the perceived ease of use, usefulness, reliability and intent to use social networks positively influence the students attitude towards using them for educational purposes

Discussion

The purpose of this study is to find the factors influencing social media usage among A'Sharqiyah University students in the Sultanate of Oman. The study was conducted using a structured questionnaire with an intended sample size of 300 with 214 respondents. The developed research model tested four hypotheses using correlation analysis and regression analysis. It aimed to achieve dual objectives: Firstly, to investigate Omani students' intentions regarding the utilization of social media networks for educational purposes, and secondly, to identify the factors potentially influencing their decision-making process. The overall outcomes suggest that the respondents express satisfaction with their engagement and express a commitment to persist in using these networks for educational pursuits. Conversely, the findings underscore that perceived ease of use, perceived usefulness, and reliability emerge as the primary variables influencing their decisions. All the hypotheses were supported by correlation and regression analysis coefficients.

Moreover, this study not only bridges the gap in literature but also presents actionable insights for both practitioners and policymakers. The identified dimensions provide a roadmap for educators, educational institutions, and policymakers to optimize the design, infrastructure, and policies surrounding social media use in education. Focusing on these key aspects can potentially enhance the educational experience, facilitating improved performance and learning outcomes among Omani students.

Conclusion

This research signifies the transformative potential of social media networks in educational settings and highlights the critical factors that must be considered to harness their full potential effectively. The study's outcomes reveal that perceived ease of use, perceived usefulness, and reliability are key drivers influencing

students' intentions to use social media for educational purposes. These findings provide valuable insights for educators, educational institutions, and policymakers, offering a foundation for optimizing the integration of social media into education. It calls for continued exploration and strategic implementation to ensure a conducive and beneficial environment for integrating social media into Omani education.

Primarily, the sample size, while accurately calculated, remains relatively limited, thereby restricting the generalizability of the results to all Omani students. Therefore, future studies should consider opting for a larger and more representative sample size to enhance the broader applicability of the findings to the entire population of Omani students. Additionally, it is advisable for future research to expand upon these studies with larger sample sizes by exploring varied contexts of using the same independent variables of student intention towards the usage of social media to confirm the result and with different constructs too. Such an approach can offer a more comprehensive understanding of the factors influencing students' intentions regarding social media use for educational purposes.

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Author's Contributions

All authors equally contributed to this study.

Ethics

This manuscript represents original research. The corresponding author confirms that all co-authors have reviewed and approved the final version of the manuscript. There are no ethical concerns associated with this submission.

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