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DETERMINANTS OF SOCIAL MEDIA USAGE ON ACADEMIC PERFORMANCE AMONG UNIVERSITY STUDENTS: A STATISTICAL APPROACH

Siti Hasma Hajar Mat Zin^{1*}, Nor Hidayah Hassim², Siti Haslini Zakaria³, CT Munirah Niesha Mohd Shafee⁴

- ¹ Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi Mara, Johor Branch, Segamat Campus, 85000 Segamat, Johor, Malaysia
Email: hasmahajar@uitm.edu.my
- ² Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi Mara, Johor Branch, Segamat Campus, 85000 Segamat, Johor, Malaysia
Email: hidayah@uitm.edu.my
- ³ Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi Mara, Kelantan Branch, Machang Campus, 18500 Machang, Kelantan, Malaysia
Email: haslini@uitm.edu.my
- ⁴ Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi Mara, Johor Branch, Segamat Campus, 85000 Segamat, Johor, Malaysia
Email: ctmun518@uitm.edu.my
- * Corresponding Author

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Abstract:

In the swiftly changing digital age, educational institutions are adapting to include technology in their operations and heavily relying on social media usage to enhance student experience. Many academic institutions nowadays have recognised that social media provides an opportunity for students to communicate with teachers, other students, and higher authorities. Students' academic performance is enhanced when social media is used for sustainable education in higher education learning activities. Therefore, this study is conducted to investigate the factors related to social media usage, such as collaborative teaching, perceived enhanced communication, perceived enjoyment, perceived ease of use, perceived usefulness, and resource sharing, that affect students' academic performance at the tertiary education level. A total of 388 respondents have been involved in this study. A multiple linear regression analysis is used to achieve our research goal. The findings show that only two variables, which are collaborative learning and resource sharing, influence and contribute to academic performance among university students. Additionally, the fact that only two variables significantly influenced students' academic performance raises the question of whether this finding is unique to

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the study's sample or indicative of broader trends. These results could be impacted by students' behaviour, demographics, and cultural traits. Future research should explore broader samples, alternative methodologies, and cross-university comparisons to validate these results.

Keywords:

Collaborative Learning, Perceived Enhanced Communication, Perceived Enjoyment, Perceived Ease of Use, Perceived Usefulness, Recourse Sharing

Introduction

Every human being has the right to an education. Education allows one to improve their abilities, personality, self-assurance, and decision-making skills, which in turn helps them acquire respectable employment (Nisar et al., 2017). Ghaffarian and Osam (2021) and Echeverría Castro et al. (2020) emphasise that education is an important aspect of life since it involves gaining knowledge, developing skills, and utilising human resources to refine skills through training and study. Education is without a doubt essential to a nation's growth and development. In emerging nations, education becomes even more crucial. The poor academic performance of students in developing nations has drawn a lot of attention. Education standards have declined, as commonly acknowledged, and this is mostly due to the problem of low academic performance in developing nations. Most developing nations are making systemic improvements in an attempt to boost the enrollment rate of higher education students. Fakunle and Ale (2018) claimed that education is seen as both an investment and a consumer good in various nations. More students commit readmission because of poor academic achievement, and the trend of graduating students is not proportionate to the trend of enrolled students.

Marbun et al. (2018) stated that students' academic performance is the level of learning that students accomplish when they take part in and complete assignments and learning activities in class. Meanwhile, Palominos et al. (2017) claimed that a student's academic performance is the result of all they have learned during the teaching and learning process. It reveals a student's capacity for successful, rapid, and in-depth learning as well as the effectiveness with which educational institutions execute the teaching and learning process, which encompasses both in-class and outside activities. According to Talib and Sansgiry (2012), continuous assessment or cumulative grade point average (CGPA) determines academic performance or achievement and indicates how well a student, instructor, or institution has met their short- or long-term learning objectives. Empirical evidence suggests that nations invest a lot of money and expend huge efforts to provide higher-quality education to improve student achievement. Academic success and student learning are closely related. Through better student learning, human capacities and psychological capabilities can be increased. Based on Tentama and Abdillah (2019), students with strong academic records had greater employment benefits, higher incomes, and more prospects for growth. A key component of a student's future success is their level of learning achievement (Hanapiah, 2023). Previous research has shown that university student performance is a major issue. Several researchers have expressed interest in knowing more about the factors influencing students' academic achievement at higher educational institutions. These involve socioeconomic variables, secondary school type, such as high-performance schools, and demographic traits (Tadese et al., 2022; Kamal & Ahuja, 2019; Ekwochi, et al., 2019; Mutiso & Muthama, 2019).

Numerous internal and external factors can be used to measure a student's academic performance. Hence, to solve this issue, variables that may affect students' learning achievement are addressed. Garcia et al. (2024) mentioned that academic performance is frequently viewed as the result of a combination of various elements, including the student's skills, motivation, and effort, as well as the standard of education they get. It is also agreed upon by Alfat (2024). When evaluating student performance through internal factors, one could possibly evaluate the psychological aspects of the person, such as their motivation and interest. In addition, outside factors like peer pressure, family, and friends may have an impact (Garcia, et al., 2024). However, nowadays, social media also plays an important role in the education field that will affect academic performance among students. Social media has become popular today because it is so simple to use, access, and communicate with lots of individuals at once. A person can register for accounts on a variety of websites, including Instagram, Facebook, TikTok, Twitter, MySpace, Snapchat, LinkedIn, and others. In the rapidly evolving digital era, colleges and universities are adjusting to integrating technology into their processes and largely depending on these tools to improve the quality of life for students (Alamri, 2019). Students can benefit from social networking sites in many ways, including self-development, knowledge and creativity enhancement, knowledge exchange, and technical skill development (Habes et al., 2018). Alamri et al. (2020) stated that adopting social media for education sustainability in higher education learning activities improves students' academic performance.

Several studies have been conducted to see the impact of social media on students' academic performance (Al-Rahmi & Othman, 2023; Li et al., 2019; Al-Adwan et al., 2020; Al-Sharqi & Hashim, 2016). Social media has become more widely accepted and useful, and it is likely one of the most significant means of communication for students, particularly those pursuing higher education. Since academic institutions nowadays have recognised that social media provides an opportunity for students to communicate with teachers, other students, and higher authorities. Unfortunately, there are still several gaps in the knowledge regarding social media's effect on academic achievement, despite a wealth of studies. The impact of particular social media platforms on students' academic achievement has not been sufficiently examined in research. Furthermore, a large percentage of studies use self-reported data, which limits the capacity to make inferences on connections (Tamura et al., 2021). Thus, this study is conducted so that the gaps can be addressed to gain a more comprehensive understanding of the influence of social media on academic performance. Therefore, this study is conducted to investigate the factors related to social media usage, such as collaborative teaching, perceived enhanced communication, perceived enjoyment, perceived ease of use, perceived usefulness, and resource sharing, that affect students' academic performance at the tertiary education level.

Literature Review

There are five sections discussed in the literature review: academic performance, collaborative learning, perceived enjoyment, perceived ease of use, perceived usefulness, perceived enhanced communication, and resource sharing.

Academic Performance

The term academic performance describes how well a student is doing in their academic pursuits. It can be evaluated in several ways, including grades, test results, and other assessments (Garcia et al., 2024). Academic performance encompasses not only grades but also the acquisition of abilities, know-how, and competence necessary for success in the field of study. Nisar et al. (2017) stated there are three main elements that have an impact on student

academic achievement, including family, institutional, and personal influences. Socioeconomic status is influenced by a variety of factors, including the size and income of the family, the education and employment of the parents, their social status in the community, and their place of living situation. The curriculum, the number of physical facilities, the learning environment, and the conduct and competence of the teachers with the pupils are all examples of institutional elements. The personal aspects of students can include aptitude, study habits, interests, motivation, attitude, and intelligence. Students with low academic performance exhibit decreased motivation to engage in studying (Panjaitan et al., 2023; Rusilawati et al., 2023). Meanwhile, according to Novriavani et al. (2022), students who have a strong self-motivated interest in learning will be more driven to take an active role in pursuing their interests and objectives to increase their learning potential.

Collaborative Learning

Based on Sarwar et al. (2019), collaborative learning is described as a method of learning that involves a process where a group of students collaborate with each other to accomplish some problem-solving tasks in a more engaging environment. Aldahdouh et al. (2020) stated that the use of social media for collaborative learning enables students to share and learn from one another, as several social media platforms provide efficient support for this type of learning. Students can communicate, work together, and exchange educational content with their peers and teachers through social media platforms. Specifically, a great deal of research has shown the importance of collaborative learning and its capacity to improve empowerment and academic achievement. This can be achieved by prioritising the requirements of the students and their formative assessments, as well as by establishing a community classroom that encourages student engagement, boosts academic achievement, and facilitates knowledge sharing among the students. As a result, knowledge sharing via these platforms helps academic communities develop a smooth and productive relationship and enhance student-teacher interaction (Murire & Cilliers, 2019). According to Pulido (2020), social media is very helpful in forming academic groups to raise students' academic achievement. Students' academic performance is greatly impacted by social media, and Facebook is thought to be a beneficial platform for communicating with teachers and fellow students (Lin et al., 2019).

Perceived Enjoyment

Lew et al. (2019) define enjoyment as the level of happiness people feel while completing a particular task on their own, independent of outside reinforcement. In other words, it refers to the degree to which an information technology system causes users to see it as friendly and enjoyable. Enjoyment is often referred to as a primary intrinsic motivator that motivates people to carry out a particular action because they find it enjoyable (Gan & Balakrishnan, 2017). Additionally, perceived enjoyment, according to Davis et al. (1992), is the extent to which utilising technology is expected to be pleasurable in and of itself, independent of any potential performance issues. Using social media sites like Facebook, Twitter, and other social applications has been found to be enjoyable and fun because users can publish various images and videos. Providing users with interesting content can make them happy and entertained (Sarwar et al., 2019). However, prior research suggests that students may engage in social media primarily for entertainment rather than educational enrichment, which could explain why perceived enjoyment does not translate directly into improved academic outcomes (Lavidas et al., 2024).

Perceived Ease of Use and Perceived Usefulness

The degree to which a user feels that utilising a particular information technology system would be easy and relatively free of physical or mental effort is known as perceived ease of use (Davis, 1989). Perceived ease of use in the context of social media refers to how user-friendly social media sites are (Rauniar et al., 2014). Perceived ease of use is defined by Mayer et al. (1995) as trust because it indicates a party's willingness to be open to the actions of another party. Users may therefore rely on the social networking service to protect their personal information from misuse. Meanwhile, perceived usefulness pertains to an individual's belief that using a specific technology will enhance their performance (Davis, 1989; Bhattacharjee, 2001). According to Rahman et al. (2020), students are more likely to use a certain social media platform in their education when they believe it to be user-friendly and supportive of their learning. While ease of use and usefulness have traditionally been significant predictors of adoption, recent research suggests that other factors, such as digital addiction and evolving artificial intelligence (AI) applications, may play more critical roles in determining students' behavior (Tülübas et al., 2023). This fits with the idea that people are engaging with things online for more and more pleasure-seeking reasons rather than practical ones, especially outside of school (Karakose et al., 2022). Findings from Lavidas et al. (2024) show that adoption was significantly predicted by perceived usefulness and convenience of use. The results of this study indicate that these characteristics did not significantly affect respondents' behavior, even though this is consistent with the Technology Acceptance Model (TAM). This difference may be due to differences in context, as people who preferred online may be motivated by hedonic rather than utilitarian factors, while people who use technology in school are often motivated by need and efficiency.

Perceived Enhanced Communication

As stated by Ten Wong et al. (2017), social media is essential for communication and engagement because it allows users to share their ideas, experiences, and content across various platforms. Students can use social media platforms to exchange information and knowledge because they offer a range of communication channels (Cortijo et al., 2019). Social media is a popular communication channel that is used for many purposes, such as information collection and distribution, sharing interesting photos and videos, and forming social and personal ties. Despite this, a number of studies have demonstrated that social media influences people's decisions and behaviour (Ten Wong et al., 2017). Not only can a single post or status update have an impact on someone's behaviour, but social media comments and criticism can also have an impact. Students are likely to use these platforms more frequently to complete educational assignments because it has been demonstrated that doing so improves group interaction and communication, based on Hidayanto and Setyady (2014). Teachers can use social media to interact with students in an efficient manner; they can also create discussion groups and teams where students can ask questions and share ideas with one another, as well as actively seek help and direction from their teachers (Zachos et al., 2018).

Resource Sharing

Resource sharing is defined by Arshad and Akram (2018) as a person's consent to share their resources, including concepts and scholarly writings, with others via social media platforms. Users can share and distribute resources and user-generated content using a variety of social media platforms, as Ganapathi (2019) demonstrated. Students are constantly looking for an easy, evaluable way to share learning materials online, and social media may be quite helpful in this regard. Resource sharing has a positive impact on academic achievement (Khanam,

2020). As stated by Salloum et al. (2018), social media, M-learning, and weblogs can all be effective platforms for knowledge exchange and powerful information creation. Through this online sharing, professionals and educational institutions can support their requirements and demands. Furthermore, Facebook's recently added capabilities make it possible for many educational institutions to find solutions for knowledge exchange (Voivonta & Avraamidou, 2018). These solutions include the ability to stream live courses online, automatically save the live class video, share documents, news, and assignments, and communicate with students and teachers swiftly.

Methodology

Study Design and Sampling Technique

A cross-sectional study has been conducted for this study. The data was collected over four weeks. The population is Universiti Teknologi Mara (UiTM), Johor Branch, Segamat Campus. In this study, the sampling method employed is non-probability convenience sampling. The reason for using this method is due to its simplicity of accessibility in reaching the target population, university students. This survey is conducted to see the impact of social media on students' academic performance. Thus, convenience sampling is chosen to collect data from those students who are willing to be involved in this study, as well as based on their availability. This method is also helpful when sampling frame for random selection is quite difficult to obtain. Nevertheless, this method has limitations on generalizability where the risk of sampling will occur since the respondents were selected based on their availability. So, to avoid this problem, students across different courses on this campus were selected to confirm sample diversity. Based on Skowronek and Duerr (2009), more data points from larger samples can help capture a range of opinions and lessen bias. Therefore, a total of 388 respondents participated in this survey.

Research Instrument

An online questionnaire has been used as a data collection method. A Google Form was developed to collect data for this study from respondents. One of the benefits of using this method is that it requires less money because it can be sent via email to many respondents at once. Another is that busy respondents can finish the questionnaire whenever it is convenient for them.

A set of questionnaires from earlier studies was modified to meet the goals. This questionnaire is adapted from Al-Adwan et al. (2020). There were two sections on the questionnaire. Five questions on demographic data, including gender, education level, and course, are included in the first part (section A). In the meantime, Section B divides into seven sections. The questionnaire comprises 28 items that assess the respondents' degree of agreement on seven different variables: student performance, collaborative learning, perceived enhanced communication, perceived enjoyment, perceived ease of use, perceived usefulness, and resource sharing. In order to gauge the extent of each respondent's viewpoint, a 5-point scale was employed in the interval scale matrix with pre-coded numerical scales for this component of the responses. Strongly disagreeing receives a score of 1, and strong agreement receives a score of 5.

Figure 1 shows the conceptual framework for research. In this study, students' academic performance is a dependent variable; meanwhile, the six independent variables are collaborative learning, perceived enhanced communication, perceived enjoyment, perceived ease of use, perceived usefulness, and resource sharing.

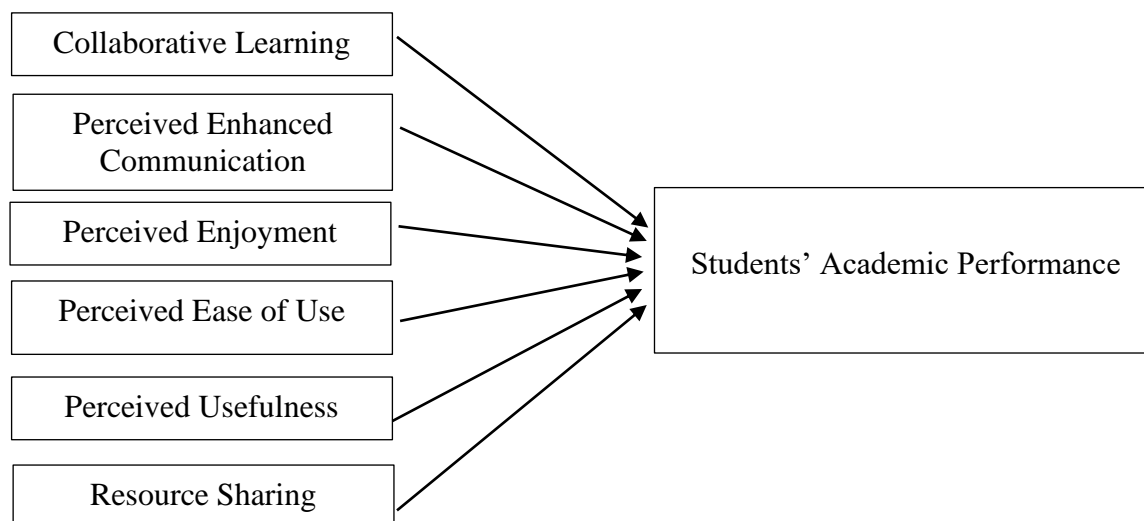


Figure 1: Conceptual Framework

The following are the six hypotheses that have been created in this study:

H₁: There is a relationship between collaborative learning and academic performance among university students.

H₂: There is a relationship between perceived enhanced communication and academic performance among university students.

H₃: There is a relationship between perceived enjoyment and academic performance among university students.

H₄: There is a relationship between perceived ease of use and academic performance among university students.

H₅: There is a relationship between perceived usefulness and academic performance among university students.

H₆: There is a relationship between resource sharing and academic performance among university students.

Reliability Test

The reliability test is conducted to check the consistency of the respondents' answers to all the items in a measure. If the respondents' answers to all items are consistent, then the items will be highly correlated with one another. In this study, the Cronbach's coefficient alpha is used for multipoint-scaled items. An instrument for measuring reliability is better if its coefficients are greater, almost at 1. The instrument is less good than the lower the coefficients (around 0). When conducting a pilot test, (Conroy, 2015) states that because the scale items have a high degree of correlation with one another, the sample size needs to be at least 30 respondents. Therefore, in this study, 39 respondents have been involved in the pilot test. The results of the analysis showed that the collaborative learning domain had a Cronbach's alpha reliability coefficient of 0.805, the perceived enhanced communication domain had a Cronbach's alpha reliability coefficient of 0.828, the perceived enjoyment domain had a Cronbach's alpha

reliability coefficient of 0.710, the perceived ease of use domain had a Cronbach's alpha reliability coefficient of 0.887, the perceived usefulness domain had a Cronbach's alpha reliability coefficient of 0.826, the resource sharing domain had a Cronbach's alpha reliability coefficient of 0.900, and the student academic performance domain had a Cronbach's alpha reliability coefficient of 0.803. Since the values of Cronbach's alpha for all items are good, it indicates that the instruments are valid and reliable for further investigation.

Data Analysis

The gathered data were statistically analyzed using the Statistical Package for Social Sciences (SPSS) software. In this study, several statistical methods were employed, such as descriptive statistics, Pearson's correlation analysis, and multiple linear regression. Descriptive statistics, which is frequency distribution analysis, is used to examine the demographic profile of respondents.

Pearson's correlation coefficient (r) analysis is used to identify the presence of a linear relationship between variables. This analysis is best used for interval and ratio scale variables (Sekaran & Bougie, 2016). The value of r ranges only from -1 to 1 (a value of 0 means that there is no correlation between variables). The positive sign (+) indicates a positive correlation, meaning that an increase in one variable will cause another variable to increase. While the negative sign (-) indicates a negative correlation with the meaning of when one variable increase will cause another variable to decrease or otherwise. Table 1 shows the rule of thumb for the correlation coefficient used in this study.

Table 1: Rules Thumb of Correlation Coefficients

Variable	Interpretation
± 0.01 to ± 0.20	None / Very Low
± 0.21 to ± 0.40	Low
± 0.41 to ± 0.70	Moderate
± 0.71 to ± 0.90	High / Strong
0.91 to ± 1.00	Very High / Strong

Then, a multiple linear regression analysis was conducted to determine the most significant factors affecting students' academic performance. This statistical method was selected because it is appropriate to investigate the relationship between multiple independent variables, such as live streaming, celebrity endorsements, online reviews, and promotional tools, and the dependent variable, online shopping behaviour. Multiple linear regression lets you look at how these predictors affect the outcome while also considering other factors. This advantage renders it an excellent option for identifying patterns in decision-making processes. The model is given by equation (1):

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \varepsilon \quad (1)$$

Where y denotes the students' academic performance, x_1 denotes collaborative learning, x_2 denotes perceived enhanced communication, x_3 denotes perceived enjoyment, x_4 denoted perceived ease of use, x_5 denotes perceived usefulness and x_6 denotes resource sharing. Meanwhile, β_0 is the constant term, the rest of β' s are the regression coefficients and ε is the error term.

Results

Descriptive Statistics

This section addressed the respondent characteristics, including gender, level of education and course. Table 2 shows the demographic information for 388 students.

Table 2: Demographic Profile of (n=388) Students

Variables	Frequency	Percentage (%)
Gender		
Male	244	62.9
Female	144	37.1
Level of Education		
Pra Diploma	18	4.6
Diploma	337	86.9
Degree	33	8.5
Course		
Diploma in Mathematical Sciences	127	32.7
Diploma in Computer Sciences	136	35.1
Diploma in Accountancy	5	1.3
Diploma in Business Studies	65	16.7
Diploma in Investment Analysis	27	7.0
Bachelor of Accountancy (Hons)	28	7.2

Based on Table 2, the majority of the students are from the female group, which is 62.9%, while the male group is 37.1%. The percentage for diploma students is 86.9%, degree students are second with 8.5%, and Pra diploma students have the lowest percentage at 4.6%. Relating to the course, a slight majority of the students (35.1%) are from the Diploma in Computer Sciences. Following this is 32.7% from the Diploma in Mathematical Sciences. Only a small percentage (1.3%) of students are pursuing a diploma in accounting.

Table 3 represents the percentage of students having personal social media accounts such as Facebook, Instagram, Twitter, TikTok, Whatsapp, Telegram, YouTube and others. It shows that a very high percentage of students currently have their personal social media accounts (99.2%) compared to those who do not (0.8%).

Table 3: Percentage Of Students Having Personal Social Media Accounts

Options	Frequency	Percentage (%)
Yes	385	99.2
No	3	0.8

Pearson's Correlation Coefficient Analysis

Table 4 presents the correlation results between collaborative learning (COL), perceived enhanced communication (PEC), perceived enjoyment (PEE), perceived ease of use (PEOU), perceived usefulness (PU), resource sharing (RS), and students' academic performance (STP). The results show that all the independent variables have a significant relationship with academic performance among university students. The relationship between COL and STP is 0.542 ($p < 0.01$), which indicates a moderately positive correlation between these two variables. While the relationship between PEC and STP is 0.519 ($p < 0.01$), it indicates that there is a

moderately positive correlation between these two variables. Similarly, the correlations between PEE, PEOU, PU, and STP among university students are moderately positive (0.489, 0.493, and 0.565, respectively). There is also a moderately positive relationship between RES and STP, which is 0.451. Therefore, it means that university students with moderate collaborative learning, perceived enhanced communication, perceived enjoyment, perceived ease of use, perceived usefulness, and resource sharing tend to have a moderate level of academic performance.

Table 4: Correlations between Independent Variables and Dependent Variable

Variables	COL	PEC	PEE	PEOU	PU	RES	STP
COL	1	0.542**	0.519**	0.489**	0.493**	0.565**	0.451**
PEC		1	0.521**	0.506**	0.526**	0.559**	0.437**
PEE			1	0.663**	0.572**	0.611**	0.424**
PEOU				1	0.558**	0.596**	0.452**
PU					1	0.588**	0.456**
RES						1	0.593**
STP							1

** Correlation is significant at the 0.01 level

Multiple Regression Analysis

Based on Table 5, there is a positive correlation ($r = 0.624$) between the dependent variable, which is students' academic performance, and the independent variables, which are collaborative learning, perceived enhanced communication, perceived enjoyment, perceived ease of use, perceived usefulness, and resource sharing. The R-squared value of 0.390 indicates that 39% of the total variation in academic performance among university students is explained by all the independent variables. Additionally, there are other factors that this study did not examine that help to explain the remaining 61%.

Table 5: Model Summary

R	R Square	Adjusted R Square	Standard Error of The Estimate
0.624	0.390	0.380	0.494

Table 6 indicates that the model is significant as the F-test is 40.525 with a p-value (0.000) less than 0.05. This finding suggests that the academic performance of UiTM students may be predicted to be using at least one of the independent variables.

Table 6: ANOVA Table

Model	Sum of Squares	df	Mean Square	F	P-Value
Regression	59.329	6	9.888	40.525	0.000
Residual	92.964	381	0.244		
Total	152.293	387			

** Correlation is significant at the 0.05 level

From the results in Table 7, the equation of the multiple linear regression model is written as:

Students' Academic performance

$$= 0.822 + 0.110 (\text{COL}) + 0.073 (\text{PEC}) - 0.029 (\text{PEE}) + 0.096 (\text{PEOU}) + 0.088 (\text{PU}) + 0.393 (\text{RES})$$

However, only two variables are significant, which are collaborative learning ($t = 2.079$, $p\text{-value} = 0.038 < \alpha = 0.05$) and resource sharing ($t = 6.723$, $p\text{-value} = 0.000 < \alpha = 0.05$). While other variables such as perceived enhanced communication, perceived enjoyment, perceived ease of use, and perceived usefulness are not significant towards students' academic performance. Therefore, the final model shows that only two variables, which are collaborative learning and resource sharing, influence and contribute to academic performance among university students.

Table 7: Coefficient of Regression for The Association between Independent and Dependent Variables

Model	Unstandardized Coefficients		Standardized Coefficients	T	P-Value
	B	Standard Error	Beta		
Constant	0.822	0.202		4.077	0.000
COL	0.110	0.053	0.110	2.079	0.038**
PEC	0.073	0.052	0.075	1.409	0.160
PEE	-0.029	0.062	-0.028	-0.461	0.645
PEOU	0.096	0.062	0.090	1.543	0.124
PU	0.088	0.052	0.094	1.715	0.087
RES	0.393	0.058	0.397	6.723	0.000**

Dependent variable: Students' Academic Performance

Discussion

It can be inferred from the data analysis and discussion of the results that all independent variables, which are collaborative learning, perceived enhanced communication, perceived enjoyment, perceived ease of use, perceived usefulness, and resource sharing, had a significant relationship with academic performance among university students. However, only collaborative learning and resource sharing contributed to the students' academic performance, while the other variables were not significant factors.

In this study, we can say that collaborative learning influences students' academic performance. Collaboration activities between educators from the same subject and grade level can significantly increase the efficacy of instruction and enhance student learning. This result was consistent with Saka (2021). According to their study, students taught by a collaborative teacher saw a greater mean achievement gain than students taught by an isolated teacher. In other words, collaborative learning may be contributing to an increase in students' learning. Reeves et al. (2017) also agreed that effective collaborative teaching involves exchanges and activities that benefit both educators and learners. It can raise the level of teaching and, in turn, the student's learning achievement. Student achievement is correlated with teachers' collaborative team teaching. This type of research has developed a few ideas about how

teachers must collaborate with coworkers and outside parties, such as universities, education professionals, school communities, and others, to maintain student achievement and motivation in their learning (Anwar et al., 2021).

Aside from that, this study shows that resource sharing influences academic performance among university students. Resource sharing is essential to increasing academic achievement. It was agreed upon by Moghavvemi et al. (2018). Their study found that resource or knowledge sharing has a positive effect on academic performance. Academic institutions use Facebook as a platform for resource sharing and as a way to transform their academic processes into an online learning environment. Establishing a virtual space and enabling students to exchange knowledge will promote a more effective and positive learning environment. According to Chordkunpan and Worasatepongsa (2020), resource sharing has a direct positive influence on academic achievement. The sharing of knowledge allows one person to help another. Before they may be applied to build and enhance their competencies. Sharabati (2018) has also shown the significant impact of online sharing of knowledge on students' academic achievement. According to this research, students will perform better academically the more educators use and promote social media in the classroom, and vice versa.

Furthermore, the fact that only two factors had a substantial impact on students' academic performance highlights the question of whether this result is particular to the study's sample or representative of larger patterns. These findings may be influenced by cultural characteristics, demographics, and students' behaviours, according to a comparison analysis with the body of existing literature. Another three variables, which are perceived usefulness, perceived ease of use, and perceived enjoyment, were not significant. This study found no significant impact of perceived ease of use and perceived usefulness on academic performance, contrary to findings in prior literature (Rahman et al., 2020). These findings contrast with other studies that highlighted the importance of these concepts in digital engagement (Lavidas et al., 2024). This aligns with the argument that online engagement is increasingly driven by hedonic rather than utilitarian motives, particularly in non-academic contexts (Karakose et al., 2022). One factor could be the nature of social media, which is influenced by social trends and influences rather than just perceived advantages or practical convenience.

There is an additional potential explanation based on the demographic and environmental features of study participants. The interplay of social networks, engagement in activities, and learning skills creates a different version of artificial intelligence being applied in academic tasks. Tülübaş et al. (2023) comments that the impact of these digital activities varies by areas, tracing the relation between the academic results and the digital engagement. Furthermore, culture may account for these results which are non-significant. Western research contexts, for example, tend to place a heavy focus on the importance of perceived usefulness and ease of use (Lavidas et al., 2024), while Malaysian respondents' preferences and behaviors could be different due to some sociocultural factors. There might be other more important determinants than the social media popularity of facebook and twitter that are traditional TAM (Technology Acceptance Model) predictors. Moreover, research has shown some aspects of social media and its relation to academic performance, as some scholars believe, the patterns of consumption influence the academic performance in a positive or negative way (Tülübaş et al., 2023).

Conclusion and Recommendations

The purpose of this study is to gather empirical data regarding the factors that influence students' academic performance at the university. The findings suggest that resource sharing and collaborative teaching may have a bigger impact on students' academic performance, even though earlier research has shown that perceived value and ease of use are important in getting people to use new technology. But since only two things had significant impacts on students' academic performance, it is not clear if this finding is unique to the study's sample or a sign of bigger trends. Based on previous research, these findings might be affected by several factors such as cultural factors, demographics, and students' behaviour. Regarding suggestions, this study used the limited sampling methodology of convenience sampling, which is challenging when it comes to generalizability. The data was unable to accurately represent the entire group of university students because of factors such as demographics and the variety of courses. Therefore, for future research, the probability sampling technique will be applied. Besides that, the proposed statistical method, which is structural equation modeling (SEM), will be used for future research, as this method is suitable for large sample sizes and many assumptions but might be able to find hidden factors and indirect effects. Future research should investigate interaction effects or non-linear models to enhance the understanding of these relationships, despite the assumptions of linearity, independence, and the lack of multicollinearity inherent in multiple linear regression. Identifying these factors enhances the methodological transparency and validity of this study.

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