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The Impact of Transformation in Higher Education: Introductory of New Technology, Is It Good or Bad?

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Abstract

This study examines the impact of transformation in higher education, in particular on the introduction of new technology to students in Malaysia. This study is unique as it focuses on usage and technology resistance. Another uniqueness of the study is that technology resistance is measured by non-technology and post-technology antecedents, which have yet to be discovered by existing studies. These factors could potentially influence students to refrain from using technology in their studies, as many previous studies only focus on usage. Furthermore, prior research should have classified different types of resistance that cause significant knowledge gaps in technology education. A survey of 156 respondents concluded that antecedents of non-technology usage do lead to resistance. Post-technology usage, similarly, does influence resistance. As expected, the usage of technology influenced students' performances. Finally, resistance to technology did not affect students' performance. This is likely the first study to examine the impact of transformation in education and classify the antecedents of technology resistance into two categories: non-technology usage and post-technology usage. This research will help policymakers understand how students react to educational transformations. Adding technology could improve how well students do in university, but it could also hurt how well they do in university.

Keywords: Non-technology usage, post-technology usage; technology resistance, students' performance, Malaysia universities

1. Introduction

Introducing new technology in higher education in Malaysia is another milestone in the transformation of education. For instance, since COVID-19 has plagued Malaysian higher learning institutions and schools for the past two years, most universities and schools have mandated online learning classes for students and academicians. This decision stands to keep COVID-19 from spreading quickly in physical education classes. Even though online classes are new to students and academicians, they do have the option of not taking them if it is the only way for them to graduate, as there is no evidence that COVID-19 will end. As a result, education based on cutting-edge technology is critical in assisting students in completing their education. Besides, students' ability to use technology effectively is now critical for locating relevant data and information for assignments, projects, and thesis writing on the Internet. Malaysian university students, in particular, use an online library and the Internet to download academic articles, proceedings, reports, and videos for academic purposes and other media content for recreational purposes [19].

Furthermore, technological advancements have given students a new way to engage their memories actively, excitement, stories, images, and modes of communication with their physical and virtual friends and families through social networking sites (e.g. Facebook, Twitter, Linkedln), social review sites (e.g. Yelp and TripAdvisor), image sharing sites, video hosting sites, community blogs (e.g. Medium and Tumblr), and discussion sites (e.g. Reddit, Quora, Facebook) [17].

However, these technologies have a few unintended consequences or potential drawbacks after years of use. Students complained that online classes made them bored, tired, and red-eyed and that they had agronomic problems in a few cases. As a result, these students believe that online classes could be more flexible and suitable for them. Furthermore, online classes are highly reliant on high-speed networks, and the most up-to-date I.T. gadgets, which are costly and only some students can afford them. As a result of the COVID-19 pandemic, many families' incomes and budgets have suffered a deficit because economic downturned, making it impossible to lease faster Internet or purchase new laptops. As a result, these students must share a laptop with their siblings, and a bad internet connection will undoubtedly affect their academic performance. As a result, these incidents may have a negative impact on students' perceptions of technology as a burden because it is expensive and does not support their need to study. Hence, the introduction of new technology will lead students to develop technology resistance [13, 20].

In general, there are two kinds of technology resistance. For illustration, technology resistance may arise due to the environment or the individual, referred to as non-technology usage. People who used technology that was classified as post-technology usage were another example.

The following is an example of non-technology usage: A few students believe certain technologies will harm their academic performance. They believe that by utilizing specific social media platforms, they will be able to waste time and money on new technology and app subscriptions. The allure of technology will not entice these students. When wealthy colleagues are involved, another scenario where technological resistance may arise. Students, especially inexperienced students who rely on close friends for support, tend to follow their peers. They will follow suit if their peers are less tech-savvy than they are. Technology resistance will undoubtedly increase if students follow their peers to avoid using technology [3, 12, 24]. These are two examples of non-technology applications that contribute to technology resistance. Technology has been the primary focus for the past decade, resulting in increased effectiveness, efficiency, and quality.

On the other hand, post-technology usage is the next category that could lead to technology resistance. Negative prior experience with technology, poor system design, and security systems are three significant antecedents that may influence technology resistance. Students may be hesitant to use technology if they have had bad experiences with it in the past [9]. Students may believe similar technologies will impair their performance if they have difficulty using new devices or information technology appliances. As a result, they will reject new technology for fear of having to go through the same thing again.

Furthermore, some students will only use technology if it is well-designed. If students are proficient in information technology but it needs to meet their needs and desires for a certain level of design, this scenario may arise. Last, most technology, including social media, must be adequately protected. Students may fear confronting cyberbullying, which has become a threat and jeopardized their lives. The university's systems must be free of viruses and resistant to attacks from various information technology adversaries. Users can only use systems and social media platforms if they are adequately secured. As a result, technological resistance will rise [8]. In a nutshell, these three scenarios occur when students have used a piece of technology and, as a result of negative experiences, poor system design, and a lack of security systems, are more likely to resist technology.

According to the aforementioned data, it follows that students may become both users and opponents of the changing technology. According to numerous earlier studies, using technology will increase performance while resisting it will decrease performance [1, 5, 14]. However, given how quickly technology advances change, the conclusions of these studies are out of date, and more recent discoveries are essential.

Additionally, the majority of current studies distinguish between technology use and resistance while it is essential to correlate every component of technology use and resistance in one place, indicating a significant knowledge gap. Additionally, it seems crucial to uncover fresh data on education given that the majority of studies focus on the manufacturing, maritime, and logistics sectors [5, 19]. At the time, a study in this field addressed the following research questions:

1. Does a colleague's affluence affect student resistance to technology?
2. Does one's expectation of efficacy affect student resistance to technology?
3. Does technology usage affect negative prior experiences?
4. Does technology usage affect system security?
5. Is technology usage a predictor of poor system design?
6. Is prior negative experience a predictor of technology resistance?
7. Is poor system design a predictor of technology resistance?
8. Is system security a predictor of technological resistance?
9. Does students' resistance to technology affect their performance?
10. Is it possible to predict students' performance based on their use of technology?

The following section reviews the literature and formulates propositions for testing in this study.

2. Review of Literature

2.1. Colleagues' Affluence and Technology Resistance

The majority of failed technology implementations, between 50% and 70%, resulted from organizational and people-related issues. The following characteristic of user resistance is the influence of peers [14, 19]. This trait has been extensively studied regarding how colleagues affect an individual's perception of a job. This situation occurs when initially resistant employees observe their colleagues adapting their work behaviors to a new technology system with ease. They are also likely to believe that they are capable of mastering new technology [15].

Additionally, additional research demonstrates that colleagues influence technological resistance. For example, Markus [14] discovered that an individual's level of technological resistance could be influenced by the expectations of others (co-workers). Joshi [12] demonstrates that people recognize cues in their environment and may react to them, even more so when the cues originate from highly regarded colleagues. Thus, if colleagues oppose the new information technology and place-specific blame for failure, the individual may do the same [11]. According to the current study, students may avoid using specific technology devices to keep up with their friends. As is the case with their friends, they are the most influential people in their lives, and due to their separation from their families, they will make decisions on their behalf. The situation is legitimate because their friends mean the world to them, and their lives would be in jeopardy without them.

Additionally, if their friends have previously had negative experiences with similar technology, they will be less likely to use it in the future. As a result, students will pay attention to their peers and avoid using technology. Unmistakably, this is a rejection of technology. Thus, to support this argument, the following hypothesis is advanced:

H1: Colleagues' affluence is a predictor of technology resistance

2.2. Efficacy Expectation and Technology Resistance

An efficacy expectation is users' hostile attitude toward new technology [2]. Most technophobes believe that utilizing technology, such as the Internet, will impede their ability to perform necessary tasks. This notion is problematic in many departments of corporate companies that were previously government agencies. However, it has morphed into private businesses, where a sizable portion of their staff is unwilling to explore and adopt new technologies. For example, many middle managers at terminal operators in Port Klang place a premium on intranet effectiveness. This situation occurred during the intranet's initial stage of development. Some senior IT executives believed they could excel at their jobs by utilizing traditional technologies, such as telephones and fax machines, except intranets [23].

According to Nguyen et al. [17] research, students resist using the intranet due to unfamiliarity. They discovered that most of them needed to be more familiar with performing specific intranet tasks and believed using it would impair their performance. Additionally, they believed traditional technologies such as fax machines and telephones would improve their performance. One could argue that efficacy expectations originate from specific sources. For instance, Kim [13] believes efficacy expectations develop due to prior failures, reinforcing anxiety and negative attitudes. As a result, this end-user is opposed to introducing new computer-based technology (CBT) or modifying existing CBT, regardless of the degree of difficulty associated with the CBT's learning. As a result, we generate the following hypothesis:

H2: Efficacy expectation a predictor of technology resistance

2.3. Technology Usage and Negative Prior Experience

According to Martinko et al. [15] there is empirical evidence that prior negative experiences with information technologies are associated with the rejection of information technologies. Norzaidi et al. [24] studied user satisfaction and technology resistance. A few officers refused to use the Internet due to prior negative experiences with similar technologies. These students believed that using the Internet would have a detrimental effect on their lives. As a result, one of the characteristics of user resistance is a prior negative experience with technology.

On the other hand, Dishaw and Strong [7] take a contrary position on the issue of technology experience in other studies. They investigated the effect of increasing exposure to maintenance tools and tasks on the TTF model for software maintenance tool use. They investigated two hypotheses in their research: (1) familiarity with maintenance tools and (2) familiarity with the maintenance task. They found substantial support for the first part of their initial hypothesis but could not determine the direction of the effect. Furthermore, hypothesis two is unsupportable in any way. Dishaw and Strong assert that the fit between a tool's functions, the task's requirements, and the maintainer's experience with the tool are excellent predictors of the tool's use for a particular maintenance project. As a result, experience with the task does not affect the fit models.

According to this study, students who struggle with technology may avoid similar technologies in the future. The same students will believe that similar technology, regardless of brand or functionality, is challenging and insufficient for the assigned tasks or projects. When technology is required or mandatory, students are compelled to use it, resulting in incomplete assignments or projects. Indirectly, poor assignments and projects will have a detrimental effect on their academic performance. This action is also comparable to the situation in which students who are careless with the software or systems they use produce substandard assignments or projects. As a result, their academic performance will suffer due to this condition. To summarize, empirical research on user resistance to technology use and prior negative experiences with technology use is inconsistent and contradictory [3]. According to this argument, the following hypothesis is formed:

H3: Negative prior experience is a predictor of technology resistance

2.4. Technology Usage and Systems Security

There is a condition in which students use specialized technology to devastate their work assignments and final project papers. This situation invariably occurs when these particular systems need to have adequate security measures in place. When powerful trojans or viruses attack students' assignments, the students' files and work are jeopardized. The affected file could not be opened, and the sentences in the assignments were not editable [8]. Almost invariably, this results in substandard writing. As a result, students must redo their assignments or find alternate solutions to complete them. This situation will undoubtedly cause them stress and apprehension regarding technology.

Moreover, it may be related to a prior negative experience, as students who have had a negative experience with a particular technology, information, or technology device are more likely to avoid it in the future and instead use alternative technologies or none. That is why most universities will ensure that all devices, particularly lab computers and online classes, are adequately protected by cutting-edge security systems. University networks, like intranet networks, will be protected by two or three layers of firewalls [2]. It is difficult to imagine universities being unconcerned about security systems, as this would have impacted both students' academic performance and the university's overall performance. The following proposition is made as a result of this study:

H4: Systems security is a predictor of technology resistance

2.5. Technology Usage and Poor Systems Design

One of the reasons for people's adverse reactions to computers is poor system design (Markus, 1983). Poor systems can be defined as those that lack functionality, interface design, modes of presentation, and accessibility of two insufficient response times are insufficient, all of which amplify adverse reactions and frustrate those who initially exhibit positive ones [6, 11]. Gebauer and Shaw (2004) found that inadequate system documentation has a detrimental effect on usage. While systems may perform well on all performance measures, they may be underutilized due to user dissatisfaction with the systems and their interface. Kim [13] discovered the source of resistance to computer-based technology (CBT) in one of his studies. According to his research, many professionals believe that end users may blame specific features of CBT for workplace problems. Resistance to CBT-determined explanations focuses on specific features of the CBT that the end-user finds challenging to learn or operate.

Additionally, Henry indicated that the causes of unsuccessful performance, such as the difficulty of using CBT, are likely to increase resistance among current CBT users and may serve as the initial cause for new CBT users. This situation may be especially true for users who exert great effort with little success. Norzaidi et al. [20] discovered that poor system design is a factor in managers' resistance to technology. The respondents contended that it would be rejected if the technology lacked an adequate system (i.e., difficult to use, had a slow operating system, and was incompatible with certain technologies). This argument constructs the following hypothesis:

H5: Poor systems design is a predictor of technology resistance

2.6. Negative Prior Experience and Technology Resistance

Until now, little research has been conducted on the relationship between prior negative experiences with technology and the subsequent development of technology resistance. However, for this study, it is possible that if students or users have had a bad experience with technology, they will be less likely to use similar technology in the future [8, 10]. For instance, if students encounter difficulties downloading free software from the university's network due to a slow internet connection, they will abstain from doing so in the future. Even worse, if students attempt to download for several hours and are suddenly unable to do so due to a slow internet connection. Moreover, if students are required to attend online classes, and the lines connecting their homes or hostels to the university's network are problematic, this situation will cause them stress and make them less likely to attend online classes [4, 11]. As such, the purpose of this study is to address this assertion.

H6: Negative prior experience will influence technology resistance

2.7. Security Systems and Technology Resistance

Another point of contention for students is whether the technology is sufficiently secure. This condition is critical because the system's security level will influence its perception of its safety [13, 19]. They are concerned that viruses or trojans will infect their assignments or final reports, jeopardizing their academic performance. This concern is a concern unique to universities. This situation is analogous to the situation in which many students are now required to attend classes online and must place some trust in the platform they use to ensure their data is secure from any technology adversaries.

On the other hand, businesses rely on electronic commerce, or e-commerce, to attract customers. Online banking, for example, is critical because each financial transaction must be valid and entirely protected by sophisticated security systems. If customers lose trust in online banking systems due to easy hacking or cracking, they will use them less. That is why many banks are currently upgrading their security measures by adding one or two additional layers of password protection to ensure the system remains secure [16, 18]. Thus, customers will trust online systems because they are simple to use and secure and eliminate the need for customers to visit banks to check their accounts, make money transfers, and conduct other related transactions. As a result, learning about this prediction is fascinating.

H7: Security systems will predict technology resistance

2.8. Poor Systems Design and Technology Resistance

Another factor contributing to students' resistance to technology use is ineffective system design. Most recent students are familiar with cutting-edge information technology, experimenting with and learning through social media platforms such as YouTube. Their fundamental understanding of information technology is significant, which is why any device or system introduced should, at the very least, match their technology knowledge [16, 20].

For example, if a university's registration system is challenging due to poor design, students will complain and may even avoid using it. This scenario occurs when the online education platform is incompatible with a computer or an iPad. This condition complicates their ability to follow in class and adds to stress [19, 20, 25]. Finally, students' performance on quizzes, mid-term tests, and final examinations will be subpar. As with online banking, a user may be discouraged from using a menu or system that is overly complicated. For example, a user wishing to make an online payment must adhere to numerous instructions until they become bored and decide not to use the service again. As such, the purpose of this study is to address this assertion.

H8: Poor systems design will affect technology resistance

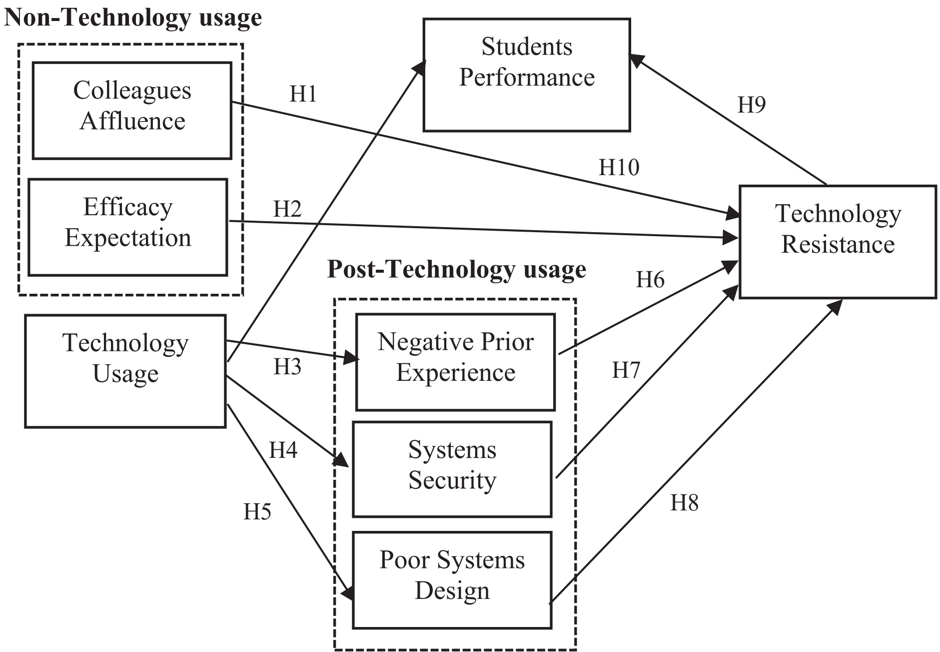

Figure 1. Research Framework and Hypotheses of the Study

2.9. Technology Resistance, Technology Usage, and Students' Performance

The literature has thus far provided scant information about students' technological resistance and academic performance. Norzaidi and Intan Salwani [18], for instance, investigated the effect of internet use on student performance. As a result, the study concluded that student resistance to technology affects their performance. Furthermore, another study discovered no correlation between intranet use and resistance to technology. Hence, most managers will regard the intranet as necessary to motivate them to improve their performance [28].

Utilizing technology will result in increased performance, resolving the issue of technological resistance. Numerous studies have shown that implementing technology increases productivity, improves quality, and lowers operating and production costs. Simultaneously, students will benefit from using technology by minimizing their errors. For instance, there is a plethora of proofreading software available. Students will proofread their work using this trial version of the software. Students, particularly those who are not native English speakers, can produce better writing with the assistance of this software than they could on their own.

Additionally, students may complete their work and theses using data analysis software such as SPSS or AMOS. With this software, students can quickly formulate and finalize their interpretations of data and validate them for their research findings. In short, students who utilize technology will benefit from increased productivity and academic performance [24]. We proposed the following to test these hypotheses:

H9: Technology resistance will predict students' performance

H10: Technology usage will influence students' performance

In summary, Figure 1 shows the research framework developed and the ten hypotheses proposed to be stated in this study.

3. Research Methodology

3.1. Sampling

The target population included 4,500 diploma and bachelor's degree students from a Malaysian university. The students in this study were chosen because they are recognized as users who rely on technology to complete assignments and final reports. Around 354 self-reporting questionnaires were distributed in the computer labs of the university library. Of the 354 questionnaires distributed, 156 (44 percent) were returned. The response rate exceeds expectations and is representative of the population studied. Sekaran [27] recommends that the questionnaire distribution method's response rate be greater than 10% to avoid sample bias and that at least 30% of responses be collected for analysis [26]. This calculation enables the results to be generalized [27].

3.2. The instrument

The questionnaire is divided into nine sections, each addressing one of the study's ten hypotheses. The first section contains five questions that elicit demographic information about respondents, such as their gender, age, current program, and faculty. The remaining sections include three items measuring respondents' perceptions of their colleagues' affluence [7]; three items measuring respondents' efficacy expectations [23]; three items measuring negative prior experience [20]; three items measuring poor system design [15]; three items measuring system security [1], three items measuring technology usage [5], three items measuring technology resistance [14, 20, 22] and six items measuring students' performance [5]. All items (except the demographic section) were evaluated using a seven-point Likert scale, with 1 indicating strong disagreement and 7 indicating strong agreement.

3.3. Analysis of Data

This section will go over the sample's characteristics and the results of the student's participation in the survey questionnaire study. The next step is to construct validity, which determines how well a test measures what it is supposed to measure. Hence, the test is designed to effectively test what it claims to test [26]. In addition, a reliability test is created to see if the instrument used or questionnaire can perform flawlessly for the current study. Correlation analysis, on the other hand, computes and measures the strength of the linear association between two variables. Finally, hypotheses testing is used to see if the alternative hypotheses proposed in this study can be accepted or rejected [27].

3.4. Sample characteristics

The current study was conducted at a university in Malaysia with the participation of 156 students. According to the data collected, most respondents are female, between 18 and 29, and enrolled in a diploma program at the Faculty of Business and Management. Each respondent has used technology for at least three months (see Table 1). Following that, the discussion will turn to validity and reliability evaluations.

Gender	
Male	30
Female	126
Age	
18-29	156
Current program	
Diploma	104
Bachelor Degree	52
Faculty	
Business and Management	111
Accountancy	34
Information Studies	10
Computer and Mathematics	1

Table 1. Profile of Respondents

3.5. Assessing validity and reliability

A general rule in determining the instrument's reliability is that the indicators should have a Cronbach's alpha of 0.5 or more [26]. With the range of Alpha scores between 0.51 and 0.93 obtained in this study, we can conclude that the questionnaire is reliable and the data can be applied for the analysis [27] (see Table 2). The initial findings show that most of the respondents perceived that antecedents of technology resistance, such as colleagues' affluence, efficacy expectation, negative prior experience, poor systems design, and systems security, influence them to resist technology usage.

Construct	Mean	Standard Deviation	Cronbach's Alpha
Colleagues affluence	2.53	1.55	0.55
Efficacy expectation	2.29	1.34	0.53
Negative prior experience	2.53	1.44	0.53
Poor systems design	2.70	1.75	0.51
Systems security	2.81	1.55	0.52
Technology usage	5.24	1.20	0.68
Technology resistance	2.57	1.52	0.83
Students' performance	5.41	1.17	0.93

Table 2. Descriptive analysis and model fit test

This study considers construct validity besides content validity [4]. In order to measure construct validity, data were extracted using principal component analysis and rotated using the Varimax method. None of the attributes were dropped when the cut-off loading was 0.40, and the eigenvalues were more significant than 1.0. (see Table 3).

Construct	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Eigenvalue	Percent of total variance explained
Colleagues affluence	0.63	1.24	61.99
Efficacy expectation	0.62	1.60	69.95
Negative prior experience	0.65	1.54	67.07
Poor systems design	0.73	1.71	61.52
Systems security	0.69	1.83	61.02
Technology usage	0.65	1.86	61.88
Technology resistance	0.82	3.00	60.02
Students' performance	0.87	4.45	74.18

Table 3. KMO and Eigenvalue Results

3.6. Correlation

The correlation matrix between the constructs is shown in Table 4. There is a positive association between poor systems design and affluent colleagues (r = 0.244). Notably, there is an association between efficacy expectations and poor systems design (r = 0.599). Following that, prior negative experiences were found to be significantly associated with efficacy expectations (r = 0.712). Additionally, security systems and prior negative experiences have a positive association (r = 0.622). There is, as expected, an association between technology usage and security systems (r = 0.591). Following that, there is an association between student performance and technology usage (r = 0.359). Finally, there is a negative association between student performance and technology resistance (r = -0.109).

	Poor Syst.	Eff Expec.	Prior Exp.	Security	Usage	Perform.	Resist
Coll Aff.	0.244**						
Poor Syst.		0.599**					
Eff Expec.			0.712**				
Prior Exp.				0.662**			
Security					0.591		
Usage						0.359**	
Perform.							-0.109

Note: * *correlation is significant at the 0.01 level

Table 4. Correlation among constructs

4. Results

The findings in Table 5 are summarised the ten hypotheses that were constructed. According to the analysis, colleagues' wealth is a significant predictor of technology resistance; thus, hypothesis 1 is not rejected (p-value = 0.000). Similarly, efficacy expectations are predicted to be technologically resistant (p-value = 0.000), rejecting hypothesis 2. However, hypothesis 3 is rejected because technology usage does not predict negative prior experiences (p-value = 0.088). Next, technology usage does not affect system security (p-value = 0.539), rejecting hypothesis 4. This study concluded that poor system design is unrelated to technology usage (p-value = 0.983), effectively rejecting hypothesis 5. On the other hand, individuals who have negative experiences with technology are more likely to be resistant to it (p-value = 0.000), so hypothesis 6 should not be discarded.

Hypothesis	Causal Relationship		Factor	β	Sig.	Result
H1	Colleagues affluence	→	Technology resistance	0.590	0.000	Accepted
H2	Efficacy expectation	→	Technology resistance	0.859	0.000	Accepted
H3	Technology usage	→	Negative prior experience	-0.137	0.088	Rejected
H4	Technology usage	→	Systems security	0.043	0.539	Rejected
H5	Technology usage	→	Poor systems design	-0.022	0.983	Rejected
H6	Negative prior experience	→	Technology resistance	0.810	0.000	Accepted
H7	Poor systems design	→	Technology resistance	0.800	0.000	Accepted
H8	Systems security	→	Technology resistance	0.707	0.000	Accepted
H9	Technology resistance	→	Students' performance	-0.109	0.174	Rejected
H10	Technology usage	→	Students' performance	0.359	0.000	Accepted

Table 5. Hypotheses testing

Furthermore, hypothesis 7 is not rejected because poor system design strongly predicts resistance to technology (p-value = 0.000). Do not reject hypothesis 8 because systems security strongly predicts technology resistance (p-value = 0.000). Additionally, student performance is unrelated to technology resistance (p-value = 0.174); thus, hypothesis 9 is rejected. Finally, technology students perform significantly better academically (p-value = 0.000). This indication does not mean that hypothesis 10 should be discarded. The discussion and practical implications will be expanded in the following section.

5. Discussion and Practical Implementations

By examining the causal relationships between dimensions of technology resistance and student performance, this article adds to the body of knowledge by narrowing the research gap. This study is unique in holistically examining the critical factors affecting non-technology and post-technology usage in light of technology resistance and student performance. The model is based on a unified framework that incorporates theories about colleagues' affluence, efficacy expectations, negative prior experience, poor system design, and system security identified through an extensive literature review. Additionally, the model is intended to aid decision-makers in comprehending the relationships between variables, which have recently received scant attention in the literature. These variables were combined and tested in one location to understand better how they were related.

The current study is unique in that it examines the effects of students' perceptions of non-technology usage and post technology usage. Students with negative prior experience, insufficient security systems, and poor system design are more likely to be rejected due to their use of similar or identical technology. Thus, this study seeks to ascertain whether students will feel this way after a negative technology experience.

The current study recruits students with no prior experience with specific technologies but is prone to reject them due to their peers' affluence and efficacy expectations. The findings indicate that there is no such correlation between students who use technology to have a negative prior experience, insufficient system security, or insufficient system design and those who use technology to have a positive prior experience. Thus, even if a small percentage of students have negative experiences with technology, their numbers are insignificant and do not reflect overall outcomes. Due to the mandatory nature of technology, students may be compelled to use it. This suggestion ensures that those who use technology have no negative prior experiences, insufficient security, or poorly designed systems.

Additionally, this study discovered that all antecedents of technology resistance, such as negative prior experience, insufficient security systems, and poor system design, contribute significantly to technology resistance. Similarly, two additional technology resistance antecedents, colleague affluence, and efficacy expectations, significantly affect technology resistance. As a result, students believed these antecedents had the most significant influence on technology resistance. There is no doubt that technology resistance does not affect students' performance. This result is logical, given that most students must use technology to complete assignments, final projects, and other related assignments. They will only be able to perform if this technology is used. This argument is determined by the amount of technology used, which significantly impacts how well students perform.

Figure 2 displays the finished model. Colleagues' affluence is one factor that predicts aversion to technology. In order to plan, coordinate, direct, and control the company's strategies, students and coworkers usually work together. Colleagues may therefore have an impact on students' decisions to use technology. Coworkers who abstain from using technology are likely to influence pupils to follow suit. These results are consistent with research by Joshi (2005) and Markus (1993).

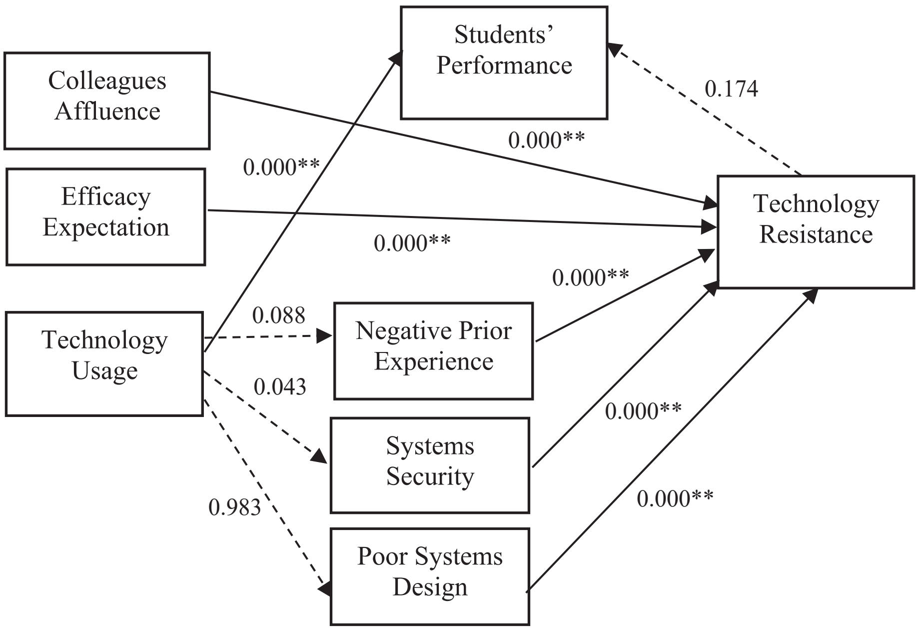

Figure 2. The Final Model of a Study

This study also came to the conclusion that students' performance can be influenced by their earlier experiences. Students who have had a bad encounter with technology, for instance, can be resistant to it. They will think that using technology will always have a similar outcome and that its functioning is always equivalent. As such, the present study demonstrated its support for the earlier research conducted by Friedman et al. (2021) and Elisi et al. (2021).

Another intriguing conclusion is that efficacy expectation is a significant factor that contributes to technology resistance, and this study supported the findings of Kim (2021), Nguyen et al. (2021), and Norzaidi et al. (2011). The rationale is that pupils would not use technology if they believe they are incapable of using it properly.

Several practical implications may assist decision-makers in achieving the above objectives, including the following: (1) support and commitment from university top management and lecturers; (2) ensuring a match between task requirements and technology functionalities; and (3) providing appropriate training to students.

Nothing is more critical than top management leadership and commitment to such an initiative regarding technology implementation. Because a more significant proportion of technology acceptance is attributed to the university's cultural component, university administrators and lecturers play a critical role in shaping the organizational culture and promoting organizational change. University leaders and lecturers must understand the benefits of implementing technological changes to accomplish organizational goals and how students perceive and use technology to improve their performance. It makes no sense to establish a new system to assist students with their assignments if they do not desire it.

A critical consideration, for instance, is communicating with all students to earn their trust and understanding. Another strategy for communicating the system's importance is to incorporate its use and an individual's performance into the university's vision and mission statements. Students will be persuaded to use the system when they see their lecturers' commitment. On the other hand, usage would enhance individual and institutional performance [11]. Along with emphasizing the value of such systems to the organization, leaders must educate students about the benefits of using technology in their daily jobs. Lecturers must set an example by utilizing technology themselves. Suppose lecturers encourage students to use technology while they continue to browse information on the desktop when they can do so via technology. In that case, trust is eroded, and successful technology implementation is unlikely. In short, the support of university administration and lecturers for the spread of technology usage can be operationalized through the lecturer's communication with students. Additionally, university top management and lecturer support for the infusion of technology can be operationalized through university top management's communication regarding integrating technology into organizational and class processes.

Second, the critical nature of adapting information technology to students' needs cannot be overstated. Efforts must be made to ensure that task requirements and technology functionalities are compatible. In other words, the system must be intuitive enough to capture all task specifications. There is a reason that the task-technology fit of an individual is a predictor of their performance [9]. Students who have worked at the same company for an extended period are accustomed to traditional communication and information retrieval methods. This condition may find new systems frightening and desire to discover technical flaws in the technology. In this case, students may be unwilling to manipulate their technology. use if the task and the technology are not a good match.

Thirdly, training in information technology is regarded as a time-honored method of increasing usage and perceived usefulness. This situation may occur because users may also need a thorough understanding of the capabilities of the technology, resulting in less-than-optimal utilization of the systems' functionalities. Thus, training has been connected to the issue of implementing innovative technologies. The authors discovered during a pre-study that students do not receive any technology training [12, 25]. If they do, they receive training only once or twice a year. As a result, many of them lacked technology proficiency.

Additionally, it has been observed that students' level of technology literacy still needs to be below expectations. For instance, some students interviewed have difficulty performing piecemeal tasks on computers, such as creating histograms or using Microsoft Office PowerPoint. The university must provide a range of computer training to its students, from basic to intermediate to advanced. One can only expect users to understand how to use technology. if they can operate a simple application on a computer [24, 25]. When such an environment is created, users will feel at ease interacting with technology.

6. Conclusion, Limitation, and Future Research

The survey findings are hoped to shed some light on the university's ability to recover from its technology implementation through the recommendations made in this paper. Additionally, it is hoped that the recommendations will serve as a guide for other industries in implementing new technology most effectively. Nonetheless, given the survey's small sample size and scope, the results have been interpreted cautiously. For prospect studies, it is recommended that a larger sample size be used across multiple industries. Future research should also examine two additional critical issues (attention to withdrawal from the program and withdrawal from work) and correlate them with student performance. A cross-cultural study can also be conducted to determine whether the findings are unique or consistent across cultures.

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