A SEM-based approach towards the Utilization of Technology and its Relationship to the performance of private business education institutions

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Abstract

Gartner sees device meshes and mesh apps as a future strategic technology trend because they can anticipate people's needs based on their historical data and then provide the services needed or service innovation to endorse their activity engagement. Many theories, however, have found that intrinsic human motivation, rather than external tools, gets people to take action. This is why the authors of this study construct a theoretical foundation by bringing together the existing logic and theories to inquire into how potential future technologies might provide advantages to society. It combines the motivation theory (primarily task technology theory) and the task-technology fit (TTF) model that examines how people use technology to accomplish specific tasks. It distinguishes between users' technology-enabled and technology-dependent actions. It concludes that focusing too much on technology's role without considering users' motivations would give a clearer picture of how technology is used. According to a 2018 study (Ming-Hsiung Hsiao, A study's conceptual and technology-dependent user behavior toward device mesh and mesh app), users' attitudes and actions toward these technologies constantly evolve. The study tests the Utilization of Technology and its Relationship to the performance of private business education institutions.

Keywords: *Mesh devices, task performance, technology characteristic, University Performance, technology theory, task technological fit theory.*

Introduction

The development and improvement of technology a constant. Odell (2020), in their research, try to introduce Gartner's top 10 corporate strategy trends in technology for 2017 and notes that the three major themes that are the foundation of these technologies are "intelligent," "digital," and "mesh," all of which have significant transformative power across industries. In particular, people's daily lives are intertwined with the mesh, defined as "the direct connections of people, processes, things, and providing a fully intelligent digital ecosystem" (Odell, 2020). Using a conversational system is one way that humans and machines can communicate across the internet of connected devices using a variety of senses (sight, sound, touch, etc.).

The world rapidly evolves into a network of interconnected, digitally enabled smart things, people, and information. To anticipate users' needs in different contexts, gadgets can adjust and improve based on specific scenarios, locations, and use contexts (Meng, 2019). These innovations will lay the groundwork for "ambient user experience," a future system in which new devices shape users' surroundings and interactions in real-time in response to data collected in the background. In the future, people will not even realize they are surrounded by technology because they will be able to go about their daily lives without having to interact with it conscientiously. As one example of a program that can help make the user's experience more natural, Google Now is a great place to start. Analyzing past data, such as a user's mobile phone search history, can deduce recurring themes in that person's life. Google Now can automatically notify users based on their location if they are in an area with unusual traffic when they generally leave the office to drive home (Jamil, Khan, & Zafar, 2022).

The advent of these cutting-edge gadgets and mesh will inevitably usher in a new era in human history. However, whether or not such a lifestyle is what most people want is still up for debate (Meng, 2019). For example, soon, technology like device mesh and grid apps will be able to predict people's needs based on their historical data and then provide the necessary services or innovation strategy to support their active engagement. Theories such as the theory of planned behavior, the theory of planned behavior modification, and the theory of planned behavior maintenance all agree that people's beliefs, beliefs, and goals drive their need for activities and, by extension, their actual behavior. We need to consider the reasons behind emerging technologies to avoid seeing people increasingly reliant on machines to the detriment of their health and happiness (Khan, Khan, & Ahmad, 2016).

There are two distinct ways that members of the "app generation" interact with digital technologies, which Areepattamannil (2019) characterize as "app-enabled" and "app-dependent," respectively. " App-enabled " users are savvy about utilizing apps to expand their

horizons and improve their quality of life (Lam, 2019). In contrast, Android users accept app limitations and determinations of their processes, preferences, and objectives, which may, in turn, restrict their freedom and potential (Bates, 2020). Since we are entering the mesh age, it is important to consider whether this type of future technology will encourage users to become more reliant on it or help them get more done and live better due to the increased value they derive from the activities they participate (Shaikh, Khan, & Bibi, 2013).

As time goes on, technological advancements and changes are made. People, devices, materials, and assistance have all become part of a smart, digitally connected mesh; new technologies may learn to adapt to people's requirements based on situation, location, and usage context, and the principles that underlie these technologies have significant transformative power all over industries (Kunina-Habenicht, 2020). Information technology's morals, benefits, and achievements have been studied extensively, especially in the case of mobile technologies and mobile services. Several works by Koğar (2019) come to mind. The predictor variables of technology characteristics positively affect university and task performance when it is understood in terms of usage of innovation and task technology fit (Benjamin, 2018). Soon, many new mobile apps will be able to interact with gadgets connected via the Internet of Things. With its many mesh applications, the device mesh provides the front-end experience while the service architecture scales horizontally in the cloud (Akbar, Soomro, & Khan, 2017). As more and more devices become networked and digitally interconnected, more and more people will be able to use these tools and gain access to the data and services they need. The term "device mesh" is used to describe the interconnectedness of various types of devices, such as those used in mobile phones, wearable electronics, consumer and home electronics, cars, and the environment, all of which communicate with one another over a network, in this case, the Internet of Things (IoT) (Bulut, 2018). People who interact with this mesh benefit from a consistent and seamless user experience regardless of where they are or how long they have been there. As time goes on, technological advancements and changes are made. People, devices, materials, and assistance have all become part of an intelligent, digitally connected mesh (Khan, & Sajjad, 2013).

Research Problem

This investigation seeks to fill this gap by studying various interconnected elements that have yet to be investigated (Courtney, 2018). While this study primarily analyzed the success of Pakistani universities, the research also broke down the numbers for various small and medium education institutions (Hu, 2018). In addition, as we develop new technologies, we evaluate their potential for delivering user value (in the form of improved task performance). A primary

focus of the research is the relationships between different companies. In addition, we examine whether technological opportunism moderates the connection between task-technology fit and technology adoption and University and task performance.

Research Objectives

Several research aims were developed for this study to help narrow the research gap.

1. To learn more about how the technology performs on specific tasks and how it can be applied to improve business operations.
2. To create a theoretical framework for investigating how technology affects business productivity.
3. To learn how technological opportunism affects the correlation between assignment fit and tech adoption, affecting the University and task outcomes.

Research Questions

To explore this research, the gap the study employs, and the research objectives, the following research questions, were designed.

1. What is the relationship of technological opportunism on task-technology fit and University Performance from the literature?
2. What is the impact of technological opportunism on the relationship between University Performance and task performance with task-technology fit and utilization of technology as a moderator?
3. What is the mediating role of task-technology fit and utilization of technology on University Performance and task performance about the variables identified from the literature?

Hypothesis

Keeping in mind the objective, the research problem and the topic, the SEM on smart PLS was selected as the ideal testing method. For the test, several hypotheses were formed:

H1. Technology characteristic significantly impacts university performance by mediating task-technology fit.

H2. Technology characteristic significantly impacts task performance by mediating task-technology fit.

H3. Technology characteristic has a significant impact on task performance by mediating the utilization of technology

H4. Task technology fit significantly impacts University Performance by moderating technological opportunism.

Review of Literature

Understanding how technology affects people's productivity is a major focus of research in information systems (Hu, X., 2018). Task-technology fit is crucial to comprehending how information systems technology affects user performance, yet it is frequently disregarded. The success of an information system, per the theory of task-technology fit, should depend on how well the design suits the requirements of the task at hand. "The extent to which a technology helps an individual perform their portfolio of tasks," as defined by Thompson (1995).

The fit of technology to tasks and performance can be studied with the help of the well-established theoretical framework of task-technology fit (TTF) in information systems research. Assessment and explanation of the success and impact of information systems on individual performance is a key area of focus for TTF (Juhaňák, 2018). The connections between tasks and new tech can be better understood with the help of TTF connections, which can be viewed from various angles. Increased efficiency, modified user attitudes, or boosted product usage Figure below displays the original TTF model presented by TTF, which argues that high utilization of the system and high performance by users occur whenever there is a fit among user tasks regard to the characteristics of the IS (Koğar, 2019). Furthermore, this model implies that the degree to which a new technology meets the needs of a specific job is a crucial factor in determining how quickly it will be adopted. When a technology works well for the purpose it was designed to serve, it tends to be widely adopted. Past studies have found that the TTF model is useful for predicting whether or not users will assume a particular information system (Khan, Ghauri, Khan, Hasan, & Shaikh, 2022).

The term "task-technology fit" (TTF) refers to balancing a technology's features with a specific job's requirements. Therefore, it represents how well information technology can facilitate a given activity (Kunina-Habenicht, 2020). The third component of the Task-Technology Fit (TTF) model is influenced by the first four components or Technology Characteristics. Both the performance and the Utilization outcome variables are influenced by the Task-Technology Fit construct. The Task-Technology Fit (TTF) Model's Central Construct Is the Relationship Between Tasks and Technologies. Supported by the Work Adjustment Theory, from which TTF was derived, and previous MIS research that described the Task-technology fit as the communications between performance objectives, individual abilities, and the functionality of the Web, the Individual Abilities structure is a common addition to the TTF model (Technology) (Juhaňák, 2018). Existing research that considers individual differences finds that those with more IT-related work experience are more likely to use that technology (Khan, Zaman, & Rais, 2022). Additionally, researchers have tested the Technology to Performance

Chain (TPC) related model with the addition of Computer Self-Efficacy (CSE) and found that CSE had a positive effect on Time to Task (TTF) (Lam, 2019).

Technology characteristics, task-technology fit and University Performance

There is evidence from the studies by Thompson (1995) that technological characteristics play a role in the Task Technology Fit. Several studies have shown that the features of the technology used in a task are influential (Lam, 2019). Users' day-to-day technology compatibility with tasks is evaluated in an organization based on technical characteristics (Khan, Zaman, & Rais, 2022). An objective measure of how well a given piece of technology serves its intended purpose is called "task technology fit (Agha, et al., 2021)." This confirms that the features of the task and the usability of the technology used to facilitate the work or duties of normal users impact the job's technical suitability (Meng, 2019). Almost all respondents to the survey's technology characteristics section rated MIS tools as highly functional. According to the research results, certain features of technologies profoundly affect how well they mesh with specific jobs (Koğar, 2019).

H1: Technology characteristic significantly impacts university performance by mediating task-technology fit.

Technology characteristics, task-technology fit and task performance

Task-Technology Fit " =.381, t = 6.789 p0.001 representing that the second hypothesis" (H2) implies an important positive relation; in other phrases, in this hypothesis, it is shown that Task-Technology Fit has Innovation characteristics; students' exchanging data from peers or using social media is used through the exchange of infrastructural resources. In contrast to the TTF model, which centers on how well technology fits a given situation, the TAM addresses how people think about technology (Miao, et al., 2019). Previous studies have shown that the traits of the technology are well suited to the tasks that the technology will be performing. Thompson (1995) created the task-technology fit (TTF) model to analyze the effects of IT on Performance, consider the consequences of IT's actual application, and determine whether or not the task's characteristics are a good fit for the capabilities of the IT system (Khan, et al., 2022). That is to say, the technology's features can influence the task-technology fit. Technology-enabled and technology-dependent user behavior toward device mesh and mesh app: a conceptual framework (Hsiao, 2018).

H2: Technology characteristic significantly impacts task performance by mediating task-technology fit.

Technology characteristics, utilization of technology and task performance

The exploratory interviews of this research suggest that technology characteristics are the main issues for the targeted sample when interacting with knowledge management (Khan, et al., 2022). The textual discussion analysis indicates that the type of tasks they are required to accomplish and the system's technological tools are key criteria for the sample in their perception of the quality of the KMS and, consequently, their willingness to use the system. Technology characteristics, in particular, scored the highest (for 84% of participants) as deciding factor in perceiving quality and usefulness and suggesting utilization of the KMS (Jiang, et al., 2018). In comparison, 63% of participants give similar importance to task characteristics. This indicates that technology characteristics could strongly impact user perception for the degree to which the system can assist in performing the needed tasks (Jiang, et al., 2018). This impact is suggested to encourage the utilization of the system. Such impact is worth further investigation, and it is, therefore, logical to consider technology characteristics as the main constructs of the current research and to hypothesize that they are antecedents of Task-Technology Fit, which is, in return, suggested to be an antecedent to the system utilization The task-technology fit (TTF) model was developed by Thompson (1995) by which they evaluate how information technology leads to performance, assess usage impacts, and judge the match between the task and technology characteristics. TTF asserts that information technology should be a good fit with the tasks it supports to utilize and positively affect user performance. In other words, technology characteristics can affect the task-technology fit, which determines users' utilization of technology and task performance (Hsiao, A conceptual framework for technology-enabled and technology-dependent user behavior toward device mesh and mesh app, 2018).

H3: Technology characteristic significantly impacts task performance by mediating the utilization of technology.

Task-technology fit, technological opportunism and University Performance

The only way businesses can enhance their e-marketing utilization and accomplish sustainable performance is to use and integrate TOP. This was also studied by looking at it from the perspective of the ancestor of business-to-business companies (Miao, et al., 2021). Although Lopperi, Puumalaine, and Kappi (2006) focus more on wireless e-business, businesses that are more focused on technology opportunistic are more likely to embrace and enhance ICT and use it thoroughly so that it can implement correctly in all daily operations and departments. But previous literature has established the level of TOP to be causally linked with adopting and implementing new technologies. Competitors and the market always reward businesses that can foresee and respond effectively to technological changes. Companies will

more easily cooperate with others if they advertise and prove their technological advantage (Ghauri, et al., 2022).

H4: Task technology fit significantly impacts University Performance by moderating technological opportunism.

Lastly, adopting such technological approaches increases customer value, improves cash flow, and strengthens businesses over time. According to the research, technologically opportunistic companies boost their bottom lines by implementing new technologies. The level of technological opportunism in a company is moderated by the degree to which its tasks and technologies are a good fit (Zafar, et al., 2022).

Research Methodology

Research Paradigm

This study's research paradigm and methodology are strictly quantitative and objective. In the quantitative design, a semi-structured survey is used to gather data for quantitative analysis. With the help of the quantitative paradigm, we looked into whether or not the many variables identified in the pilot study had any causal relationship with one another (Rashid, et al., 2021). A causal relationship among independent factors, mediating factors, intervening variables, and the elements was established with the assistance of Smart PLS software and structural equation modeling. Data were obtained simultaneously using semi-structured surveys in this cross-sectional study design. Its creators pooled together data points for the targeted variables from several published sources to guarantee the survey's reliability and validity. Cross-sectional data is ideal in behavioral and social science studies because it allows researchers to see things from the participant's perspective.

Data Collection Instrument

Research questions (items) were taken from studies that had already been published in high-quality SCI or ESCI journals. During the search, we used keywords to help us zero in on the most pertinent papers. Based on the research question, the terms "Information Technology" and "University Performance" have been considered as potential representations of the theme of this study. Science Direct, Aquamarine Insight, the IEEE Library Services, and Springer were among the most popular databases used in the literature search. Titles and abstracts of papers that best matched the search term were selected. There was also an assessment of the studies' quality based on whether or not they fulfilled the criteria. This journal is reserved for the highest level of qualitative research. The journals, their topics, and the years they were published are all considered when compiling this literature. An evaluation of literature

separation was performed to gain insight into the subject. We gathered pertinent data from the chosen journals during the literature extraction. Journal-specific data that required to be documented included: journal topics, article titles, citations, research objectives, methods, and results. The literature review has been carried out to compile the synthesis. A literature assessment is used to evaluate and analyze data extraction results. To conduct the review and evaluation, we first had to create a map of the various types of research already completed, examine the current research trends, and finally identify any existing gaps.

The semi-structured questions are based on a Likert scale, so respondents have some leeway in selecting the least likely options from 1–5.

Analysis Technique – SEM (Structural Equational Modeling)

The structural equation modeling was done using smart PLS analytics to predict the causal association between independent, mediating, meditating, and dependent variables. This study is well-suited to metric data, which can sometimes take time. The intelligent PLS program was used for several reasons. The first and most substantial is the ease and serviceability with which it processes the information. In contrast to other parametric facts and figures source code like AMOS, the PLS process utilizes a non-parametric framework, which helps make it less reliable but has higher resistance in data volatility and data characteristics. It is the main analysis software option for the future researcher because it is not only user-friendly, but it can also start generating all critical info in a very simple and user-friendly way (Mahboob, 2022).

Data Type

With this in mind, we used a Likert scale to compile the information; this yielded ordinal data, a form of non-metric information aggregated into metric data. Probabilistic sampling was used in the study because it is the most accurate and consistent method available. The study's data came from a randomized selection of participants using the probability sampling technique. Parametric analysis was warranted after a preliminary examination of all cases showed that the data were normally distributed and diverse. In this study, we used the general standard study method to determine a statistical power of 153 by averaging the large samples of three studies with similar objectives.

Additionally, the sample size was defended based on the central tendency method, which suggests a 90% confidence interval with a sample size of 154. Confidence intervals of 90% are sufficient for social science and management science studies, despite being lower than the generally accepted threshold of 95%. Data was taken from experts in a wide range of fields at prestigious universities and progressive companies to ensure a balanced representation of women in leadership roles.

Sampling Method

This study employs the non-probabilistic sampling technique known as convenience sampling. Participants are approached and asked to complete the survey instrument or provide information whenever the researcher deems it convenient. Simple random or purposeful sampling methods are best for producing precise results in quantitative research. However, in most cases, it is difficult to know the overall community of the target audience, making a probability-based sampling strategy impractical. Due to the impracticality of conducting a simple random sample survey during the COVID-19 quarantine, this study relied instead on a non-probabilistic simplicity sampling strategy. Individuals were contacted by a wide range of Karachi-based companies based on their accessibility and perceived amenability to being contacted. One of the weaknesses of the study was that it relied on a non-probabilistic methodology, which is not the most reliable form of sampling.

Reliability and Validity

Both the info and the component have undergone rigorous testing to ensure precision. The instrument is reliable because it was based on research that appeared in reputable SCI journals. In addition, the smart PLS software ran extensive preliminary tests on the data to guarantee its reliability and validity. Finally, the appropriate values (HTMT) were assessed and confirmed to be satisfactory before analysis and interpretation, taking into account the most up-to-date requirements of the research paradigms. Benefits to the company from IT implementation are examined, as are studies of IT's ability to bolster business operations. The advantages of IT are generally discussed in terms of IT elements in domain software. Still, their use in other fields (such as hardware, telecommunications connectivity, or IT human resource management) is largely overlooked. There has also been a lack of clarity regarding IT's role in the company, such as the extent to which FM would benefit from IT (in terms of enhanced productivity, reduced risk, and expanded business) and the nature of IT (as opposed to the role it plays in the organization).

Questionnaire design

We used a questionnaire to gather information for this study. Variables were used in the survey for this study. There are two sections to the questionnaire used in this investigation. The first component concerns cutting-edge technology, while the second hinges on the company's success. Specifically, it is a Likert scale with 5 points (Miao, 2021).

Figure 1.
Conceptual framework

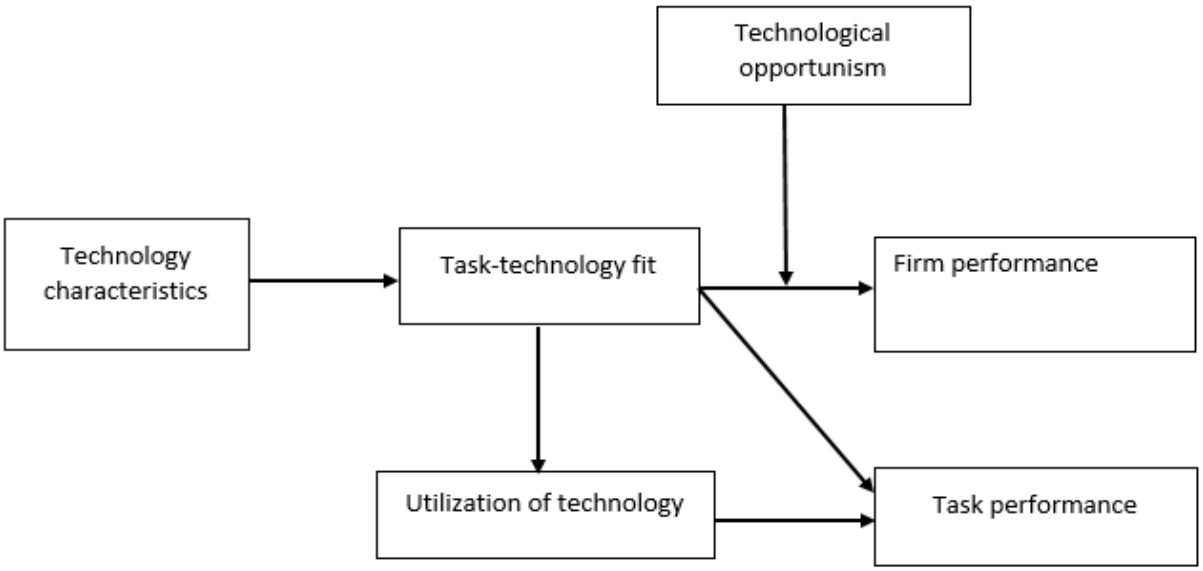

Table 1:

Variables	Items	Outer Loadings	Cronbach's alpha	Average variance extracted
University Performance	FP1	0.424	0.343	0.441
	FP2	0.777		
	FP3	0.734		
Task performance	TP1	0.643	0.658	0.488
	TP2	0.804		
	TP3	0.584		
	TP4	0.741		
Task-technology fit	TTF1	0.663	0.577	0.387
	TTF2	0.706		
	TTF3	0.650		
	TTF4	0.684		
	TTF5	0.327		
Technological opportunism	TO1	0.602	0.675	0.508
	TO2	0.712		
	TO3	0.703		
	TO4	0.819		
Technology characteristics	TC1	0.628	0.555	0.424
	TC2	0.644		
	TC3	0.682		
	TC4	0.651		
Utilization of technology	UOT1	0.589	0.485	0.401
	UOT2	0.714		
	UOT3	0.751		
	UOT4	0.427		

Measurement Model Assessment

To determine the reliability of the questionnaire, researchers employ a statistical evaluation technique shown in Table 1. It calculates the degree of consistency between each section of the questionnaire and the overall average. The alpha value of Cronbach's coefficient typically falls between 0 and 1, with higher values indicating more reliable data. The calculated values of Cronbach's Alpha for all fields fall in the range from 0.343 to 0.675. This variation is adequate and provides confidence in all questionnaire sections. In addition, the Average measured Variance derived values of all disciplines fall in the range of 0.387 and 0.508. Finally, the study's questionnaire was shown to be valid, reliable, and prepared to be used for data gathering (Al-Gharbawi, 2016).

Table 2

Discriminant validity

Variables	**FP**	**TP**	**TTF**	**TO**	**TC**	**UOT**
University Performance	0.664					
Task performance	0.499	0.698				
Task-technology fit	0.451	0.712	0.622			
Technological opportunism	0.494	0.601	0.586	0.713		
Technology characteristics	0.393	0.638	0.627	0.674	0.652	
Utilization of technology	0.499	0.596	0.627	0.552	0.664	0.633

Discriminant validity, shown in Table 2, indicates how well the construct measures the target variable. Discriminant validity refers to the degree to which a given construct differs from others based on the correlation between its indicators and the construct itself. To ensure this criterion is met, this same highest squared correlation between any two constructs must be less than the AVE of each construct. Discriminant validity is present in a latent variable if its AVE exceeds the squared correlation with other latent variables. Additionally, the square root of the AVE could be used to measure discriminant validity, and it should be larger than the correlations among some of the latent variables. To do this, we compare the AVE to the squared correlations, or the square root of the AVE to the correlations, to reach a verdict. The researchers also use a second technique, contrasting the square root of the AVE with the correlations. All constructs have discriminant validity, and it was determined that the variables met the necessary conditions for showing diagonal fact.

Structure Model

The standardized path examines the structure model. Further, each way resembles the hypothesis which is tested. The results of the path analysis are given in table 3

Figure 2:

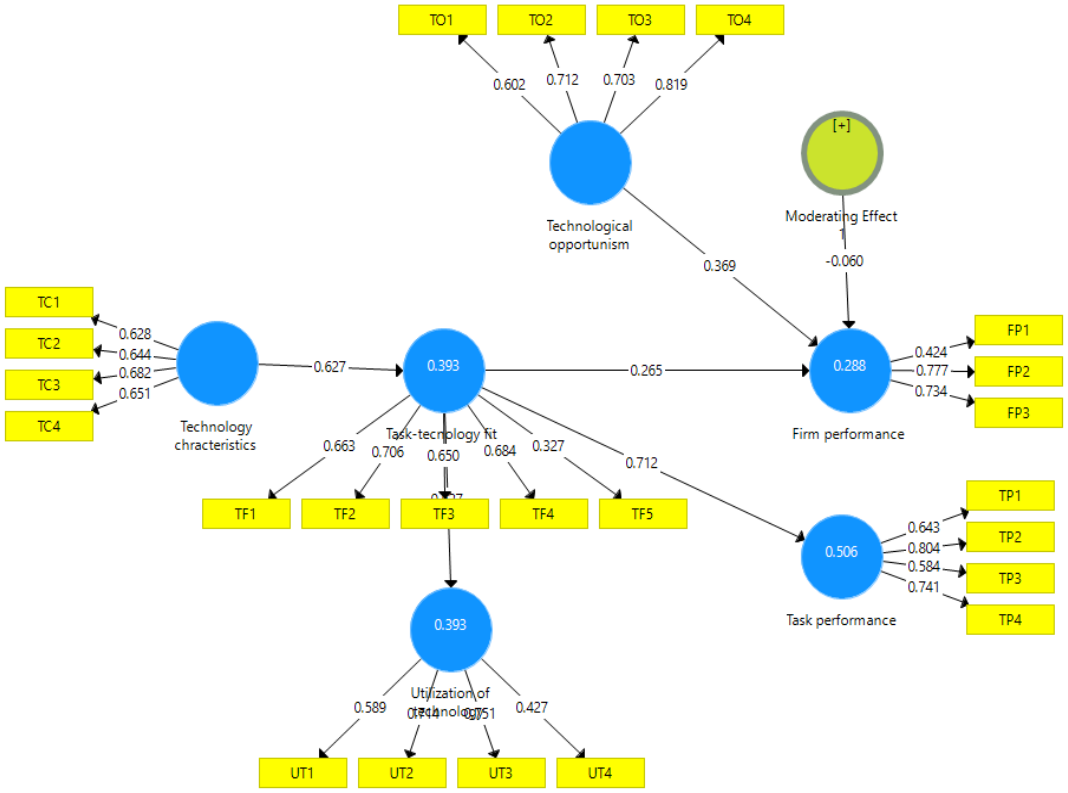

Figure 3:

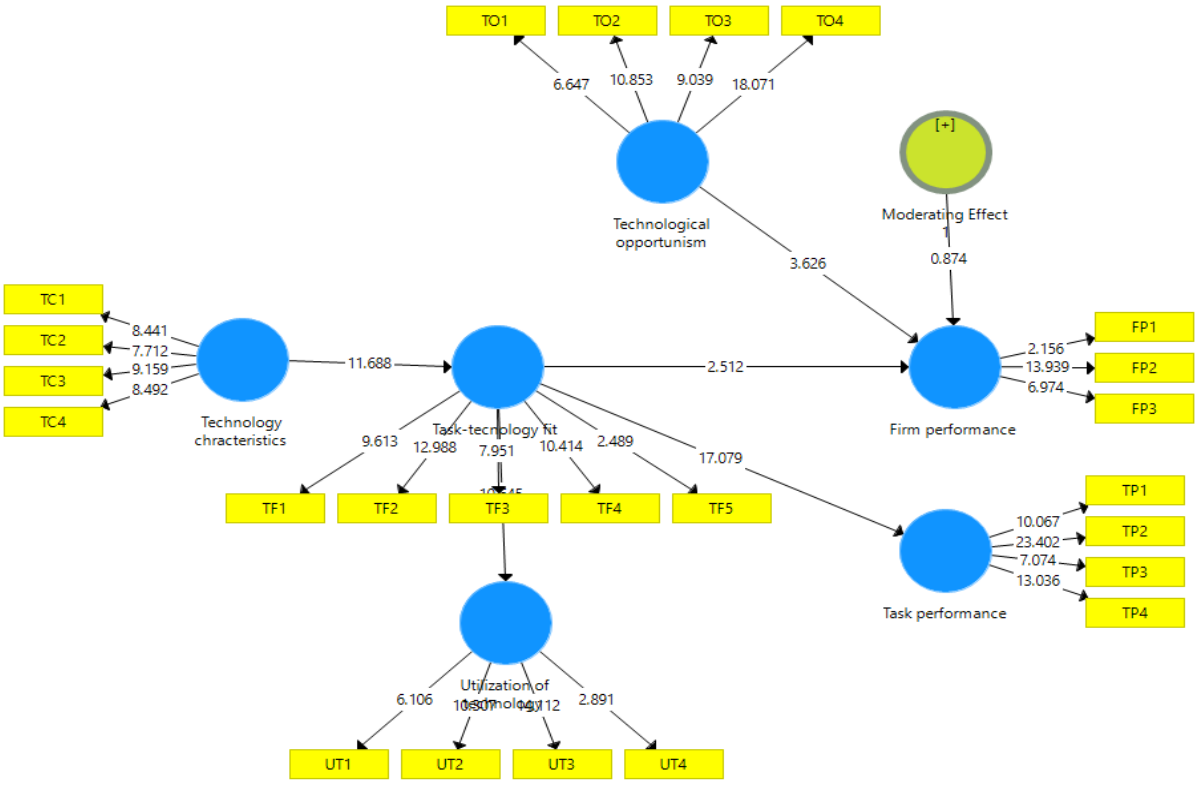

Table 3

Path Analysis

Regression Path	P values	T statistics	R square	Decision
Technological opportunism is mediating between task-technology fit and University Performance.	0.383	0.874		Unsupported
Task-technology fit -> University Performance	0.012	2.512	0.393	Supported
Task-technology fit -> Task performance	0.000	17.079	0.506	Supported
Task-technology fit -> utilization of technology.	0.000	10.645	0.393	Supported
Technological opportunism -> University Performance	0.000	3.626	0.288	Supported

Discussion, Conclusion and Recommendations

One of the five hypotheses tested by the path analysis is false, while the other four are all supported by the data.

The collected data were put through a series of tests to ensure they aligned with the hypotheses utilizing SEM via Smart–PLS. Table 1 provides the specifics, and the research has had an empirical discussion of them up top. Construct consistency, discriminant reliability, and divergent reliability were also assessed to verify the precision of this measurement model. Average variance Extracted (AVE) values must be larger than correlation values for the variables (since all correlation values must be larger than AVE values for discriminant validity to hold) (AVE). As can be seen in the above data table, the Fornell-Larcker test was successful (Hair, 2009). The Heterotrait-Monotrait ratio is also shown in Table 1. (HTMT). To meet the criteria Henseler et al. (2015) established for evaluating discriminant validity, HTMT values must be lower than 0.85. As a result, all deals are below 0.85, which is the cutoff for passing HTMT (Hair, 2016). For the model's CMB (common method biases), statisticians employed the Variance Inflation Factors (VIF)-VIF. VIF values did not go over 3 (Harman, 1976). As a result, the study's validity and reliability are supported by the analysis results, which confirm the study's convergent validity, discriminant validity, and construct validity in the measurement model (Hair, 2016). The structural model, depicted in Figure 1, consists of two main components. The first section of this analysis focuses on the moderating role played by task technology fit in the relationship between the adoption and use of technology, the characteristics of technology, the Performance of University s, and the results of individual

tasks—the second section analyses how technological opportunism, technology traits, and business results interact. The outcomes of the mediation and moderation analysis are shown in Table 3. This research aims to identify the variables that affect business success. There are a total of 4 hypotheses at play here, with two serving as mediators and one as moderator. Task-technology fit and technology use as mediators have each been the subject of their research.

A significant relationship exists between mediating effects and University Performance (T=0.874, P0.383), supporting H1 (ME -> FP). Task-technology fit is positively and significantly related to University Performance (p 0.012), supporting the acceptance of H2 (TTF -> FP). In addition, Task-Technology Fit significantly correlates with Task Performance (p 0.0001), as demonstrated by Hypothesis 3. Task-technology fit is positively related to UOT (H4; P 0.001), as shown by the correlation between the two variables. In contrast, the results of the H5 (TO -> FP) are statistically significant (p 0.0001), indicating that technological opportunism positively correlates with a company's success. There is a highly significant (P 0.001) correlation between the innovation characteristics as well as task technology fit (H6 (TC-> TTF)). In 2022 (MAHBOOB),

Conclusion

The role of technology in people's daily lives is expanding. The use of technology, and more specifically mobile devices and apps, is widespread in today's society. Despite the sophistication of today's technological options, it still requires user input to determine which applications will best serve a given need, to acquire those applications, and to switch among them as necessary. In the future, technology like the mesh apps that Gartner has revealed will be able to anticipate people's needs in various contexts ahead of time by gathering context information on current personal patterns and then providing the information or services required across the limits of device mesh, time, and space to create an ambient user experience (Srijamdee, 2020). Authors have gone to great lengths in the written word to investigate how technological advances have shaped alternative ways of living for humans. The influence of technology on people's actions is studied using various theoretical frameworks like the Technology Acceptance Model and the Technology Acceptance Model for Children (R Core Team, 2019). People's motivation, rather than tools, is thought to be the driving force behind their actions and productivity. Human behavior and the application of technology could be skewed if there was more of an emphasis on the former and less on the latter. This is crucial, as highly advanced technologies like device mesh but also mesh apps have the potential to alter people's lifestyles in the future drastically. Researchers need to reevaluate its impact with new, more nuanced ideas. In this research, we combine TTF with motivation theory (primarily

expectancy-value theory) to develop a theoretical framework for examining how future technology can improve people's lives. The major contribution of this research is the development of a framework that accurately portrays future technology as supporting people as they carry out tasks and reach their performance goals. More empirical research is needed to verify the conceptual framework. It is important to consider how the application of future technology will affect task performance without considering why people participate in activities. Innovations in information technology, in particular, have had a far-reaching impact on the nature of service delivery and the scope of possible customer interactions. There is a lot of evidence in the literature that technology benefits businesses and their clients. Negative effects, such as harm to one's physical and mental health and compromise of one's privacy and security, are also widely discussed. One of how this value can be diminished is through the inappropriate use of technology unmotivated by user needs.

Managerial Implications

It has become a critical and pervasive tool in today's fast-paced, globally interconnected business environment. Thus, the present research deepens the theoretical model of technology acceptance and use by incorporating task-advanced technologies fit to examine the influence of underlying factors on workers' intentions to adopt IT to boost productivity on the job. Their feedback is necessary for validating the research model being proposed. Thus, a survey of Saudi Arabia's administrative bureaucracies was undertaken. Middle-level HR managers in Saudi public sector organizations were sent a questionnaire as part of a survey. The organizational survey had a response rate of 79.6 percent, with 398 completed questionnaires returned. After vetting the responses on 398 surveys, we had to throw away 38 and use only 352 for our structural equation modeling. To qualify, human resources professionals needed to be familiar with the kinds of digital resources their companies provided to their staff. The method of structural equation modeling was employed for the data analysis. The findings show that the extended model of the unified technology acceptance theory is powerful, explaining 77.0% of the variance in workers' intentions to adopt the new tech. According to the effect size analysis results, the most significant variable within the extended model was the degree to which the subjects' expectations matched their performance. The model's ability to predict future events was also satisfactory. According to the results of the importance of performance matrix analysis, managers and policymakers should prioritize factors such as employee intention to adopt technology, task characteristics, technology characteristics, and supervisor support to improve job performance.

Theoretical Contributions

One such model is the Technology-to-Performance Chain (TPC), essentially the TTF's theoretical equivalent. The Task-Performance Chain (TPC) is the offspring of the two main research streams, and it details the interconnections between task-technology fit, utilization, and main results (Figure 3). The term "task-technology fit" refers to the compatibility between the characteristics of the task (the activity performed by individuals to produce the necessary output) and the features of the software (data, hardware, software tools, and the services they provide). The utilization component reflects the act of using the system as evaluated by the frequency or variety of use) the extent to which technology is capable of executing a user's tasks depends on the volume to which individual abilities, task requirements, and technology functionalities match. Various underlying factors, including attitudes and beliefs, influence the adoption of technology in both mandated and non-mandated contexts (Areepattamannil, 2019). The performance impact is related to what can be accomplished by carrying out the portfolio of tasks. Various factors influence it, such as societal expectations, attitude to behavior, and expected consequences. Empirical testing of TPC is difficult because it is a complex prototype. Because of this, a simplified and quantifiable TTF model was developed using core components and assumptions.

Limitations and future recommendations

The current study used a cross-sectional survey design, limiting the effectiveness of the analysis in establishing causal links. To fully characterize and account for the long-term effects and causes of the study variables, longitudinal research is necessary. Some of the factors were evaluated as if they were one-dimensional. To further strengthen the connection between variables, it is suggested that future research may concentrate on all the aspects individually.

Although the study's focus was limited to Pakistani businesses, further research into the success of small and medium-sized enterprises (SMEs) in other countries and sectors (such as agriculture, mining, fishing, construction, wholesale and retail, hospitality and food service, transportation, real estate, education, etc.) is warranted. This study has limitations because it does not account for how enterprise characteristics may vary across industries. To obtain more comprehensive findings, future research should examine the relationship between university s ' performance and e-marketing technology, as well as the theory of task technology fit, in different regions and industries.

In addition, future research can incorporate additional moderating variables within the existing framework of the organization, frozen assets, technology orientation, facilitating conditions, market turbulence, and technological opportunities. The research also suggests including a

second dependent variable, task performance, to pinpoint better the science and technology relationship in utilization or task performance and to predict the correlation with the aid of e-marketing by using the interaction above variables.

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