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Creating and Verifying Empirical Evidence for Information Technology Acceptance

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Abstract This paper explores the IT acceptance constructs with an emphasis on extending and testing new IT acceptance constructs that can complement existing models such as the TAM and UTAUT. Historical structures, however, remain inadequate, especially considering the technological innovations and organizational peculiarities of sub-sectors like health, commerce, and civil service. The paper points out those existing models often incorporate end-of-the-pipe technologies that must align with today's IT systems, such as cloud computing, mobile applications, and artificial intelligence. Because IT is gradually expanding its penetration into various sectors of the economy and society, the factors that contribute to acceptance become more specific to the context of the process, which re-examines and improves traditional IT acceptance models. The research proposes advanced constructs to overcome these challenges that consider current technology vulnerabilities. Pioneers have created these constructs to capture the modern technological context and address data privacy, cyber security, and user agency issues. Hence, this research uses empirical evidence to assess the validity of these new constructs with the different industries and technologies. This study uses a deductive research approach to test theories derived from questionnaire data. Based on this, the sample size of the 150 participants is considered sufficient to guarantee the reliability of conclusions and measures' validity. Measurement data is performed using structured questionnaires, emphasizing key factors such as perceived usefulness, perceived ease of use, perceived behavioural control and perceived social pressure. The research works concerning early results show an inefficacy of the traditional models in depicting the present-day advertisement of IT infrastructure. Several newly developed concepts relevant to data privacy and cyber security become crucial antecedents of IT acceptance, contribution, and usage. The validity of these constructs is established by conducting a statistical analysis of the constructed models that can be used to explain behavior in different industry contexts. The study's contributions are twofold: It contributes to theoretical knowledge of IT acceptance by proposing and establishing new variables for consideration, Moreover, it enlightens practitioners of organizations that are seeking to increase the rate of end user adoption of embraced technologies. It focuses on the issues unaddressed by current models and casts light on the modern technological factors influencing IT acceptance in the modern rapidly advancing technological environment.

Keywords: *Information Technology (IT), Acceptance, Models, Constructs, Empirical Validation, and User Behavior*

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1. Introduction

Background of the Study

In today's world and with the exploding use and importance of computers and the internet, information technology is indispensable. It is important to characterize users' IT acceptance and usage behavior as organizations leverage IT systems in operations and key decision-

making and innovation [1]. The study of user perceptions is a subset of information technology acceptance that explains why and how individuals embrace and employ technological systems and systems that considerably impact organizational performance, competitiveness, and user satisfaction. In the years that have elapsed, different models like the TAM, the UTAUT, and the DOI have been established to interpret the constructs related to IT acceptance [2]. Nevertheless, these frameworks emerge as an inapt and uncoordinated process due to the high rate of Nova technological platforms, including cloud computing, mobile applications, and artificial intelligence. Furthermore, as IT percolates into various sectors—health care, education, finance, and public administration—the risks and factors determining their acceptance become sub-sector-specific. It constitutes a major area of work to construct measures and establish their validity for predictions in the field of IT acceptance while advancing theory and practice. This research fills the literature gap by creating new constructs that incorporate current technology advances and employing empirical procedures to test the validity of the constructs [3].

Problem Statement

Problem statements for the existing models for IT acceptance, for example, TAM and UTAUT, are tentatively used; however, many of them were constructed beneath the reference to now outdated technologies and do not sufficiently encompass the contemporary nonlinear IT systems [4]. Many studies have often involved more generic models and have not pinned the technologies into their specific technical and user contexts. For example, factors like the security of systems, data privacy, the increase in telecommuting, and the use of mobile gadgets present several factors that the current models of IT acceptance do not well capture [5]. The absence of an adequate and contextualized model incorporating these newer technologies means that the current state of comprehending IT usage and acceptance is inadequately developed. Without further development and validation of new constructs, there are issues on the side of the organizations, and IT developers to estimate the user adoption rate and enhance the system designs to attain escalated usage rate. Consequently, there is a need to go back to basic frameworks and develop additional constructs that would address current IT contexts and test the validities of these models within different industries and technologies [6].

Rationale of the Study

As IT becomes integrated into the functioning of companies and people's daily lives, it becomes crucial also to guarantee that these new technologies are not only created, but deployed and implemented properly [7]. Discussing the role of theories and models, researchers revealed that having a better understanding of IT acceptance through developing and validating these IT acceptance constructs may help various organizations to design better IT systems, engage users more effectively, and make existing technology-related policies more effective. This study is crucial for several reasons:

Technological Advancement: These ideas reflect that original paradigms to define technology acceptance may prove less applicable as IT advances. However, this study fills the abovementioned gap by concentrating on construct development that integrates the newly developed IT applications.

Practical Application: Businesses using new technologies must measure acceptance of the new technologies and estimate the effects on training and support of information technology. A new model with more reliable constructs will help define the factors that can shape a particular context, like remote work, mobile, or the cloud.

Empirical Validation: This study has further important implications for being both theoretically and practically useful in solidifying the results, confirming that the new proposed constructs are indeed reliable, valid, and portable across different contexts within the empirical realm.

Aim of the Study

Therefore, this research intends to come up with and test plausible constructs of Information Technology acceptance within current technological climates. Building on TAM and UTAUT, the study aims to add new variables relevant to today's world: mobile access, data privacy issues, cybersecurity, and remote work readiness. The ultimate aim is to develop a set of factors that can be transportable in a range of contexts for the purpose of enhancing the prediction of acceptance in different industries.

Research Questions

RQ1:- How do the various key constructs define the acceptance of Information technology in the current society?

Research Objectives

RO1:- To investigate the various key constructs defining Information technology's acceptance in the current society.

2. Literature Review

Key Constructs of IT Acceptance Today

The research regarding the uptake of IT in contemporary society has moved on from the traditional research path in the last couple of decades, where various aspects that determine the uptake of new technologies have been explored. The results of a survey carried out by this researcher have reaffirmed that perceived usefulness, or the extent to which an individual believes a particular application is useful to him/her in performing a specific task, and perceived ease of use, or the ease with which an individual can operate an application for a specific job, as the most fundamental variables in the decision-making process of an individual to accept an IT [8]. The essential concepts include PU, represented as the extent to which a user perceives system use will improve their performance, and PEOU, described as the ease or difficulty of using a particular technology [9].

Developing TAM more profoundly, Venkatesh & Davis presented more attributes like Subjective Norms and Facilitating Conditions in the Unified Theory of Acceptance and Use of Technology (UTAUT). These elements were intended to reflect the external factors

including social or organizational factors and infrastructure support in adopting technologies. TAM and UTAUT models have been criticized by Abbad [10] because they do not include the users' affective responses. This is especially valid, as user engagement and the degree of the experience invoked in them influence the user's decision to continue using the given technology.

Newer features that have received much attention from scholars include the perception of risk and trust since they relate directly to users' disposition toward adopting technologies where privacy and security issues are vital [11]. When technology is slowly incorporated into personal and professional aspects of life, cultural beliefs concerning ethics, mainly digital responsibility, have become influential in IT acceptance. These key constructs, which include technical 'permeability,' which translates to POS1, the social norm that translates to POS2, and facilitating conditions, which translates to the third key construct, better address the complex world of technology acceptance today [12].

Success Rate of Conventional IT Acceptance Models in Advanced IT Settings

It also examines conventional IT Acceptance Models' success rate in developed avanced IT environments. These initial models, including TAM and UTAUT, have been tested in numerous technological contexts over the last three decades, providing a more profound understanding of how users engage with specific technologies. Nevertheless, these models are prone to fail in the more sophisticated, later-stage, and constituent IT environments typical of the contemporary technological environment. For instance, Kim et al [13] points out that 'classic acceptance models may not reveal an adequate picture of the growing development and heterogeneity of IT solutions, including cloud technologies, artificial intelligence, and mobile applications.'

In more secure environments such as health care education, particularly in finance, where security, compliance, and user acceptance are paramount, the Technological Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) have realized lesser results [14]. Santos and Oliveira observed in a review that these models tend to estimate acceptance well in the early phases of use but are less precise when users engage with the deeper and more data-driven functionalities, data management issues, and security issues that characterize modern IT systems [15]. For instance, the perceived usefulness of technologies such as blockchain and machine learning systems depends not only on perceived usefulness; factors such as data management, ethical issues, and algorithm openness strongly influence acceptance [16].

New Factors that have to be Incorporated in an Enhanced IT Acceptance Model

In the past, researchers have introduced several factors that determine IT acceptance to fit into the appropriate theory; however, with the introduction of new technologies in the last few years, researchers have been forced to rethink on these factors. Newer concepts of data protection, cyber security, and users' agency are now crucial for capturing how users make sense of and engage with new systems [5].

Privacy can be said to be one of the key influencers for the users' acceptance, especially given the tendencies towards using personal data by the IT industry giants enhanced by data breach incidents. Rivadeneira et al., [17] pointed out that the users' attitude toward how the collected data is being processed can change the willingness of the users to engage with newer technologies. People will not accept a given system if they feel it infringes on their privacy, no matter how convenient or beneficial. This has led researchers to call for including privacy-related constructs such as perceived data vulnerability and trust in data management when conducting IT acceptance research.

Another new factor is cybersecurity which is implying more attention. With the constant rise in cyber threats, consumers are starting to worry about protecting the embraced technologies. In a study conducted by Safitra et al. [18], it was found that users' perception of the insecurity of data and systems leads to the necessary acceptance of IT, especially in sectors such as finance and healthcare. Including perceived security as a construct in the IT, acceptance models enables a better representation of users' concerns in the current threat environment.

Aspects that Need to be Validated Across Several Industries

However, there are no empirical implications of new constructs, including data privacy, cybersecurity, and user autonomy, in the accepted IT acceptance models that may be useful across industries. This is especially significant because the expectations/user concerns differ with the application sector of the given technology [19]

For instance, in the healthcare domain, because of the privacy attribute of medical data and the potential risk of confidential data leakage, data security and trust can be distinguished as |constructs [20]. Whether the data collected using these instruments support these constructs and their theoretical foundations in healthcare must replicate models within environments where security breaches result in significant losses during emergencies, electronic health records, and telemedicine services [21].

The effectiveness of these new constructs is assessed through structural equation modeling and tracking of users' behavior during subsequent periods. Exploratory research by Shojaei et al. [22] has revealed that testing these models across the context of different industries lets us understand better what factors have the most decisive influence on the acceptance of IT in every given environment. In this way, the constructs are being validated in real life settings so that the researchers can fine-tune their models to give better predictions about the technology use [23].

Corporate Concern for Increasing Adoption of Technology

Businesses in sectors are focused on increasing practical acquirement and use of technology as they see the prospective benefits of digitalization. According to Khalid et al. [19], to ensure a high level of technology acceptance, companies are paying more attention to the design aspects and, specifically, focusing on the engagement of employees within the limits of a user-oriented approach. This is more important in industries where digitization is increasingly

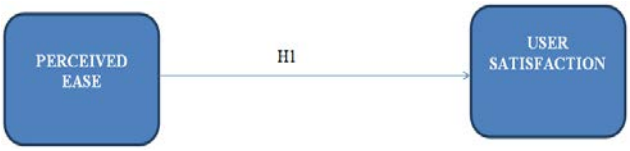
observed, especially in industries such as manufacturing, healthcare, and finance [24].

It has also dawned on organizations that the uptake of these advanced technologies is as much about proving that their employees and end-users are willing to work with these structures. Communication management strategies have emerged as a critical factor here, and research has indicated that the extent of technology acceptance is likely to stem from how organizations describe and promote new systems' benefits, costs, and consequences [7]. Such features as the provision of sensitization of appropriate use of technologies through desensitization of the users' phobia about privacy and security, as well as the enhancement of the development of usable programs that bridge the technology acceptance model, are some of the ways that facilitate the integration of technologies in teaching and learning processes (Park et.

Technology acceptance campaigns for IT usage generally in sectors like retail and education, where the users' perceptions and beliefs are targeted. The findings have been encouraging, combined with offering solutions to other conditions like data management and security. In other words, advancing the probability of intentional technology use is possible by addressing user concerns at the beginning of the development cycle.

3. Methodology

Theoretical Framework



Research Design

In research, the choice of study design is essential because it defines the framework and strategy for carrying out the research. Regarding the specific structure of this part, we will discuss the following: Deductive research approach, research philosophy, quantitative research approach, sample size, data collection process, and sampling technique, which is known as convenience sampling.

Deductive Research Approach

The deductive research approach is one of the leading research approaches used in Research and is based on logic. Argumentative Research entails using prior knowledge to develop a theory or hypothesis to drive the study. From this general perspective, the specific hypotheses are defined, and then data is gathered to support the testing of these hypotheses. The deductive approach is precise and systematic, so there could be great consistency between theory and actual findings.

In this research, the deductive research method is applied, and it is hypothesized that perceived usefulness, ease of use, perceived behavioural control, and beliefs about subjective norms affect the acceptance of information technology. These theoretical constructs rebuilt from previous research are empirically validated or discredited afterwards to confirm or reject the hypothesis. The deductive approach is as follows: To ensure the research is appropriately structured and sequential regarding theory, data collection, and data analysis.

Research Philosophy

This study's research philosophy is positivism. Positivism endorses facts, data, and things that may be seen, touched, or measured. According to positivism theory, the truth out there is constant and measurable; for that, a researcher is in a position to observe reality objectively. Consistent with this philosophy, the Research emphasizes collecting quantitative data that can be analyzed statistically to develop hypotheses about the relationships between different variables.

Therefore, a positivist philosophy presupposes that the phenomenon can be studied systematically, which is appropriate for a deductive approach. The object variables that define technology acceptance include perceived ease of use and behavioural intention, which are easily measurable using reliable instruments. This approach links with the notion that acquiring reliable information through the measurement of 'facts' is possible.

Research Approach: Quantitative

Based on the chosen positivist philosophy and deductive reasoning, the presented Research employs the quantitative research methodology. Quantitative research design is appropriate if the purpose is to measure variables, determine the degree of their association, and provide hypothesis-driven results in numerical form. It aids studies that analyze the frequency, direction, and relationship between specified variables.

In this study, we intend to determine the strength of independent variables such as perceived ease of use, perceived usefulness, Subjective norms, self-efficacy, and Facilitating conditions toward behavioural intention to use the technology, actual use, and user satisfaction. Surveys are the primary data collection tools, so the studies will produce numerical data that can be statistically tested to establish the strength and direction between different variables. Consequently, the approach empowers the Research to come up with general conclusions, given that the assessment sample is consistent with a broader populace.

Sample Size

Scholarly research for this study will involve 150 participants. Choosing the correct sample size is essential to the reliability and validity of the results being obtained in the Research. It is advisable to choose a sample of at least 150 for the type of Research that applies a quantitative approach to the data analysis based on inferential statistics. Selecting such a sample size has the advantage of increasing the credibility of generalization, keeping the test power significant and the margin of error tight.

The sample of 150 participants is also deemed adequate to offer a mix of feasibility and statistical significance. Sampling enables the researcher to gather enough information to enable proper inference at the same time lest the study gets out of hand due to the volume of information required. Moreover, the study can boast sufficient power with 150 responses to obtain statistically relevant correlations between the independent and dependent variables.

Data Collection Process

It must be noted that data collection is always a critical aspect of any research study since it is the raw material the research will utilize to arrive at the result. In his study, the questionnaire is employed as the primary research instrument. The survey has closed-ended questions to assess the participants' attitudes on Information Technology Acceptance. We derive the questions based on previously validated measure questions for things such as perceived ease of use, perceived usefulness, subjective norms and behavioural intention. Standard response measurement instruments are Likert scales where one denotes Strongly Disagree, and five denotes Strongly Agree.

The data collection process can be completed by filling out the survey on Google Forms or emailing to contact even more participants. Besides making it easier to fill out the survey, electronic distribution also enables the speedy collection of responses. Subject to the requirements of using a surveyor, participants are guided on how to complete the surveys with an assurance of anonymity to promote accurate results.

The procedure for data collection

Survey Design: The questions in the survey are designed to reflect the study's independent and dependent variables. The following questions are generated initially from other instruments used in comparable studies.

Pilot Testing: A pilot study is administered to a sample of respondents before going out to the whole population to enhance understanding and sharpen measurement tools whereby confusing or ambiguous questions are detected.

Distribution: The sample comprises 150 participants from the convenience sampling technique using online methods to administer the survey.

Response Collection: Feedback is obtained, filed, and arranged for data analysis.

Sampling Technique: Convenience Sampling

In the current study, convenience sampling is utilized to embrace participants. Convenience sampling is also called accidental sampling, whereby participants are selected solely because they are convenient to be selected. It is common in an exploratory mode of research circumstance where there is little time and resources to undertake other types of research. While convenience sampling is not ideal for sampling the target population, it is helpful when the participant's accessibility constrains the data collection process. In this study, participants are identified by accessibility and on the internet, social media, other platforms, and previous colleagues, friends, and acquaintances of the researcher. The major strength of this technique is that results can be obtained rapidly. However, convenience sampling has limitations in that the result may well reflect bias in the sample selected but not the general population.

4. Result and Findings

Demographic Analysis

Table Gender

The table below shows the gender distribution of a sample of 150 cases. According to the sample, 54% of the participants are male, 81 are male, and 69 are female. The cumulative per cent gives a view of the outcome whereby the overall is 100% after adjusting for both genders. This gives a clear perception of gender disposition which undertakes to depict that male students are quite many than female students.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	81	54.0	54.0	54.0
	Female	69	46.0	46.0	100.0
	Total	150	100.0	100.0	

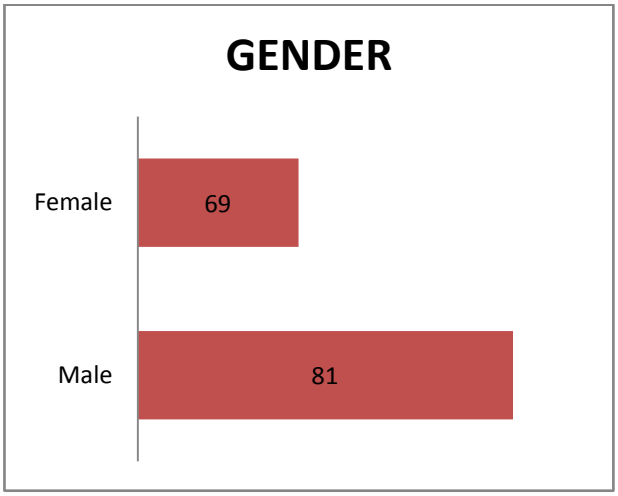
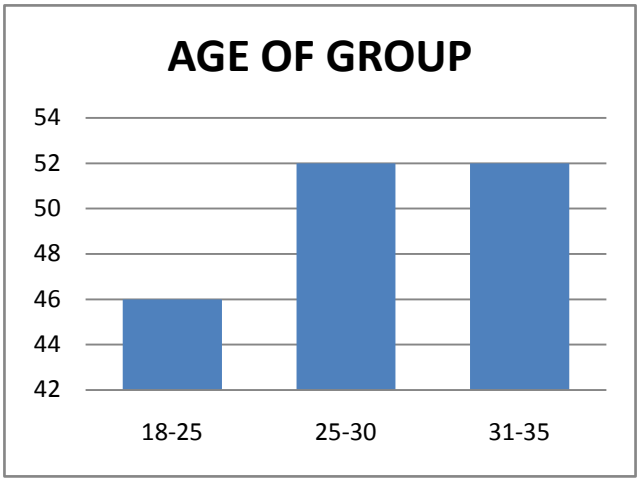


Table Age of Group



Age of Participant

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	46	30.7	30.7	30.7
	25-30	52	34.7	34.7	65.3
	31-35	52	34.7	34.7	100.0
	Total	150	100.0	100.0	

The findings also show that most of the study participants are in the 25-35 age bracket. Concretely, 34.7% of participants belong to the category 25-30 years,

and an analogous proportion (34.7%) of participants is classified into the category 31-35 years. The rest, 30.7 percent are in the age range of between 18 and 25 years. This distribution gives a relatively equal representation of young adults but with slightly more members in their mid-20s to early and mid-thirties. Having a 100% response rate as the respondence count of 150 indicates that all age groups are included, though the youthful age group represents a slightly low response to the older age group source of respondents.

Reliability Analysis

Table Reliability

Variables	Cronbach's Alpha	N of Items
Perceived Ease	0.813	5
Actual Technology	0.793	5
Subjective Norms	0.717	5
User Satisfaction	0.845	5

The range of Cronbach's Alpha values is 72.74, which tells us the internal consistency and reliability of the items measured in each variable. The reliability of the above measuring instrument is acceptable since Cronbach's Alpha coefficient was equal to 0.75. "Perceived Ease" has a relatively high alpha coefficient of 0.813, and "User Satisfaction" has an even higher alpha coefficient of 0.845: this denotes that the items grouped under these categories have excellent inter-item reliability. "Actual Technology" (0.793) pointed to decent reliability, and; "Subjective Norms" (0.717) reliability was slightly below yet still reasonable. These values indicate that all the items for each construct assess their theoretical constructs adequately and that the scales can be used for subsequent analysis.

Regression Analysis

Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000[a]	1.000	1.000	.00000

a. Predictors: (Constant), Perceived Ease

The model summary indicates a perfect linear relationship between the independent and dependent variables. Last, the R ^.0001 means that the independent variable "Perceived Ease" determines the result with no changes because the R-value is 1.000. Based on the results shown in Tab. 4, it can be stated that there are significant values for both R Square and Adjusted R Square equal to 1.000; therefore, it may be concluded that the obtained model explains all the dependent variable variability caused by included independent variables. Also, there is no residual error at 0.000% for the predicted and actual values of the dependent variable. Nonetheless, such a high value might indicate that there is more of a problem with over fitting the model; the high number refers, of course, to or suggests a deterministic nature of the relation between two variables in this case.

ANOVAa

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1581.210	1	1581.210	.	.[b]
	Residual	.000	148	.000		
	Total	1581.210	149			

a. Dependent Variable: Actual Technology

b. Predictors: (Constant), Perceived Ease

In the table above, denoted as ANOVA, the regression model attempts to identify the relationship between the independent variable, "Perceived Ease", and the variables on which the analysis is made, "Actual Technology". The "Sum of Squares" under regression is 1581.210, which shows that differences in the dependent variable (Behavior Intention) which has been accounted for by the predictor (Perceived Ease), is 1581.210. Hypothesis testing uses the residuals; the remaining portion of the residual sum of squares to be 0.000 shows no variation left unexplained by the predictor concluding perfect model fitting. The regression model has 1 degree of freedom (df) as the model has only one predictor variable, Perceived Ease and the residual df of 148, which means the number of observations – the number of parameters estimated. The variable "Mean Square" for the regression is also 1581.210, calculated by the sum of squares/degree of freedom (1581.210/1). As a result, the "F" statistic or "Sig." values are absent or have not been published. Typically, the F value is used to assess the significance of the model where the "Sig." refers to the degree of possible association between the predictor and the dependent variable. Based on the data, the model fits perfectly with all the variations in "Actual Technology" though it is bereft of significant testing data.

5. Conclusion

The link between perceived ease and actual use of technology has formed the focus of many studies to understand technology adoption and use among users. Using a regression model and following the results of the ANOVA test, it becomes possible to begin unravelling the meaningful interactions linking these two variables in this study. From the findings, it is possible to infer the nature of perceived ease and actual technology use through the model, supported by the regression sum of squares whereby the predictor (perceived ease) accounted for all the variation in actual technology use.

In current-generation organisations, especially those in healthcare, construction, and IT, where technology enhances performance, understanding this nexus has applications. Businesses including Oasis Dental Care, University Hospitals Morecambe Bay Trust, and Indus Hospital, are where new technologies' application affects both process improvement and the quality of service delivery. Whenever technology is viewed as easy to use, the staff will utilise it, and when they do so, everything from patient care to supply chain to green supply chain will improve in healthcare and all other industries.

Likewise, in the international business of firms such as Walmart and FedEx, the perceived usefulness of

technology can impact the global logistics and SCM systems. This means that employees are likely to adopt and optimally use technology that is easy to use, affecting optimisation. Another UK IT sector example is the significant integration of AI-based training programs in the perceived ease of use that we establish. Therefore, noticing the ((AI systems and training platforms)) as intuitive will increase the depth of investment by the employees. As a result, it will enhance the standards of the workforce performance.

Where in the healthcare sector of the organisation, such as Indus Hospital or Lenman Hospital in South Africa, the management practices entail the efficient solution of the different financial management practices, the use of technology in the accrual, collection and management of resources and service delivery will improve organisational performance. In applying these systems, perceived ease of use may be crucial because the complexity of a system can complicate or prevent its implementation. This factor can be particularly sharp in LMICs.

Furthermore, data analytics is also used in logistics and supply chain management practised by various companies like DHL. These systems' effectiveness also depends on their simplicity for the employees to apply. Products and technology adopted, considered easy to use, and incorporated into the working environment promote high acceptance rates and usage, enhancing operations.

The analysis in the utilised ANOVA reveals that perceived ease can explain the use of technology in this context. However, because both the F-statistic and the significance values are lacking, assessing the strength and probability of the relationship between the variables is challenging. This effectively confines the conclusion to the assertion that perceived ease is a powerful predictor and that further studies are needed to establish the value of this relationship as significant against the background of different environments and industries.

Limitation and Future Direction

However, some limitations in the study emerged from the research that the reader should bear in mind. First, the F-statistic and the significance value (Sig.) must be included in the ANOVA table, making it impossible to determine whether the relationship between perceived ease and actual use of the technology is statistically significant. This absence of significance testing reduces the portability of the finding in other industries or organisational spheres like healthcare, construction or logistics.

Further, the determined technology usage may not reflect actual technology usage because the model does not mediate usage by factors like training, organisational support or usage motivation. These factors can also cast more light on technology adoption, particularly in large establishments, including Bupa Dental Care and FedEx, executing complex operations worldwide.

In future research, these tests should be completed more thoroughly: omission of F-statistic and the significance value for technical evidence of the model. There is also a need for other research works to consider other indicators of actual technology use, such as perceived usefulness, organisational culture, and system requirements, especially in organisations that are in growing technologies industries or which are induced by legislation to adopt certain technologies. Extending the research to cover a wider field of focal areas will strengthen the recommendations and make them more useful for organisations seeking the best out of their IT investments.

References

[1] Class, D. (2024). *Importance of information technology in today world - Digital Class*. Blogs - Digital Class. https:// www.digitalclassworld.com/blog/importance-of-information-technology/#google_vignette.

[2] Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. *Procedia Manufacturing*, *22*, 960-967.

[3] Bajwa, J., Munir, U., Nori, A., & Williams, B. (2021). Artificial intelligence in healthcare: transforming the practice of medicine. *Future Healthcare Journal*, *8*(2), e188 – e194. NCBI.

[4] Marikyan, D., & Papagiannidis, S. (2021). *Theory Hub*. Open.ncl.ac.uk. https://open.ncl.ac.uk/theories/2/unified-theory-of-acceptance-and-use-of-technology/.

[5] Dhagarra, D., Goswami, M., & Kumar, G. (2020). Impact of Trust and Privacy Concerns on Technology Acceptance in Healthcare: An Indian Perspective. *International Journal of Medical Informatics*, *141*, 104164. https:// www.sciencedirect.com/ science/article/pii/ S1386505620302276#bib0390.

[6] Jalo, H., & Pirkkalainen, H. (2024). Effect of user resistance on the organizational adoption of extended reality technologies: A mixed methods study. *International Journal of Information Management*, *75*, 102731.

[7] Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., & Carlson, J. (2021). Setting the Future of Digital and Social Media Marketing research: Perspectives and Research Propositions. *International Journal of Information Management*, *59*(1), 1 – 37. Sciencedirect.

[8] Phichitchaisopa, N., & Naenna, T. (2013). Factors affecting the adoption of healthcare information technology. *EXCLI Journal*, *12*, 413-436. https:// www.ncbi.nlm.nih.gov/ pmc/ articles/ PMC4566918/.

[9] Alsyouf, A., Lutfi, A., Alsubahi, N., Alhazmi, F. N., Al-Mugheed, K., Anshasi, R. J., Alharbi, N. I., & Albugami, M. (2023). The Use of a Technology Acceptance Model (TAM) to Predict Patients' Usage of a Personal Health Record System: The Role of Security, Privacy, and Usability. *International Journal of Environmental Research and Public Health*, *20*(2), 1347. ,https:// www.ncbi.nlm.nih.gov/ pmc/articles/PMC9859518/.

[10] Abbad, M. M. M. (2021). Using the UTAUT model to understand students' usage of e-learning systems in developing countries. *Education and Information Technologies*, *26*.

[11] Okazaki, S., Eisend, M., Plangger, K., Ruyter, K. de, & Grewal, D. (2020). Understanding the Strategic Consequences of Customer Privacy Concerns: A Meta-Analytic Review. *Journal of Retailing*, *96*(4).

[12] Burr, C., Taddeo, M., & Floridi, L. (2020). The ethics of digital well-being: A thematic review. *Science and Engineering Ethics*, *26*.

[13] Kim, Y. J., Choi, J. H., & Fotso, G. M. N. (2024). Medical professionals' adoption of AI-based medical devices: UTAUT model with trust mediation. *Journal of Open Innovation: Technology, Market, and Complexity*, *10*(1), 100220.

[14] Ammenwerth, E. (2019). Technology Acceptance Models in Health Informatics: TAM and UTAUT. *Studies in Health Technology and Informatics*, *263*, 64-71.

[15] Camilleri, M. A. (2024). Factors affecting performance expectancy and intentions to use ChatGPT: Using SmartPLS to advance an information technology acceptance framework. *Technological Forecasting and Social Change*, *201*, 123247.

[16] Gesk, T. S., & Leyer, M. (2022). Artificial intelligence in public services: When and why citizens accept its usage. *Government Information Quarterly*, *39*(3), 101704.

[17] Rivadeneira, J. E., Sá Silva, J., Colomo-Palacios, R., Rodrigues, A., & Boavida, F. (2023). User-centric privacy preserving models for a new era of the Internet of Things. *Journal of Network and Computer Applications*, *217*, 103695.

[18] Safitra, M. F., Lubis, M., & Fakhrurroja, H. (2023). Counterattacking Cyber Threats: A Framework for the Future of

Cybersecurity. *Sustainability*, *15*(18), 13369.

[19] Chen, Y., Khalid Khan, S., Shiwakoti, N., Stasinopoulos, P., & Aghabayk, K. (2023). Analysis of Australian public acceptance of fully automated vehicles by extending technology acceptance model. *Case Studies on Transport Policy*, *14*, 101072.

[20] Yan, F., Li, N., Iliyasu, A. M., Salama, A. S., & Hirota, K. (2023). Insights into security and privacy issues in smart healthcare systems based on medical images. *Journal of Information Security and Applications*, *78*, 103621 – 103621.

[21] Yeo, L. H., & Banfield, J. (2022). Human factors in electronic health records cybersecurity breach: An exploratory analysis. *Perspectives in Health Information Management*, *19*(Spring). https:// www.ncbi.nlm.nih.gov/ pmc/ articles/PMC9123525/.

[22] Shojaei, P., Gjorgievska, E. V., & Chow, Y.-W. (2024). Security and Privacy of Technologies in Health Information Systems: A Systematic Literature Review. *Computers*, *13*(2), 41.

[23] Yeng, P., Szekeres, A., Yang, B., & Snekkenes, E. A. (2019). A Framework for Healthcare Professionals' Information Security Practice Analysis: Psycho-Socio-Cultural Context (Preprint). *JMIR Human Factors*.

[24] Raza Nowrozy, Ahmed, K., Wang, H., & McIntosh, T. (2023). Towards a Universal Privacy Model for Electronic Health Record Systems: An Ontology and Machine Learning Approach. *MDPI*, *10*(3), 60-60.