The Effectiveness of Augmented Reality (AR) as a Tool of Office for Ministry of Basic, Higher, and Technical Education in Bangsamoro Autonomous Region in Muslim Mindanao

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Abstract

This study was steered to assess the effectiveness of Augmented Reality as a tool of Information for the Ministry of Basic, Higher, and Technical Education. The main research strategy used in this study is the quantitative research approach. It was used to create and test mathematical models, ideas, and hypotheses about phenomena. The descriptive-correlational survey method was used. Research findings show that both attitudes towards using PlayIT Mobile Application; perceive usefulness and PlayIT Mobile Application Characteristics; information quality, service quality, and system quality do significantly impact PlayIT Mobile Application; intention to use, and user satisfaction. Thus, the null hypotheses are rejected. Given the limited research on augmented reality as a tool of information, this research study provides significant insights on the attitude, characteristics, and PlayIT Mobile Application; intention to use, and user satisfaction.

Keywords: Augmented Reality, Quantitative Research, Higher Education, PlayITMobile Application

Introduction

Technology has become one of the major sources of information and the outcome shows a positive influence on people's daily activities. Augmented Reality (AR) introduced a digital visual interactive experience. Where people can mix reality and virtual using computer vision. A live camera feed is needed to achieve the full potential of AR Technology.

According to Foundation (2020) from being a science-fiction idea to a reality founded on science, augmented reality experiences a lot in its milestone. Until recent times, the expenses of AR technology are just so high that designers can just dream of engaging in design improvements that utilized it... However, times have changed, and AR technology can be found on industrial computers, laptops, and mobile devices. Therefore, UX designers of various sizes and shapes may now choose to design for augmented reality.

Kamphuis et al. (2014), AR has the potential to give significant contextual, in-person learning experiences as well as the spontaneous discovery of technology's interrelated theory in the actual world. Thus, Bertelsen and Nielsen (2001), "It is widely acknowledged in the field of mobile computing that there is a need for new interaction paradigms". While it is now used in health, and education, and even become one of the popular game genres in the game industry.

Abramovich (2018), People form social connections with businesses through vision, audio, and motion. Augmented Reality is a technological breakthrough that overlays an image over a user's perspective of the actual world and augments it with audio and touch. The distinction between reality and imagination is being overlooked by augmented reality.

Augmented Reality is a method of designing information systems that augment actual items rather than representing them with exclusively computer-based systems. The idea is that in the workplace, non-computer-based artifacts frequently filter labor in delicate ways that might be hard to transfer to new computer-based artifacts (Bertelsen and Nielsen, 2001).

According to Bertelsen and Nielsen (2001), Augmented Reality is a method of designing information systems that augments genuine goods rather than substituting them entirely with computer systems. In the principle of the workplace, non-computer-based artifacts typically moderate labor in subtle ways that are difficult to shift to desktop workstation artifacts.

Research Questions

This study was conducted to assess the effectiveness of the PlayIt Augmented Reality Mobile Application as a tool of Information for MBHTE. This study specifically sought answers to the following questions:

1. To what extent is the attitude towards using PlayIT Mobile Application in terms of:
    1.1 Perceive usefulness; and
    1.2 Perceive ease of use?
2. To what extent are the PlayIT Mobile Applications Characteristics in terms of:
    2.1 Information Quality;
    2.2 Service Quality; and
    2.3 System Quality?
3. To what extent do the PlayIT Mobile Applications in terms of intention to use and user satisfaction?
4. Is there any significant relationship between Attitudes towards Using PlayIT Mobile Application, PlayIT Mobile Application Characteristics, and PlayIT Mobile Application?

Literature Review

The topics being presented in this section are the concepts and ideas from different authors that are related to the research problem of this study. The ultimate goal of Augmented Reality is to provide better administration and access to information wherever and whenever possible by combining computer-generated worlds or virtual worlds and the interactive real world in a single area. Today's technological advancements have resulted in numerous government transaction reforms.

The prevalence of smartphone use among government employees has inspired researchers to examine the benefits of smartphone use by the employees. Attitude Towards Using PlayIT Mobile Application, Perceive Usefulness, Perceive Ease of Use, PlayIT Mobile Application Characteristics system quality, information quality, and service quality have been proven to be essential in affecting PlayIT Mobile Application, intention to use, and user satisfaction.

The contents of the PlayIT Mobile Application are regarded as the most important, much like any other kind of device information system. Users will be delighted with the PlayIT Mobile Application if the contents are routinely updated, current, and broad in breadth and coverage. In a government environment, information mobility is critical since users are constantly interested in the most recent developments in their field of study and career. Users may lose interest and confidence in the PlayIT Mobile Application if the information is out of current. Similarly, if the PlayIT Mobile Application's content coverage is limited or confined to certain themes or disciplines, users may lose interest in utilizing the PlayIT Mobile Application.

Perceive Usefulness in the context of PlayIT Mobile Application User refers to the subjective belief held by individuals who feel that employing particular technologies may enhance the performance of their jobs. This will determine the individual behavior following system usefulness. According to many researchers' subjective impressions, perceived usefulness is the measure to which users trust that means of certain technology would advance their ability to accomplish their tasks. In the study of Elshafey *et al* (2020), perceived simplicity of use, and perceived usefulness are the most influencing criteria on the user's interactive intents to use the BIM-AR, confirming the Technology Acceptance Model results. Moreover, In Elshafey *et al* (2020) study, some of the most significant factors that influence anxiety from computers, are that computers make them feel uneasy or uncomfortable and this might be the case for older users in developing countries. This reflects the esteem that users may acquire by implementing current technology in their businesses, as well as how comfortable they are with it. Additionally, Elshafey, *et al.* (2020) study show that users perceive the usefulness of a system if it increases their productivity, work performance, and job effectiveness. All other factors have loadings that are regarded as effective, which indicates that each factor efficiently reflects its variable. According to Asiri (2022), One of the models that have proved beneficial in anticipating the variables that may favorably or adversely impact the efficacy of information systems and the user's insight of its utility and adoption of usage is the Technology Acceptance Model. Technology Acceptance Model (TAM) is widely used in how people utilize Information Systems. This approach has two primary characteristics: perceived utility and perceived simplicity of use, as well as several external factors. These elements arose during the model's development stages (Guner & Acarturk, 2020).

Some studies, such as Jang, *et al.,* (2021), Anuar, *et al.* (2021), Adedokun-Shitu, *et al.,* (2020), and Hanid, *et al.,* (2020),) revealed AR technology might accomplish a variety of assistances in the setting of educational. These advantages include better academic accomplishment, desire to study, cognitive retention rates, higher learning engagement, and conscience abilities, as well as improving learning motivation and satisfaction. It can also help the learner connect theory to practice in terms of actual abilities.

According to Lew, Lau, and Leow (2019), some elements are included in the technology acceptance model. The individual's perceived advantage reflects

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how much he feels his usage of technology will boost his performance. The degree to which a specific user feels that utilizing a certain technology can assist to enhance the effort needed for the user to be able to complete responsibilities is indicated by the ease of use. The attitude toward usage is affected by perceived ease of use and perceived usefulness. The type of desire emerging from a scenario of use is referred to as use intentions. Actual usage is tied to a person's use goals.

The Technology Acceptance Model idea remains built on two elements: perceived usefulness and perceived simplicity of use. It was found to be connected to the Motivational Model (MM), It includes both external and internal motives for technology adoption. The theory of Planned Behavior enhances a third factor: the individual's perceived control under the activity or ability to undertake specified actions (Al-Qaysi, Mohamad-Nordin, and Al-Emran, 2020).

Several studies, including those by Guest, *et al.,* (2018), Elshafey, *et al.,* (2020), and Lin and Chen (2017), were conducted in the same context. According to the outcomes of mentioned studies, Technology Acceptance Model stood found to be accurate in forecasting roughly the aspects determining the effectiveness of augmented reality. According to Ibili, Resnyansky, and Billinghurst (2019), it is vital to evaluate and appraise educators' perspectives on augmented reality apps. The Technology Acceptance Model helps developers of augmented reality-based learning environments in identifying the aspects that contribute to augmented reality's success and user acceptability. In the context of PlayIT Mobile Application, Perceive Ease of Usage is the approach of the user towards the characteristics of the system in terms of complexity, usability, and accessibility. According to many researchers, perceived ease of usage is the utmost significant aspect. Perceived ease of usage is the degree to which a specific belief is true that employing a precise approach would be free. In information quality, the value that information gives to the person who is consuming it is measured in terms of its usefulness. and usability is a few examples.

In the study of Ave Adriana Pinem *et al* (2020), After reviewing the first design, they modified and reevaluated the prototype in the second iteration, utilizing the Post-Study System Usability Questionnaire (PSSUQ) methodology to identify the degrees of information, system development, and utilization, and interface quality for a better user experience. In the context of the study by En (2020), information quality, service, and system play a

dynamic role that determining the users of Mobile commerce that involves shopping through mobile devices shows which has a significant relationship to behavior intended to use. This indicates that characteristics of mobile commerce have a direct impact on Intention to Use and this shows that the PlayIT Mobile Application characteristics also have the same qualities that impact the user's intent to use. According to Aziati (2020), An information system may be trusted if it has a high standard system and can satisfy the wearer. Because the higher the insight of the system's quality, the higher user satisfaction.

In the study by Aditya, Nurmalasari, and Hendri (2020) Information Quality and Service Quality has a significant relationship with KitaBisa User Satisfaction. This proves that strong information quality can affect user satisfaction outcomes. It can either be significantly related or not based on the qualities (Information, Service, System) of the information systems. The term "service quality" refers to the degree to which consumers' outlooks for service differ from their views of service performance. Service quality is a metric that indicates how well a business or organization meets the expectations of its clients when it comes to delivering services.

Many recent studies have focused on the problem of system quality. A well-designed, developed, and executed system is required to reap organizational advantages. Furthermore, an easily maintained system has a longer life, resulting in the software expenses being spread out over a longer period, resulting in reduced company costs. According to Asiri (2022), the effective usage of AR technology is mostly determined by the teacher's views and realization of the intended benefits. Notwithstanding the attention of various researchers, Alkhattabi (2017), Alfalah (2018), Tzima, Styliaras, and Bassounas (2019), and others, in determining the educational effectiveness of augmented reality.

Several researchers have concentrated on educators' impressions of augmented reality and its applications in school (Patterson (2019); Fransson, Holmberg, and Westelius (2020)). This research, however, did not thoroughly expose the Model (TAM) in identifying the authenticity of employing augmented reality applications in education from the perspective of instructors in Najran, Kingdom of Saudi Arabia. Finally, User satisfaction is considered one factor in measuring variables of Information System Success.

In this study, User Satisfaction is described as a mobile application user's overall pleasant involvement and

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sense toward the services presented. According to Shin and Kim (2008), Overall, approval refers to how a user evaluates a brand based on altogether experiences and interactions. Satisfaction is linked to the achievement of needs, both implied and unambiguous, with various characteristics of products or services (Thomas, 2013). In the study of Lee and Jeon (2020), structural equation modeling results revealed that information, system, and service quality all have a good influence on user satisfaction, which in turn has a favorable effect on net benefits. After SERVQUAL and ACSI frameworks, this study included factors from Thomas (2013)'s study, Confirmatory factor analysis was used to validate a previously established customer satisfaction model.

This demonstrates that the quality of the system, information, and services has a beneficial influence on user happiness.

Augmented Reality in Innovating Pedagogy: Ethical Issues on Persuasive Technologies

According to Trapero (2018), It demonstrates how Augmented Reality Technology, a smartphone-based program, categorizes multisensory information to optimize the user experience. Their research is to investigate the persuasive technological capacity that influences end users' perspectives and behavior. Augmented Reality (AR) in the classroom can deliver a strong, related, and set learning experience by supplementing the actual world with virtual items that give the idea to coincide in the identical place as the actual one.

The presence of these identified information systems promotes the implementation of HMS because this will combine external and internal motivations predecessors to the system's aim and actual use. According to Wu and Lu (2013), perceived usefulness is a less important predictor of pleasure than perceived usefulness in a hedonic system-use scenario, according to the Technology Acceptance Model (TAM). Based on the result of an assessment by Trapero (2018), Perceive Ease of Use is significantly linked with Perceive Usefulness along with other variables identified in the study. This suggests that a respondent's involvement and reaction to Augmented Reality (AR) applications are determined by how simple and enjoyable it is to navigate and use them, regardless of whether the effects are positive or negative. This determines that although it is new to the user it shows that most of its users are happy whether the outcome will affect them positively or negatively. It also triggers one's curiosity, joy, and control over the use of persuasive technologies like Augmented Reality

(AR) apps. Nevertheless, it shows that these variables have no direct link in affecting the behavioral intent to use. It is the experience that greatly affects the behavioral intention to use (BIU), which might affect the behavioral intention to use due to the negative effects and risk.

Augmented Reality in Nursing Education: Addressing the Limitations of Developing a Learning Material for Nurses in the Philippines and Thailand

Augmented Reality (AR) is a system that adds virtual objects to the actual environment. Computer-generated inputs such as music, video, graphics, and GPS data are examples of virtual objects. As a learning tool, Augmented Reality (AR) introduces new digital media that can improve the quality of education. (Zhu et al., 2014). Everyone benefits from more dynamic, interesting, and easy learning. According to Pugoy *et al* (2016), It produces a valuable learning strategy when used in nursing education. Augmented Reality (AR) in nursing education has the potential to strengthen the English communication abilities of ASEAN nursing practitioners. Pugoy *et al* (2016) study aims to solve the gap and offer a proof of concept for future regional implementers. It also seeks to discover useful Augmented Reality (AR) software solutions that implementers with modest resources should explore. Pugoy *et al* (2016) study shows that Based on the System User Satisfaction survey given to its respondents, the model attained a System User Satisfaction score of high compared to its grand mean. Pugoy *et al* (2016) study show the majority of its respondents agreed that the material enhanced by Augmented Reality is better than the printed material to which it gives life to the materials. In conclusion, Pugoy *et al* (2016) study show that Augmented reality (AR) can be used by users of the system from the ASEAN countries such as Thailand and the Philippines.

Methodology

This chapter deals with the method and procedures employed in the conduct of the study. These will be utilized to achieve the focus of the study. This section also presents and discusses the research design, the locale, and respondents of the study, sampling technique, research instruments, validity and reliability of the study, and the data gathering procedures as well as the statistical tools employed in the study.

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Research Design

The main research strategy used in this study is the quantitative research approach. It was used to create and test mathematical models, ideas, and hypotheses about phenomena (Given, 2008). Explicitly, the study assesses the effectiveness of the PlayIT Mobile Application as an office tool for the Ministry of Basic, Higher, and Technical Education. This study utilized the descriptive method since the result assesses how PlayIT Mobile Application works in a variety of different audiences. According to (Dulock, 1993), Descriptive designs are most useful for describing phenomena or events about which little is known or for identifying new or emerging phenomena. In addition, the results of descriptive studies are usually used as the basis for further research. Thus, descriptive studies must be well designed and implemented. Furthermore, descriptive research studies are designed to obtain the nature of the situation as it exists at the time of the study. Thus, descriptive research aims to describe what exists." (Donald Ary, 1990). Moreover, Descriptive research design is a scientific method that involves observing and describing the behavior of a subject without influencing it in any way - i.e., it's an observation-based approach to studying behavior, rather than one that seeks to control or influence its subjects' behavior.

Research Subject

The procedure will pick 260 respondents from MBHTE Central Office, Cotabato City. The researcher will offer them a survey form to fill out. After they've finished answering the questions, the researcher will collect data from them.

Local of the Study

The study is conducted at the Ministry of Basic, Higher, And Technical Education (MBHTE- Central Office), Bangsamoro Government Center, Cotabato City.

Respondents

The respondents to the survey were MBHTE government personnel. There were 260 respondents in all.

Sampling Technique

The study utilized the simple random sampling technique. Simple random sampling implies that every instance in the population has an equal chance of being included in the sample. The disadvantages of simple random sampling include (Ghauri and Gronhaug, 2005). Wide-ranging enumeration was also used based on the respondents' criteria in this research. Whereas the overall number of personnel of MBHTE Central Office, Cotabato City is 800, the respondent of this research will be the Two Hundred Sixty (260) MBHTE personnel who were employed in MBHTE-BARMM as of January 2022. The study uses the raosoft calculator an online tool to calculate the population using the 800 total population of the MBHTE Central Office. The study also uses the sample sampling size based on the desired accuracy (Gill *et al*, 2010). The MBHTE Central Office has an 800 population, a confidence level of 95%, a margin of error of 5%, and a sample size of 260, as indicated in the table below.

Table 1

| | The variance of the population P=50% | | | | | |
| | Confidence level=95% Margin of error | | | Confidence level=99% Margin of error | | |
Population Size	5	3	1	5	3	1
50	44	48	50	46	49	50
75	63	70	74	67	72	75
100	79	91	99	87	95	99
150	108	132	148	122	139	149
200	132	168	196	154	180	198
250	151	203	244	181	220	246
300	168	234	291	206	258	295
400	196	291	384	249	328	391
500	217	340	475	285	393	485
600	234	384	565	314	452	579
700	248	423	652	340	507	672
800	260	457	738	362	557	763
1000	278	516	906	398	647	943
1500	306	624	1297	459	825	1375
2000	322	696	1655	497	957	1784
3000	341	787	2286	541	1138	2539
5000	357	879	3288	583	1342	3838
10000	370	964	4899	620	1550	6228
25000	378	1023	6939	643	1709	9944
50000	381	1045	8057	652	1770	12413
100000	383	1056	8762	656	1802	14172
250000	384	1063	9249	659	1821	15489
500000	384	1065	9423	660	1828	15984
1000000	384	1066	9513	660	1831	16244

Whereas, both the Raosoft calculator and Gill *et al* (2010) method of sampling yielded the same result using the population of 800.

Research Instrument

An online questionnaire survey was employed to collect research data to test the study model. To ensure survey content validity, all construct assessments were adopted from previous literature with an adjustment that will correspond with the research study. This study used the five-point Likert scale, from "strongly disagree" to "strongly agree".According to Venkatesh

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et al., (2003), the assessment tool for both social influence and effort expectancy, was derived from previous studies. An Online pretest was used to validate and evaluate the overall interpretability and clarity of the instrument.

Data Gathering Procedure

Data collection and analysis were undertaken with the help of a statistician who tabulated, analyzed, and interpreted the data. The researcher personally administered the questionnaires to the targeted respondents. In all this undertaking, the researcher regularly conducted consultations with his adviser for suggestions and recommendations.

Results and Discussion

This section presents the results of the tabulated data and illustrated figures based on the responses taken from the data gathering instrument including the responses analyzed based on the answers of the subjects.

Extent of Attitude Towards Using PlayIT Mobile Application in Terms of Perceived Usefulness

Table 2 shows the extent of attitude towards using PlayIT Mobile Application in terms of Perceived Usefulness. It reflects that respondents rated strongly agree with a grand mean of 4.62. It also reveals that the respondents imply strongly agree with a mean of 4.67, 4.61, and 4.64 responses in terms of enabling them to accomplish tasks more quickly, improve job performance, and increase productivity.

Table 2. *Mean rating on the extent of attitude towards using PlayIT Mobile Application in terms of perceived usefulness*

	Perceived Usefulness	Mean	Descriptive Interpretation
1.	Using PlayIT Mobile Application in my job would enable me to accomplish tasks more quickly.	4.67	Strongly Agree
2.	Using PlayIT Mobile Application would improve my job performance.	4.61	Strongly Agree
3.	Using PlayIT Mobile Application in my job would increase my productivity.	4.64	Strongly Agree
4.	Using PlayIT Mobile Application would enhance my effectiveness on the job.	4.60	Strongly Agree
5.	I find PlayIT Mobile Application useful in my job.	4.60	Strongly Agree
	Grand Mean	4.62	Strongly Agree

On the other hand, a lower mean compared to other

statements but still yield strongly agree on the extent to which they could increase their effectiveness on the job and be more useful in their jobs, with a mean of 4.60 and 4.60, respectively. This suggests that respondents still believe that using PlayIT Mobile Application on their job has a positive impact on their capacity to be effective and useful in their work. In overall, the usefulness of the PlayIT mobile application to the respondents reveals exceptionally high. Despite the PlayIT Mobile Applications being new to the respondents owing to its unique utilization of Augmented Reality to a fresh approach to acquiring information from the ministry still displays an overwhelming result. The overall result reveals a considerable consensus, with a grand mean of 4.62 indicating a strongly agreed answer among the respondents. Indicating that the system's overall usefulness benefits them from utilizing it. enabling them to excel in their respective fields.

According to Park *et al*, (2014), one of the predictors of Intention to Use is Perceived Usefulness. This implies that both Perceived Usefulness and Intention to Use have a strong relationship.

Extent of Attitude Towards Using PlayIT Mobile Application in Terms of Perceived Ease of Use

Table 3 shows the extent of Attitude Towards Using PlayIT Mobile Application in Terms of Perceived Ease of Use which reveals that respondents rated strongly agree with a grand mean of 4.56. This suggests that the respondents imply strongly agree with a mean of 4.55, 4.59, 4.61, and 4.53 responses in terms of learning to operate the system would be simple, easy to get the system to accomplish what the user wants it to do, interaction is clear and understandable, find it clear and understandable. The result reveals that the respondents utilize the information system with full complexity, usability, and accessibility with minimal difficulty in the system. Despite the PlayIT Mobile Application being unique to the respondents because of the Augmented Reality feature, it reveals that the respondents still manage to operate the system with ease. This demonstrates that the respondents can run the PlayIT mobile Application with minimal supervision from the system technical guide or person.

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Table 3. *Mean rating on the extent of attitude towards using PlayIT Mobile Application in terms of perceived ease of use*

Perceived Ease of Use	Mean	Descriptive Interpretation
1. Learn to operate PlayIT Mobile Application would be easy for me.	4.55	Strongly Agree
2. I find it easy to get PlayIT Mobile Application to do what I want it to do.	4.52	Strongly Agree
3. My interaction with PlayIT Mobile Application would be clear and understandable.	4.59	Strongly Agree
4. I find PlayIT Mobile Application would be clear and understandable.	4.61	Strongly Agree
5. It would be easy for me to become skillful at using PlayIT Mobile Application.	4.53	Strongly Agree
Grand Mean	4.56	Strongly Agree

However, some respondents show the lowest score of finding it simple to use the system to perform what respondent wants it to do with a mean of 4.52 because of the PlayIT Mobile Application's unique features but still indicates a strongly agree. This implies that the respondent still encounters a challenge in utilizing the system to perform what they intended to do.

Extent of PlayIT Mobile Applications Characteristic in Terms of Information Quality

Table 4 shows the extent of PlayIT Mobile Application characteristics in Terms of Information Quality, which shows that respondents rated strongly agree with a grand mean of 4.59. The respondents imply a strongly agree response in terms of error messages that tell how to fix a problem, whenever a mistake is made, recovery is easy and quick, and information (such as online, help, on-screen messages, and other documentation) in the system is clear with a mean of 4.67, 4.57, and 4.60, respectively. Even though the PlayIT Mobile Application is new to the respondents, the system employs typical guide techniques that are simple to access and grasp, allowing the respondents to freely express and comprehend the information system mechanics and its information methods.

According to Diakopoulos and Essa (2008), Information quality attributes can also be regarded to include both the objective and subjective elements of accuracy, reliability, validity, comprehensiveness, currency, credibility, expertise, trust, thoroughness, transparency, and an awareness of bias. In the same way, It can be noted that problem in information quality arises when a data and information asset is not fit for the specific purpose of a task and this potentially influences the outcome of the task.

Table 4. *Mean rating on the extent of PlayIT Mobile Applications Characteristics in terms of information quality*

Information Quality	Mean	Descriptive Interpretation
1. The PlayIT Mobile Application gives error messages that clearly tell me how to fix problem.	4.67	Strongly Agree
2. Whenever I make a mistake using the system, I recover easily and quickly.	4.57	Strongly Agree
3. The information (such as online, help, on-screen messages, and other documentation) provided with this system is clear.	4.60	Strongly Agree
4. It is easy to find the information I needed.	4.56	Strongly Agree
5. The information is effective in helping me complete the tasks and scenarios.	4.56	Strongly Agree
Grand Mean	4.59	Strongly Agree

However, ease of finding the information needed and information effectiveness to help complete tasks and scenarios yield a mean of 4.56, and 4.56 which is lower than other statements. This means that some respondents are having difficulty acquiring and using the information to assist them to perform their tasks and scenarios. Nonetheless, the outcome yields a strongly agree, indicating that the respondents are still able to solve the challenges. Payne and Frow (2014) explain that integrated information increases the quality of services that can be provided.

Extent of PlayIT Mobile Applications Characteristic in Terms of Service Quality

Table 5 shows the extent of PlayIT Mobile Application Characteristic in Terms of Service Quality, which shows that respondents rated strongly agree with a grand mean of 4.57. It also indicates that respondents strongly agree on the system fulfills its promises to its users, with a mean of 4.59. With a mean of 4.57, respondents also highly agreed on system dependability in managing client service issues. Furthermore, clients' trust in all transactions gained a mean of 4.59, suggesting a strong agreement. This means that respondents are extremely satisfied with the reliability, security, and services. According to Petter (2008), Service quality – is the quality of the support that system users receive from the IS department and IT support personnel. For example responsiveness, accuracy, reliability, technical competence, and empathy of the personnel staff. In this case, service quality must possess these characteristics to ensure that the user of a specific system is pleased.

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Table 5. *Mean rating on the extent of PlayIT Mobile Applications Characteristics in terms of service quality*

	Service Quality	Mean	Descriptive Interpretation
1.	PlayIT Mobile Application Provided services as promised.	4.59	Strongly Agree
2.	PlayIT Mobile Application has dependability in handling clients' service problems.	4.57	Strongly Agree
3.	Readiness of PlayIT Mobile Application to respond to clients; enquiries.	4.56	Strongly Agree
4.	PlayIT Mobile Application Convenient business hours.	4.56	Strongly Agree
5.	PlayIT Mobile Application ensures clients' feel safe in their transactions.	4.59	Strongly Agree
	Grand Mean	4.57	Strongly Agree

However, the application to react to client queries created a mean of 4.56, which is lower than the other questions, indicating that respondents experience little inconsistencies in their client inquiries, even though it is lower. Furthermore, respondents gave convenient business hours a strong 4.56 mean, which is a little lower than the other statements but still gets a strong agreement. This indicates that the information system has a restricted number of working hours, which influences the response.

Extent of PlayIT Mobile Applications Characteristic in Terms of Service Quality

Table 6 reveals the extent of PlayIT Mobile Application Characteristic in Terms of Service Quality, which shows that respondents rated strongly agree with a grand mean of 4.57. This demonstrates that the respondent evaluated the interface with a pleasant design of 4.51 mean, indicating a strongly agree response, suggesting that the respondent is happy and satisfied with the existing system design. In addition, the likeness of utilizing the system's interface yields a mean of 4.59, indicating a significant agreement with the existing interface. This demonstrates that respondents are more inclined to utilize the system because of the appealing interface, which improves the overall system experience. Moreover, respondents scored error messages that provide clear instructions on how to resolve the problem with a 4.54, indicating a significant agreement. This implies that the respondents fixed the issues with little assistance from a technical person due to the instructions built into the system.

Table 6. *Mean rating on the extent of PlayIT Mobile Applications Characteristics in terms of system quality*

	System Quality	Mean	Descriptive Interpretation
1.	The Interface of the PlayIT Mobile Application is pleasant.	4.51	Strongly Agree
2.	I like using the interface of PlayIT Mobile Application.	4.59	Strongly Agree
3.	The PlayIT Mobile Application gives error messages that clearly tell me how to fix problems.	4.54	Strongly Agree
4.	I needed to learn a lot of things before I could get going with the PlayIT Mobile Application.	4.57	Strongly Agree
5.	Overall, I am satisfied with PlayIT Mobile Application.	4.65	Strongly Agree
	Grand Mean	4.57	Strongly Agree

Furthermore, with a mean of 4.57, respondents said that they needed to learn a lot of things before they could get started with the PlayIT Mobile Application. This implies that the respondent must first learn the system owing to its unique characteristics, such as augmented reality, which must be mastered first. Finally, respondents evaluated overall satisfaction with the system as 4.65, indicating a strong agreement and now the highest rating. This implies that the respondent's overall happiness with the system is exceptionally high, suggesting that the respondent is impressed with all system qualities of the PlayIT Mobile Application.

Extent of PlayIT Mobile Applications in Terms of Intention to Use

Table 7 shows the extent of PlayIT Mobile Application in Terms of Intention to Use, which shows that respondents rated strongly agree with a grand mean of 4.63. The respondent rated the intent to use the system with a mean of 4.66 indicating a strongly agree. This indicates that the respondents have a strong desire to utilize the system. Additionally, with a mean of 4.59 indicating a strong agreement, respondents evaluated that they could predict they would utilize the system. This indicates that the respondents predicted that they will use the system. Furthermore, respondents rated their plan to use the system with a mean of 4.61, indicating a strongly agree response. This means that the respondents are planning to utilize the PlayIT Mobile Application to further understand the capacity of the system.

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Table 7. *Mean rating on the extent of PlayIT Mobile Applications in terms of Intention of Use*

	Intention to Use	Mean	Descriptive Interpretation
1.	I intent to use PlayIT Mobile Application.	4.66	Strongly Agree
2.	I predict I will use PlayIT Mobile Application.	4.59	Strongly Agree
3.	I plan to use PlayIT Mobile Application.	4.61	Strongly Agree
4.	I am likely to recommend PlayIT Mobile Application to my friends.	4.64	Strongly Agree
5.	In the future, I plan to use PlayIT Mobile Application.	4.66	Strongly Agree
	Grand Mean	4.63	Strongly Agree

Furthermore, with a mean of 4.64, respondents indicated that they are inclined to suggest the PlayIT Mobile Applications to their friends. This indicates that respondents are interested in the system and are inclined to share it with their friends to enjoy. Indicating that they were successful in generating interest in the system, enabling others to utilize it by sharing it. Finally, with a mean of 4.66, respondents indicated that they want to utilize the PlayIT Mobile Application in the future. This means that respondents still believe the system is advantageous to them and want to utilize it in the future.

Extent of PlayIT Mobile Applications in Terms of User Satisfaction

Table 8 shows the extent of PlayIT Mobile Application in Terms of Intention to Use, which shows that respondents rated strongly agree with a grand mean of 4.63. The respondents gave the PlayIT Mobile Application a mean rating of 4.64, indicating a strong agreement response. This implies that the respondents' present work has improved, allowing them to function successfully with the assistance of the system. Furthermore, respondents rated the system icons as easy to find with a mean of 4.69, which is higher than the other questions and yields a strongly agree. This means that respondents can readily use the system because of its clear and easy-to-remember icons that signify a function that the respondent want to do.

Table 8. *Mean rating on the extent of PlayIT Mobile Applications in terms of User Satisfaction*

User Satisfaction	Mean	Descriptive Interpretation
1. I experience that using PlayIT Mobile Application can enhance my work.	4.64	Strongly Agree
2. The PlayIT Mobile Application icons were easy to find.	4.69	Strongly Agree
3. It was easy to enter new information in PlayIT Mobile Application.	4.58	Strongly Agree
4. It was easy to learn PlayIT Mobile Application.	4.64	Strongly Agree
5. My work would be enhanced if I had PlayIT Mobile Application.	4.64	Strongly Agree
Grand Mean	4.63	Strongly Agree

Furthermore, the PlayIT Mobile Application was scored as easy to enter new information by respondents, with a mean of 4.58 indicating a strongly agree response. This means that the respondent still has moderate issues entering new information into the system but shows a strongly agree response. Moreover, respondents rated the PlayIT Mobile Application as easy to learn, with a mean of 4.64 indicating a significant agreement. This indicates that the responders are able to use the system with hardly any assistance. Allowing them to run the system with less guidance and support as they become acquainted with a less complicated system. Finally, respondents rated that having PlayIT Mobile Application will improve their work with a mean of 4.64, indicating a strong agreement. This means that the responder will most likely improve their work if they were using the system, since it helps them to perform better and will most likely result in a lot greater result.

Overall, satisfaction refers to how a user evaluates a brand based on all experiences and interactions (Shin and Kim, 2008). Satisfaction is linked to the achievement of needs, both implicit and explicit, with various characteristics of products or services (Thomas, 2013). Most likely, the respondents' total answer resulted in a high level of satisfaction with the PlayIT Mobile Applications.

Correlation Analysis between the attitudes, characteristics, and PlayIT Mobile Application

Table 9 presents the correlation between the attitudes, characteristics, and PlayIT Mobile Application. To determine the significant relationship, the Pearson Product Moment Correlation Coefficient at .05 level of significance was used.

Table 9. *Correlation analysis between the attitudes, characteristics and PlayIT Mobile Application*

Attitude and Characteristics	PlayIT Mobile Application Intention to Use r	Sig	User Satisfaction r	Sig	Overall Attainment r	Sig
Perceived Usefulness	.536**	.000	.500**	.000	.565**	.000
Perceived Ease of Use	.556**	.000	.501**	.000	.576**	.000
Information Quality	.614**	.000	.515**	.000	.615**	.000
Service Quality	.556**	.000	.478**	.000	.564**	.000
System Quality	.615**	.000	.581**	.000	.651**	.000

**. Correlation is significant at the 0.01 level (Highly Significant)
*. Correlation is significant at the 0.05 level

Based on the data gathered the r-value between Perceive Usefulness and PlayIT Mobile Application is .565 with p-value of .000 showing significant

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relationship, between Perceive ease of use and PlayIT Mobile Application is .576 with a p-value of .000 showing a significant relationship, between Information Quality and PlayIT Mobile Application is .615 with a p-value of .000 showing a significant relationship, between Service Quality and PlayIT Mobile Application is .564 with p-value of .000 showing a significant relationship, between System Quality and PlayIT Mobile Application is .651 with p-value of .000 showing a significant relationship. This implies that the Attitude and Characteristics has contributed in the PlayIT Mobile Application. In summary, since the p-values are less than .05 between Attitudes and Characteristics and PlayIT Mobile Application. Then the null hypothesis is rejected.

Conclusion

With consideration of the findings of the study, conclusions are drawn in this section: The results of the current study showed a strong positive correlation between Attitude Towards using PlayIT Mobile Application; perceived Usefulness and Perceive Ease of Use, and PlayIT Mobile Application Characteristics; Information Quality, Service Quality, System Quality to PlayIT Mobile Application; Intention to Use and User Satisfaction. The result of the extent of Attitude Towards Using PlayIT Mobile Application in Terms of Perceived Usefulness shows a high outcome. The result of the extent of Attitude Towards Using PlayIT Mobile Application in Terms of Perceived Ease Of Use shows a high outcome. The result of PlayIT Mobile Application Characteristics in terms of Information Quality is high. The result of PlayIT Mobile Application Characteristics in terms of Service Quality is high. The result of PlayIT Mobile Application Characteristics in terms of System Quality is high. The result of the PlayIT Mobile Application in terms of Intention to use is high. The result of the PlayIT Mobile Application in terms of User Satisfaction is high. Furthermore, the null hypothesis that attitudes about using PlayIT mobile application and PlayIT Mobile Application Characteristics have no significant relationship with PlayIT Mobile Application is rejected.

In view of the findings of this study, the following was recommended: To the Ministry of Basic, Higher, and Technical Education making sure that the next update of the system should possess the qualities that can improve the ease of use of the PlayIT Mobile Application. It is recommended that establishing a user-friendly application can enhance the interaction of the user with the system. To the Cotabato State

University - Information Technology Students to continue this research and design a newer version of the system that allows for improving the current status of the PlayIT Mobile application framework and detailed design to make a user-friendly and family-friendly feeling to the user while using the application.

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