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TEACHERS EXPERIENCE ON THE INTEGRATION OF TABLETS IN PRIMARY SCHOOL EDUCATION: THE CASE OF KALAWA PRIMARY SCHOOL

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DECLARATION

This proposal is my original work and has not been submitted to another university for a degree.

Signature: …………………………... ……………………………………
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This project report has been submitted in partial fulfillment of the requirements of the Master of Science Degree in Information Technology Management of the University of Nairobi with my approval as the University Supervisor.

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ABSTRACT

Information and communications technology (ICT) is a matter of everyday life and has a key role to play in education. The ICT Integration into primary education (Digital Learning programme), which is one of the main program that the Kenyan government highlighted in 2013 in order to align student learning and teaching in primary schools. This paper examines teachers' experiences with integration of tablets in education in primary schools. The main objectives of the study generate insights into teacher views not only on engagement and motivation but on how tablets are used to support education and what they perceive as their educational benefits and limitations. The target population is Kenya's public primary schools, so class six teachers from Kalawa Primary School are the sample of this study. From the data summarized using SPSS V 23 software to evaluate the quantitative information, the findings of the regression assessment verify the correlation between the factors as described in the model. The model shows a difference of 96% showing how behavioral intent to use depends on perceived behavioral control while attitude and subjective standards account for the remaining 3.4%. The results show that 80,4% (experience with the teacher) of the real use depended on the intent of behavior. The results also show that portability in tablets was responsible for the behavior control perceived by the teachers. The research also proposes growing numbers of participants and a comparison should be developed between distinct groups of teachers in classrooms to determine whether the results are comparable.

Keywords: Teachers experience, Behavioral intention to use, Attitude, Teachers, Tablet portability, Perceived behavioral control, Tablets, ICT.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATION

ICT – Information and Communication Technology

GOK – Government of Kenya

UNESCO – United Nations Educational, Scientific and Cultural Organization

KICT CFT - Kenya Information and Communication Technology Competency Framework for Teachers

OLPC - One Laptop per Child

DLP – Digital Literacy Programme

TAM – Technology Acceptance Model

TPB- Theory of planned behavior

DTPB-Decomposed theory of planned behavior

FGD – Focus Group Discussion

SPSS – Statistical Program for the Social Sciences

ANOVA – Analysis of Variance

CHAPTER 1: INTRODUCTION

1.1 Background of the Research

ICT is a recognized element throughout our lives and plays a main role in education. Furthermore, ICT is seen to be inborn in the endeavors of instructive change that are essential for the society of the 21st century, as the main components of the concept of learning and how we get to it have altered. (AtsoglouK. & Jimoyiannis A. 2011). A significant investment has been produced in ICT equipment and training in Kenyan schools since the appearance of the first government policy on ICT in schooling in June 2006. The discussion on ICT in education in Kenya, as in other nations, focuses on the potential effect of ICT in classrooms and the measures needed to guarantee that the teaching experiences of ICT are realized. This is well acknowledged with the Digital Literacy Program, which is one of the main flagship programs highlighted by the Kenyan government in 2013 to align education in primary schools for classes.

In Kenya, UNESCO is promoting the government in implementing its Digital Literacy Program through the ICT Competency Framework for Teachers (ICT CFT) project, which aims to train teachers on how to incorporate ICTs into education, and the project has trained 100 teachers in knowledge-building for ICT integration in education in Kenya to date. (Anon, 2017). Airtel Kenya has also been running an e-learning training workshop for teachers under its Internet for Schools program with an aim of providing them with latest e-learning skills. The workshop is intended as an interactive session for teachers to learn how to incorporate ICT in classroom operations to create e-content and access instructional data online using Airtel's free Internet for Schools program. (Anon, 2017).

As the ICT world continues to progress rapidly, the tablet computer is one new type of technology that has been brought into education. Tablets are viewed as a progressive learning and correspondence stage, giving a convenient and intelligent strategy of expending content and drawing in with partners (Enrique, 2010; Simon et al. 2004). To put it mildly, tablets are increasingly in demand as they are versatile personal equipment that helps the process of teaching. They are separated from time and space limitations and therefore promote broad access to various digital resources and the World Wide Web. They provide fresh learning possibilities and are probable catalysts for promoting constructivist practices (Melhuish & Falloon, 2010). A research investigating teachers ' perceptions of tablets

discovered a broad variety of views, although many retained favorable views on use of tablets in classes. (Ifenthaler & Schweinbenz, 2013).

Teachers are viewed as the principle players in their day by day use if ICT in schools in combination with planning students for the present digital time. This is because ICT is capable of providing a vibrant and proactive learning atmosphere (Arnseth & Hatlevik, 2012). Both the selection of teaching aids and equipment, as well as their accessibility, improved enormously between 2006 and 2017. With growing choice opportunities, however, it is increasingly essential that educators not only teach, but also dedicate themselves to teaching.

Along with greater understanding and experience, teachers will discover it simpler to use ICT, and the use of technology will become more prevalent, and with time ICT may slowly displace some of the classical teaching techniques, but teachers will find the perfect balance between those "two worlds" and will manage to get the most out of both. The ability of teachers to exercise new learning instruments to generate fresh, rich and engaging environments for learners will determine the strength of ICT inclusion in education

1.2 Statement of the Problem

(Balanskat, Blanure and Ketala 2006) argue that while teachers appear to recognize the ICT importance in classrooms, the adoption process still presents problems. If tablets are to work within the school setting, teachers need to have the required tablet knowledge and the various programs they can use. Unless the tablet's portability characteristics are used, transferring to tablets is not a worthwhile undertaking. If educators use these characteristics, there are great advantages for learners. (Enriquez 2010) shows that the interactive classroom atmosphere produced using tablets is capable of being more effective in problem-solving intensive lessons than traditional teacher-centered learning environments. (Fleischer 2012) also identified several difficulties with regard laptops usage in schools, for example, urging teachers to modify their prior views and learning techniques (for example teacher-centered lessons) in reaction to higher adaptability and self-governance for their learners; how to accommodate the contention between the students ' desire for autonomous research and the requirement for teacher supervision; And how to promote teacher skills by developing suitable curriculum and learning models for laptop use programs. Effective ICT in schools, however, requires instructors who are keen on its' usage. Teachers are one of the variables that determine public education growth and innovation because they are the individuals who

use ICT funding to increase education. This is because technological know-how has no educational importance in the situation "(Singh & Chan, 2014). (Correos, 2014) He additionally consents when he determines the stage of ICT know-how of teachers is necessary for ICT usage in schools. (Higgins, 2014) claims that proof exists that ICT can enhance teachers ' and students ' practice. He also claims that its class use never again suggests that ICT will produce outstanding outcomes. In actuality, (Higgins, 2014) makes reference to a few examinations where there are no associations between scholar achievement and assisted computer coaching. With massive of time and assets devoted to setting up and protecting a tablet program, the inquiries to be addressed are; do they really make a differentiation to our teachers' teaching experience? Are they worth the effort and the value of bringing out such a program?

1.3 Research Objectives

The primary goals of the research are to instruct teachers not only on engagement and motivation but also on how the tablet is used to encourage education and what its instructional benefits and restrictions perceive as such. In detail the research is aimed:

1. Determining the impact of attitudinal belief in the experience of teachers on tablet use.
2. Determining the impact of normative belief on the teacher's tablet experience.
3. To determine the impact on teacher experience of the use of tablets of perceived behavioral control.

1.4 Research Hypothesis

The study addressed the following issues

1. **H1**- Attitudinal, normative and perceived behavioral control factors have significant effect on teachers' experience when integrating tablets in schools
2. **H2**- Perceived behavioral control and Behavioral intention to use have significant effect in actual use of the tablets by the teachers
3. **H3**- Teachers' ICT skills, Pedagogies, Tablet portability and tablet learning applications have significant effect on perceived behavioral control

1.5 Significance of the Research

(Ndibalema 2014) holds that there is negligible proof of ICT usage in classrooms, fundamentally in light of the fact that there are no unmistakable ICT teaching strategies set up to upgrade teachers' pedagogical abilities. (Chigona et al. 2014) discovered that ICT can introduce a variety of complexities to classrooms. Especially as the use of technology minimized the function of career fulfillment, it could be demotivating. In addition, teachers regularly found themselves teaching technology as opposed to teaching using it. The Internet can assist learners overcome constraints in time and space and enhance communication and interaction (Castano-Munoz, Duart & Teresa, 2015).

The use and anticipated findings in learning experience have risen with the implementation of the tablet. As a final result of the more desirable expenses related with upgrading to the tablet or introducing the tablet program, school administrators anticipated important modifications in teaching experience for teachers.

CHAPTER 2: LITERATURE REVIEW

The relevant ICT research is summarized in this chapter. The paper examines, in specific, the variables that influence efficient ICT inclusion and the importance of the school's culture in ICT use in sub-Saharan schools and the barriers or constraints to ICT use. It concludes with the combination of a technology acceptance model, the theory of planned behavior and decomposed theory of planned behavior used to support research. It defines gaps in literature and it may take direction for future studies to address these gaps.

2.1 The Impact of Technology Integration to teachers

The findings indicated that while teachers are aware of ICT's advantages in encouraging student learning, ICTs are not a teaching instrument in their daily regular teaching techniques (AtsoglouK. & Jimoyiannis A. 2011). The variables that determine ICT use in school practice are related to enabling conditions of classrooms and teachers' self-efficacy (AtsoglouK. & Jimoyiannis A. 2011) continues to argue that teachers ' actual use of ICT in the school setting is affected by the compatibility, perceived usability, normative views, and perceived usefulness. However, ICT systems operate rather peripherally in school environments as an ' add-on ' impact on periodic class work in most instances. On the opposite facet, literature review planned that the implementation of ICT by schools and teachers isn't a direct and natural results of policy choices and resources endowed (Jimoyiannis, 2008).

Integrating ICT into everyday classroom exercise requires effort. Supporting teachers create favorable attitudes in the direction of ICT integration in training is a complicated task that determines many variables (personal, pedagogical, technical barriers, school culture factors) that influence teaching views, academic priorities and classroom practice choices. (Jimoyiannis,2008). Furthermore, psychological elements such as attitudes of educators and academic values are commonly acknowledged as powerful indicators of their planning, educational choices and school procedures (Pajares, 1992). The attitudes and views of teachers on ICT integration in education have a major impact on ICT recognition and practice in the classroom. A radical evaluation of their impact on the application of ICT in education will therefore provide insights into the circumstances for efficient teacher training in order to achieve ICT effectively. This research seeks to add to our understanding on teachers' acceptance and usage of ICT efficiently in their classroom to improve student learning. Lastly, teachers have altered their teaching style by transforming classes according

to the benefits tablets can give. Instrumental teachers often use the gadget as a ' glass book, while creative teachers try to move from a teaching-centered strategy. (Montrieux et al., 2015)

2.2 Digital learning in Sub Saharan schools

Education is the foundation of future prosperity, that's why we need to make high-quality educational material affordable and accessible to all through digital learning. Digital solutions are able to address many of the challenges schools, learners and education departments currently face with non-digital methods and to address this, digital solutions need to be built in and for the emerging market classroom in order to suit the learning environment and be effective. Key projects supporting digital learning in Africa are currently underway in South Africa, Rwanda, Tanzania, Zambia, and Kenya Uganda.

2.2.1 South Africa

In South Africa, the Gauteng Department of Education is rolling out Learning and Teacher Support material in print and digital form to all schools in the Gauteng province. Dubbed the paperless classroom initiative that began in 2015 by preparing in excess of 300 Soweto secondary schools with rapid broadband network, interactive smartboards and e-content, and offering tablets to students of grade 12, while teachers got notebooks transforming common schools into "classrooms of the future". The paperless education scheme dubbed "The Big Switch On" will furnish understudies with access to teaching material, exercise books and different subjects using ICT (Anon 2017). It is evaluated that moving all Gauteng school to the computerized framework will cost R17-billion throughout the following five years. The tablets are modified for instructional reasons only, exercises and lessons are pre-loaded, and IT specialists will be nearby to help teachers and student with the new scheme. Aside from surveillance cameras, each college will have two armed security officers. The tablets were also equipped with monitoring devices.

2.2.2 Rwanda

Rwanda's 2020 vision seeks to move Rwanda from "an agri business-based economic system to an expertise-based society" and center-income country. Education is a main industry for this social and economic transition, exploiting an empowered population's

limitless potential. Also vision 2020 puts ICTs on the middle of revolution throughout all industries. The education policy 2016 in ICT is intended to manage the technique of harnessing, deploying and exploiting ICTs inside the education zone to assist Its organizational activities and procedures within the country wide ICT-led development vision. The One Laptop per Child (OLPC) program was launched back in 2008 with the assistance of the Ministry of Training in predominant secondary schools and computer laboratories. In 764 schools, 250,000 OLPC systems were introduced, reaching only 10% of the main students. This system faced problems in the teacher's teaching capacity due to a massive learning curve, the cost of deployment was also high while only achieving some learners and the lack of inclusion of the program in daily learning and teaching activities sooner or later became the primary undertaking.

Just five percent of secondary schools profited by the program for computer research centers, and were utilized distinctly for ICT classes. While a gadget remains a definitive objective for each kid, the Ministry of Education moves from One Laptop per Child (OLPC) to "Brilliant Classroom" after altering innovation to reduce expenses and raise access and value. The approach will also ensure that innovation is integrated into each teaching strategy, such as planning, course dispersal, assessment and research.

2.2.3 Tanzania

Among other factors, the Tanzania Development Vision 2025 emphasizes the significance of having by 2025 a well-learned and trained community that will contribute to domestic development. ICTs bring many possibilities to achieve the Vision's objectives. ICTs have altered pedagogical methods in the education industry. It is using ICT that, advancement and inventiveness are advanced in numerous fields of growth. Tanzania offers 4753 optional schools, 3692 of them are accessible and 1.061 are private, according to the National Statistical Bureau. Numerous factors, including non-appearance of ICT frameworks and vitality problems, still hinder the use of ICT in study rooms. A few projects and ventures scheduled to fuse ICT in schools were submitted by the legislature. This comprises the e-Schools Project, the ICT curricula implementation in high schools, the TIGO's National ICT Teacher Program and Tigo association with the Tanzanian government, as part of the project to connect private schools to the internet. Nevertheless, the willingness of auxiliary schools to integrate ICT skills and comprehension in schools and teachers has not yet been fully considered.

2.2.4 Zambia

Like other developing countries, Zambia faces important challenges in providing education. These include a shortage of educators, books and teaching material, big class sizes, and ongoing reliance on rote (memorized) teaching. Students in iSchool 2013 pilot programmes were assessed using the EGRA, EGMA, and an iSchool developed tool to test critical thinking. After one year of implementation, students using the ZEduPad (tablet learning device) achieved higher scores in reading, numeracy, and critical thinking skills than students in schools without the technology (Nikita Khosla 2013). Based on the Zambian curriculum iSchool Zambia (infoDev. 2014), a big website of free teaching materials has been constructed. The goal is to shift from traditional chalk-and-talk pedagogy to inquiry-based learning while at the same moment bringing the choice of lifelong learning to individuals who have already left school

2.2.5 Kenya

In Kenya, the Digital Literacy Programme (DLP) is aimed at learners in all primary schools that are public with the purpose of integrating digital technologies for learning purposes in the classroom. As one of the largest national level interventions in digital education on the continent, 1.2 million devices at a cost of KES29 billion (US$286 million) has been allocated to develop the content, provide training sessions for teachers and to distribute digital devices to schools for both learners and teachers. Legal and policy framework exists that supports this in the Vision 2030, The national ICT master plan 2014-2018 is also in place that supports the vision 2030 statement and promotes the development of abilities and attitudes in the 21st century through innovation that prepares learners to engage competitively in a knowledge-based economy. The Kenya institute of development has also developed content for standard 1 and 2 in all the five subjects in the curriculum. In terms of teacher professional development; Training manuals have been developed and 150 master trainers trained in 2013, 2400 ToTs trained in 2014, 62,500 teachers trained April-May 2015 and 2ND round of training ongoing targeting 25,000 teachers in 2016. Preparation of the school infrastructure to support use of technology is also at its peak with provision of electricity power connection to schools estimated at 21,000 by June 2016 and refurbishment of classrooms/storage rooms for securing the devices and reinforcement of windows and door grills.

The Ultimate impact foreseen by the digital learning programme is; Smart schools with quality content, skilled teachers, 21st century learners; Smart industry that lead to relevant research and development fields, device construction and application and content development and lastly Smart society where everyone uses technology.

2.3 Pedagogical Principles and ICT

The idea of ICT inclusion into an educational environment originates with the teacher and the way they teach. "Research indicates that merely placing machines in classrooms is not enough to affect the student learning. All things considered, explicit ICT versatile applications can beneficially affect understudy information, aptitudes and mentalities just as learning strategies, study hall advancement and network hardware (pg. 1, Kozma, 2005). "Thus, this section begins with instructional method the workmanship and innovation of training kids and the manner in which they hold fast to a mechanical primary school study hall. In a mechanical homeroom there will probably be greatest factors of the two sentiments blended such that makes training loose for the educator and exploits most recent instruments and openings. Technology is essentially an apparatus which teachers can use in the new setting in a large number of ways in e-learning.

A teacher who uses technology needs to think about how it can give an answer for a specific issue during their teaching practice. A case of taking care of a preparation issue could be utilizing tablets to address an absence of text books. Another may be the way to enable little youngsters to see "huge thoughts" or ideas in training of science. A third could assist learners, working in groups or alone, using reenactments of tablets to regulate the working atmosphere and see the outcomes immediately. As opposed to simply being told about a specific thought, they can encounter the hypothesis that upgrades their learning and empowers them to hold their thoughts for more.

2.4 Teachers' Challenges of Utilizing ICT

2.4.1   Teachers' beliefs about technology and learning

Integrating ICT into education is not an easy job. It is a mixture of various instructional attempts and procedures that includes infrastructure, learning techniques, government policy making technical or economic assistance. Among these variables, "educators" is one of the hugest factor since they are the one that mixes all the instructional components together to give educating and learning conditions (Bandura, 1993; Harding, 2012). Further emphasis

is placed on the significance of teachers ' faith in making choices to incorporate ICT into their instructional operations (Sherman and Howard 2012). Skills and knowledge are not enough to alter the behavior of teachers unless they are certain to encourage learning through the ICT knowledge and skills they acquire. (Ertmer and Ottenbreit-Leftwich 2010) and therefore self-efficacy or the conviction of students is more essential to introduce technology in their schools. For these reasons, improving the views of educators, particularly those associated to the integration of ICT in classrooms, can play a crucial part in bringing about the shift in the practice of education.

2.4.2   Inadequate pre-service training

Graduate teachers need the ability to incorporate ICTs in ways that exploit their learning opportunities and create digital literacy for learners. However, efficient ICT integration in school is difficult because complex technological, pedagogical and content application is required. It is a major challenge for educators to provide learning experience in universities and technical institutions that will allow teachers to build these abilities. In order to tackle this challenge of teacher education, it is crucial to understand the teaching process of pre-service educators regarding ICT inclusion.

2.4.3   Lack of professional development

Training and development include a variety of educational experiences to give students fresh understanding and to boost their work efficiency (Mizell & Forward, 2010). Five emphasis should be put on teachers' professional growth; 1) abilities with specific applications; 2) incorporation into modern curricula; 3) curriculum changes associated with the use of ICT (consisting of modifications in educational layout); 4) changes in the role of educators and 5) underpinning theories of instruction. These should ideally be discussed in pre-service and in-service education and improvement. ICTs, however, are quickly changing technologies that even the leading ICT teachers need to constantly improve their skills and follow the recent trends and best practices. Analysis of the use of ICTs in various academic settings over the years constantly identifies as an obstacle to the failure of lecturers to understand why they should use ICTs and how they specifically use ICTs to assist them in teaching higher education. Unfortunately, most ICT teacher development skills units are serious about "teaching tools" and lightweight about "demonstrating tools."

Teacher's nervousness about losing their capacity in the classroom or being replaced by innovation in light of the fact that the education system turns into a great deal of student

focused — a perceived hindrance to ICT selection — can be diminished when speakers have a sharp information and acknowledgment of their energetic job.

2.4.4 Infrastructure related Challenges

In addition to the domestic telecommunications and information infrastructure, the educational technology infrastructure of a country is located. The following should be carefully considered by lawmakers and advisors before any ICT-based program is implemented:

1. Are appropriate rooms or houses accessible to accommodate the innovation? Complete remodeling would be required in nations with innumerable old school buildings to guarantee appropriate electrical wiring, heating / cooling and ventilation, well-being and security.

2. Power and communication accessibility? Enormous areas aren't yet a solid supply of power in third world countries and the closest phones are miles away along these lines. Expertise in certain African countries targets utilizing remote frameworks, (for example, VSAT or very little Aperture Terminal). In spite of the fact that this may presently be an especially expensive technique, this component ought to be considered by alternative third world countries with incredibly terrible broadcast communications framework.

3. In addition, policymakers should usually investigate the increasing popularity of different kinds of ICT within the nation and, in particular, within the academic scheme (throughout all tiers). For example, access to computers in schools, communities and families is a fundamental demand for computer or online learning, which is still an inexpensive web service.

In specific, the use of ICT in education should follow cultural use, not lead. Education programs using state-of - the-art methods rarely achieve long-term accomplishment.

2.5 Culture of schools using ICT

Schools' culture includes the staff's shared vision, mission, plans, culture and values. Research focusing on the incorporation of ICT is generally limited to studying variables at the classroom and teacher level, such as the computer attitudes of educators, innovation and gender differences, and therefore the focus has been more biased towards the person rather than the system as a whole. To date, few studies have been established to assess the effect

of variables or features associated with their culture related to the school. Furthermore, ICT integration relies mainly on school leaders ' vision and perceptions rather than the ICT abilities of the students. School culture has a mediating function that affects the behavior, views and attitudes of educators (Chai, Hong and Teo 2009). Teacher perceptions from each the technical and psychological feature views ought to be examined so as to explore their perceptions towards faculty culture associated with ICT. However, as the faculty environment is becoming additionally positive, the level of ICT use of teachers conjointly will increase. Academics should be assured of their ability to encourage technology-based student teaching to integrate technology into their lecture rooms., and in an effort to achieve this objective, extra skill development is needed with a focus on enhancing the abilities of educators so that they can overcome anxieties linked to victimization technology. Overall, efficient teaching with technology integration requires to change the data, values, and classroom culture of educators (Ertmer and Otternbreit-Leftwich 2010).

2.6 Theoretical Framework

There are different well-documented models endeavoring to portray the appropriation of information systems. Investigating the first notable and basic speculative models were the starting point for the selection of parts and how teachers were enthusiastically encouraged to obtain and use ICT in customary teaching in customary teaching. A concise overview of these models with an inside on teachers' perspective is shown hereunder.

2.6.1 Technology Acceptance Model (TAM)

In order to outline how the opinions and structure of people are related to their aim of implementing an information context, (Davis 1989) the Technology Acceptance Model (TAM) was promoted and created. As per TAM, people are making arrangements to grasp another technology dependent on their perspectives and assessing the execution of the suggestions. From then on, TAM has become one of the most well-known and remarkable procedures to understand and predict the decision and use of the ICT by teachers and students (Widhiastuti & Yulianto, 2017)

- Perceived usefulness (PU): This is depicted as how much an individual thinks or believes that an innovation would improve or improve its effectiveness (Davis, 1986; 1989). The more notable the obvious value, the more plausible it is for a person to grasp a fresh innovation.

- Perceived ease of use(PEU): This alludes to how much an individual accepts that an innovation is straightforward and work or how much the utilization of a specific innovation would be a simple assignment, free of added material endeavours (Davis, 1989). Advances that are viewed as less entangled to utilize are bound to be embraced by forthcoming clients.

- Compatibility (C): this factor is portrayed as how much a particular innovation fits with forthcoming client esteems and encounters (Rogers, 1995). A development is increasingly plausible to be received when it is reliable with a person's work responsibility and worth framework.

- Attitude towards use (ATU): The client's frame of mind is theorized to be affected by three variables, for instance, perceived usefulness, compatibility and ease of use (Figure 2.1). Individual attitude towards use is probably going to turn out to be increasingly positive as the convenience, value, and similarity of the particular innovation increments.

In summary, TAM assumes that behavioral intent to use controls the true usage of an innovation that derives from the attitude of customers towards using that particular innovation. A strong model for recognizing and utilizing innovation in different circumstances was provided by TAM (Venkatesh and Davis 2000).
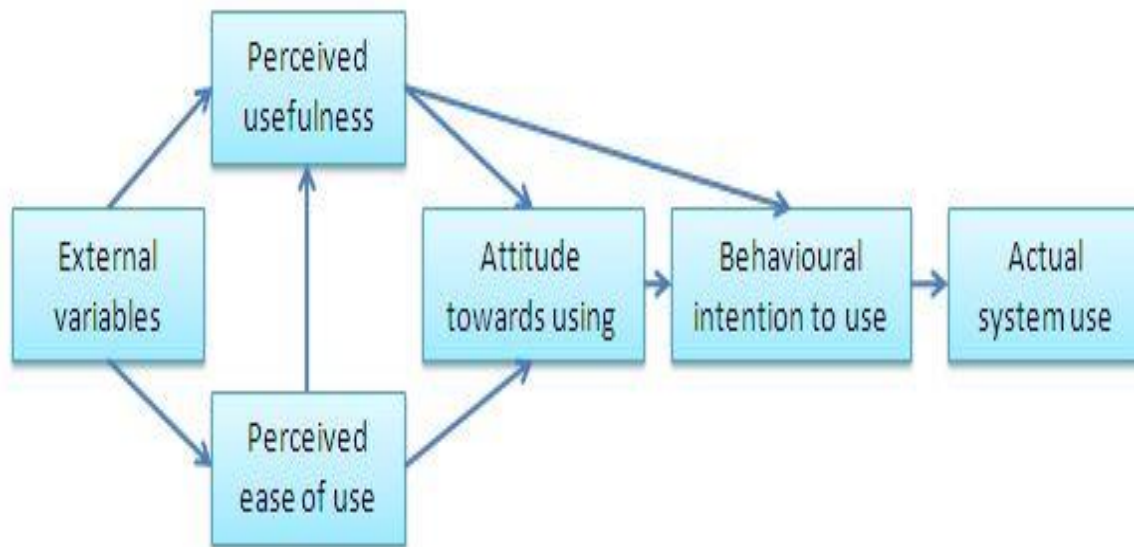
Figure 2.1. Technology Acceptance Model

2.6.2 Theory of Planned Behavior (TPB)

The new concept of Ajzen's (1991) is the Theory of Planned Behavior, a combination of individual conduct intentions and behavior control, which demonstrate that action is being dictated. It was based on the theory of reasoned action (Hill, Fishbein & Ajzen, 1977). (Figure 2.2). The attitudes in this model speak to an inner core. "Behavior attitude" defines how much a person's final behavior assessment is good or disgraceful. The subjective norm defines the obvious social burden of executing the behavior or not. This idea will have less significance in the structure of exposure research because it is based on inside components (private weight). This refers to the obvious simplicity or problem of conduct and will reflect both previous participation and predicted obstacles. We will link the self-efficacy variable with the ICT and pedagogical capacities of teachers. Finally, the intention of the person to undertake a certain course of action is a significant variable in theory of planned behavior. Expectations should capture the variables that influence behaviour. The following division of behavioral intent from behavior allows for some explanations of the limited effect of attitudes on final behavior (Azjen, 1991). Foreigners ' plans to implement this behavior, such as classroom arrangement and execution to enable tablet usage, will overshadow the extent to which certain behavior is being grasped. The TPB has just been useful in clarifying the expectations and conduct of teachers in the classroom or their aims towards the utilization of technology in education (e.g., Sugar, Crawley, and Fine,2004).
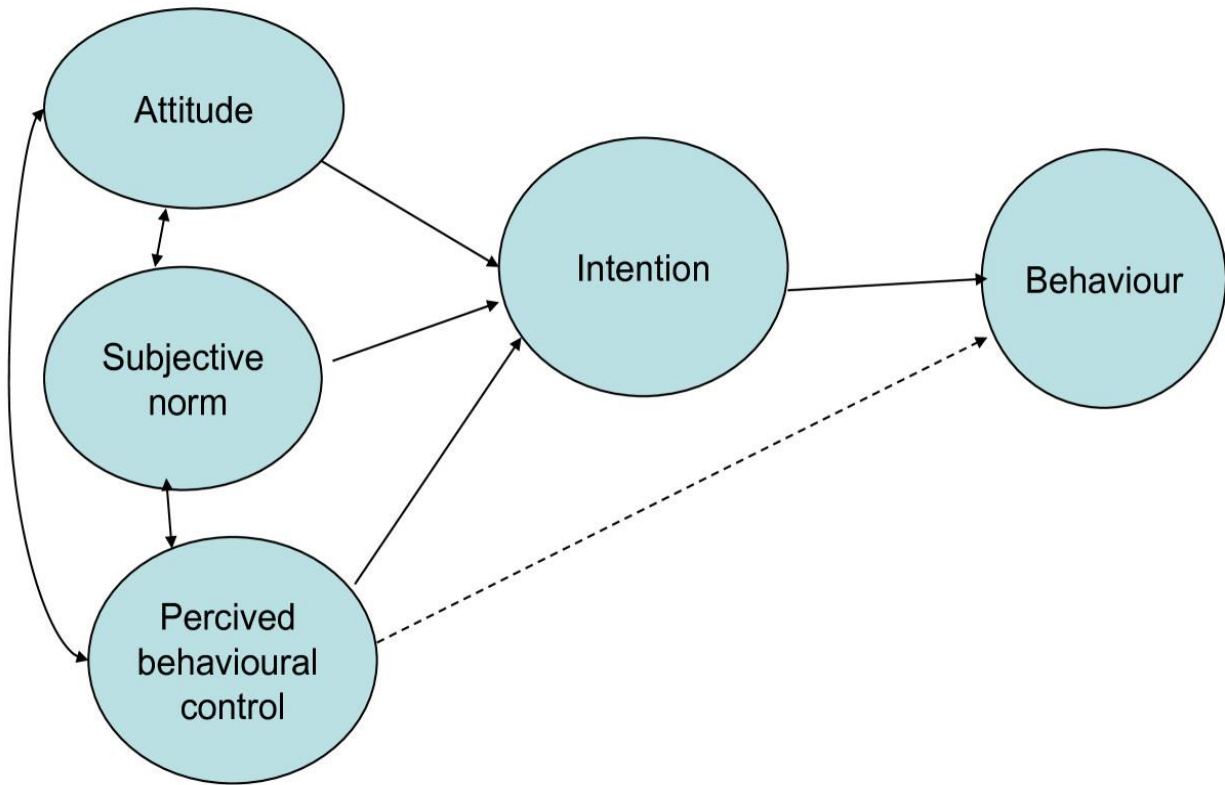
Figure 2.2 Theory of Planned Behavior

2.6.3 Decomposed Theory of Planned Behavior (DTPB)

A widespread TPB Theory has been suggested (Taylor and Todd 1995) to define particular factors to determine the adoption of a new technology. Similarly, DTPB shows that conduct is directed at behavioral intentions, and decomposes attitude variables, subjective standards and perceived control into a reduced point of belief. In addition, the perceived behavioral control variable is broken down to facilitating conditions and self-efficacy (Figure 2.3).
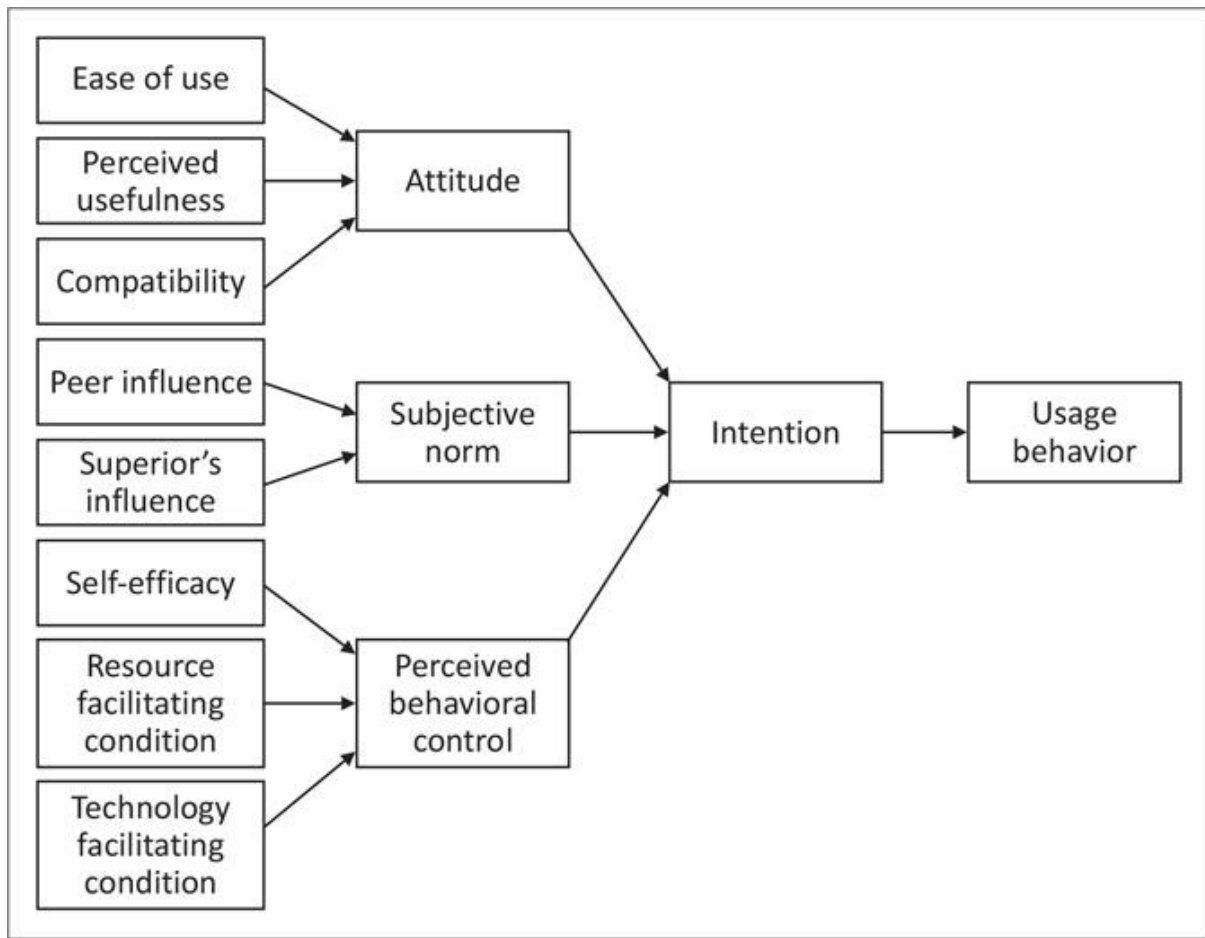
Figure 2.3 Decomposed Theory of Planned Behavior

2.6.4 Conceptual Framework

The study is aimed at examining what constitutes the main characteristics of the experience of teachers when using tablets in main schools. For this purpose, six characteristics were included: tablet unique features and software; teachers' ICT skills; pedagogy; set-up and implementation of classrooms; new teaching styles and tablet portability in relation to the norm as described in the theoretical models. These were seen as the most significant variables in the answer to the research questions (See figure 2.4 below)
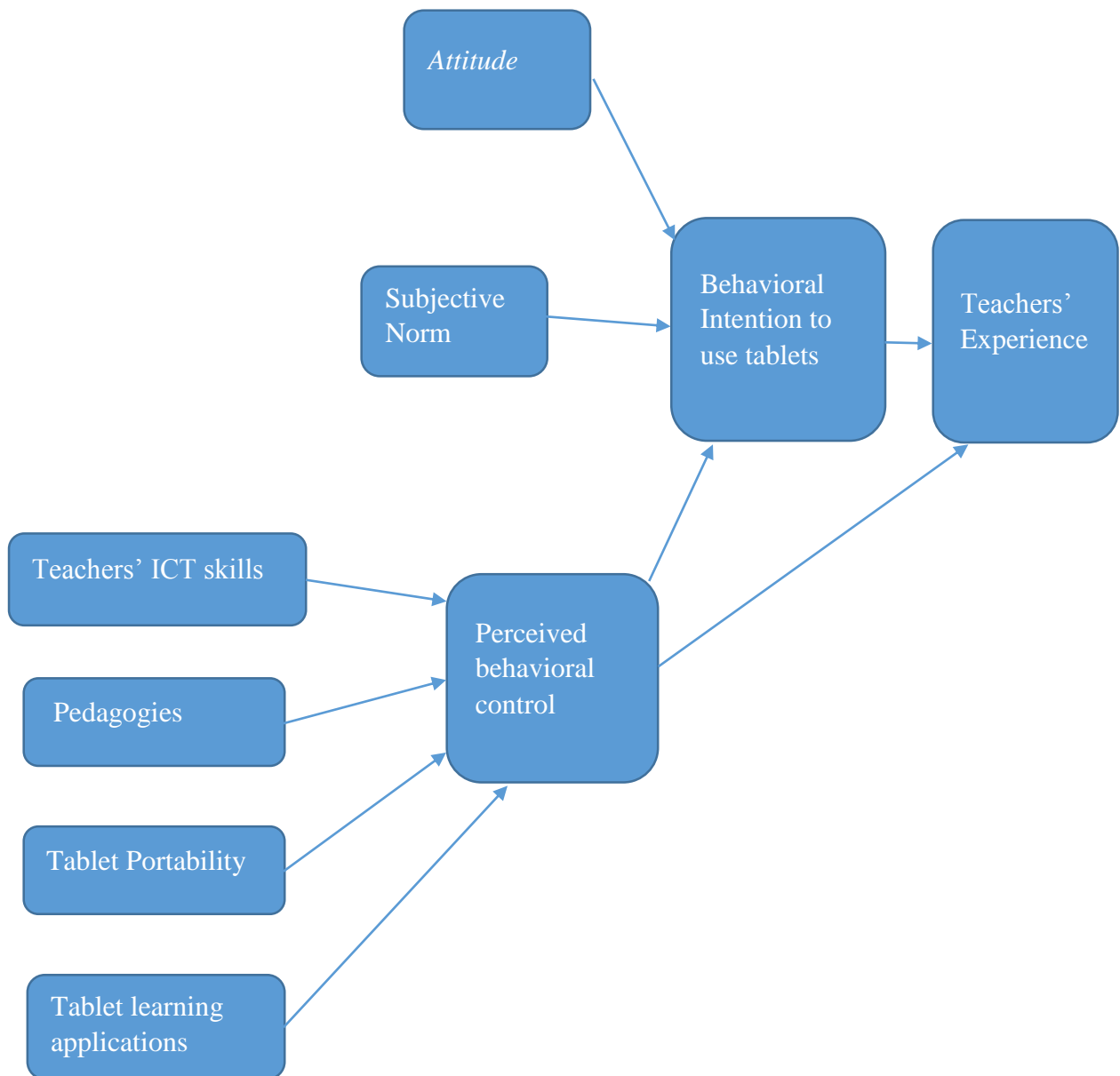
Figure 2.4 Conceptual Framework

As shown above, usage behavior has not been included in the model since current studies have identified a powerful connection between behavioral intent to execute behavior and actual behavior (Ajzen and Madden, 1986). Teachers ' experience in teaching tablet is greatly influenced by the behavioral intent to use tablets for teaching and control of behavior and by three other ideas: attitude, subjective norms, and perceived behavioral control. We can deduce the following from the model using the paths below:

1. Teachers experience using tablets in teaching is strongly affected by the behavioral intention to use tablets for teaching

2. Three concepts are significantly influenced by the intention to use tablets in education: Attitude, Subjective Norm and perceived behavior control for the use of tablets.

3. Attitude has a beneficial impact on behavioral plans for the use of tablets for teaching

4. The subjective norm has a positive effect on the behavioral intentions to use tablets for teaching.

5. Perceived behavioural control impacts both the will to use the tablets and experience of the teacher.

Looking on further to the four constructs we discuss them below

1. **Attitude-** relates to the teachers ' emotions about using tablets in their future schools. It is further decomposed into

   a) Perceived usefulness defines how teachers believe that the use of tablets helps them to fulfill their tasks and helps the students achieve their classroom education goals.

   b) The perceived ease of use of the tablet tools shall be defined in the sense that teachers feel it would be effortless to use them. Technologies cannot improve teachers ' work effectiveness if they view technology as too difficult to use.

   c) The extent to which teachers believe that the use of tablet is consistent with the topic they will teach in their future schools is described as compatibility.

   d) New teaching styles are described as the level to which teachers think they will transform classes taught according to the benefits tablets can give.

We can further add the following paths to explain our model by deducing the below

6. Perceived usefulness affects the intention of teaching using tablets.

7. Perceived ease of use has a beneficial impact on the manner in which tablets are used in education.

8. Compatibility has an advantageous influence on the attitude to teaching intentions.

9. The intention to use tablets in learning is affected by new teaching styles.

2. **Subjective Norms-**Describe an individual's view that another person believes that a particular conduct should be or should not be carried out. It is divided into more;

   a) Peers this will include the colleagues of the teachers that they are working with and teachers of other neighboring schools

b) Superiors will include the heads of administration of the school

We can further add the following paths to explain our model by deducing the below

10. The use of tablets in teaching has a beneficial effect on subjective norms.
11. Superiors benefit from the subjective norms for the purpose of using tablets in education

3. **Perceived behavioral control** – that relates to people's perception of behavioral ease or difficulty It is further broken down into

   a) ICT skills – These are teachers ' perceptions of their capacity to complement in-class teaching and student learning with tablets. The teacher's ICT skills benefit technology adoption and are essential determinants of behavioral intentions and use

   b) Pedagogies- These are the teachers ' perceptions of how they will change the way they plan and teach courses, use tablets, remove textbooks and workbooks, and replace electronic versions

   c) Tablet portability- these are the teacher's perceptions of the ease of movement both within and outside the classroom environment hence allowing moving technology outside the traditional classroom environment into sports or other outdoor activities.

Lastly we add the following paths to explain our model by deducing the below

12. The ICT skills of teachers benefit from the perceived behavioral control over teaching plans for using tablets.
13. The use of tablets in learning has a beneficial effect on the perceived behavioral control
14. Tablet portability has a positive effect on perceived conduct control over teaching use of tablets

Tablet learning applications have a positive influence on perceived behavioral control over intentions to use tablets in teaching

From the above we have 15 variables that we can decompose further into items that can be measured using a 5-point Likert-type scale, with 1=strongly disagree to 5=strongly agree. The questionnaire attached at the appendix 1 shows the survey instrument to be used to test the variables

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Research is based on some major theoretical premises, which research institutes are valid and which methods are suited for understanding development in a specific study. It is therefore vital to know what these assumptions are in order to conduct and evaluate any research. This chapter addresses the philosophical hypotheses regarding the design methods behind the research. The interpretive strategy appeared to be the approach most appropriate to conduct the research because of the nature of the current studies and the data needed to be researched to generate new knowledge. The study will be used by teachers working with the government for the success of the program. The chapter also defines the research methods and ideas used for the study and explains the steps and processes engaged, such as data collection and assessment techniques, instruments and techniques. To collect the data an open-end, closed-end, likert scale questionnaire will be applied. To acquire explanations to the understanding, focus groups interviews will also be used since it is a popular technique for collecting data in educational research and is a suitable technique for collecting exploratory information on the perceptions of educators presently using tablet computers in school.

3.2 Research Design

The research design can be regarded as a justification for research or strategy, which gives insight into how research is carried out. It demonstrates how all the main parts of the study – examples or meetings, mediation, treatments or programs, etc. – operate together to identify research questions. In this examination quantitative strategies will be utilized to gather information from teacher questionnaires and teacher focus group discussions.

3.3 Study Population

This research's population study includes all primary school teachers in Kenya. All the respondents selected will be involved in either directly or indirectly and thus they provide relevant information and views on integration of tablets in their schools.

3.4 Sampling Procedure

This research generally targets primary school teachers in Kenya and specifically, Class seven teachers in Kalawa Primary School. We seek to analyze the integration of tablets in their schools' environments and the teachers' experiences.

3.5 Instruments for data collection

Data will be gathered using both free-format and fixed-format questionnaires, face-to-face interviews and focus group discussions (FGDs). We chose this type of instruments as they will give us all the answers we need from the teachers. Since the tablets are a new concept in the system, some instruments would not be effective. Interviews as a data collection method are appropriate for the interpretive paradigm as they allow participants to describe their perceptions and experiences with integrating technology into their school environment. The process of formulating questions for the data acquisition methods is informed by the literature review conducted at the outset of the research process and further operationalization of the variables in the conceptual framework.

3.6 Data Analysis

The data simplification method is called data analysis to make it comprehensive and to give significance to the information gathered systematically using the research tools. Once data collection is done, we will use the Social Sciences Statistical Program (SPSS), a statistical software for the analysis of quantitative data. For quantitative data, I have used tests of normality, regression analysis, ANOVA, bivariate analysis, correlation analyses, variance, mean score and Independent Sample T-test for my analysis for each variable being tested.

3.6.1 Conceptual Framework Analysis

This analysis is done during a study to investigate the relationship that exists among variables. The scholar is better placed to decide the contribution of each independent variable to the dependent variable.

Independent variables for this research were: Behavioral intentions to use, attitude, perceived usefulness, perceived ease of use, compatibility, new teaching styles, subjective norms, teachers peer influence, school heads influence, perceived behavioral control, teachers' ICT skills, pedagogies, tablet portability, and tablet learning applications. The dependent variable was the experience of teachers.

3.7 Operationalization of variables

Table 2.1: Operationalization of variables

Variable	Source	Timing
H1: Attitudinal, normative and perceived behavioral control factors have significant effect on teachers' experience when integrating tablets in schools		
• Ease of use for educators and students to comprehend and function the tablet freely without any additional effort	Teachers	• At start, continuous after start
• New teaching styles for teachers in that classes are transformed according to the benefits of tablet computers	Teachers	• At start, continuous after start
• Perceived usefulness is the way teachers think tablets will improve or improve their output	Teachers	• At start, continuous after start
• ICT skills of teachers are improved by unlocking the capacity of the user to use a range of distinct kinds of software, which in turn allows users to enhance their ICT abilities	Teachers	• At start, continuous after start
• Pedagogies in the new methods used by both learners and teachers in the classroom, many of which have an important effect on student learning ; Tablet endorsed and expanded the curriculum and expanded teacher practice	Teachers	• At start, continuous after start
• Compatibility refers to the compatibility of tablets with present teacher values, past experiences and present needs	Teachers	• At start, continuous after start
• Perceived behavioral control refers to perceptions of the capacity of individuals to execute a specified behavior. It can be used	Teachers	• At start, continuous after start

in conjunction with predicting the behavior of individuals.		
• Subjective norms of attitude and perceived control of behavior affect behavioral intentions to be used	Teachers	• At start, continuous after start
• Tablet teaching applications are new types of software apps and extended standard software packages in a whole new way ; allow teachers and students to collate workbooks that include words, sound, visuals and graphics that reduce the need for traditional books.	Teachers	• At start, continuous after start
• Attitude towards using tablets for teaching: worries and concerns about using tablets properly in the classroom with young kids ; believes that kids still need traditional social relationships and interaction with others through actual play with functional objects.	Teachers	• At start, continuous after start
H2: Perceived behavioral control and Behavioral intention to use have significant effect in actual use of the tablets by the teachers		
• Tablet portability: the capacity to fold a flat screen also improves device portability ; a tablet can readily pass through the classroom or be used in traditional notebook difficult places, and teachers and students can now move around the classroom freely and easily without deterrents, such as energy cables or network cables.	Teachers	• At start, continuous after start
• Tablet learning applications	Teachers	• Continuous after start
• Perceived behavioral control	Teachers	• Continuous after start

• Teachers' peers influence are the colleagues that the teachers work with	Teachers	• Continuous after start
• Influence of school heads is responsible for day-to-day running or school management	Teachers	• Continuous after start
• The perceived social pressure to act is the subjective norm	Teachers	• Continuous after start
• Teachers' Experience includes ease of lesson preparation; teachers updating themselves professionally due to connection to internet; new methods of teaching; providing individual learner support; individual lesson guidance to learners;	Teachers	• At Start, continuous after start
• Pedagogies	Teachers	• At Start, continuous after start

H3: Teachers' ICT skills, Pedagogies, Tablet portability and tablet learning applications have significant effect on perceived behavioral control

• Pedagogies	Teachers	• At Start, continuous after start
• Tablet learning applications	Teachers	• At Start, continuous after start
• Ease of use	Teachers	• At Start, continuous after start
• Compatibility	Teachers	• At Start, continuous after start
• Perceived usefulness	Teachers	• At Start, continuous after start
• Perceived behavioral control	Teachers	• At Start, continuous after start
• Tablet Portability	Teachers	• At Start, continuous after start
• Behavioral Intention to use tablets	Teachers	• At Start, continuous after start
• Teachers experience	Teachers	• At Start, continuous after start

CHAPTER 4: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section analyzes the information gathered in accordance with the fundamental goals and research questions. A pragmatic method was used to analyze both quantitative and qualitative information.

4.2 Key Findings from Quantitative Study

In order to model the connection between the different independent and the dependent variable the relationship between the variable in the subject and the regression model has been developed. Answers will be provided in the form of tables and graphs for easier interpretation. To gauge preference, a Likert scale index of 1 to 5 was used where 1 represented Strongly Disagree, to 5 representing strongly Agree.

4.2.1 Reliability Analysis

Reliability analysis was evaluated using Cronbach's Alpha for the instrument research. This test measures the reliability of the study tool's internal consistency. The highest possible reliability co-efficient is 1.0. To be effective, alpha values must be > 0.6, the reliability for the research as measured by Cronbach's Alpha was 0.972, which is 97.2%. Therefore, this scale is reliable for the study.

Table 4.1 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.972	.984	77

Table 4.2: Reliability Test Results

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1) Behavioral intention to use	307.58	844.210	.709	.972
I intend to use the tablet	307.70	837.679	.606	.972
In the next three months, I plan to use the tablet	307.58	844.210	.709	.972
The tablet would be beneficial to me in teaching	307.45	850.991	.734	.972
2) Attitude	307.14	848.118	.785	.972
I feel using tablets would be a good idea	307.08	851.629	.633	.972
I feel using tablets would be a wise idea	307.20	844.670	.839	.972
I feel using tablets would be a pleasant experience	307.20	844.670	.839	.972
I like to use tablets	307.08	851.629	.633	.972
3) Perceived usefulness	307.75	854.771	.869	.972
Using tablets would improve my performance in conducting my classes	307.45	850.991	.734	.972

Using tablets would improve my productivity	307.20	844.670	.839	.972
Using tablets could decrease my class preparation time	307.83	901.827	-.628	.975
Using tablets makes it easier to do my teaching job	307.08	851.629	.633	.972
I think my teaching is more efficient without using tablets	309.33	838.546	.374	.973
Using tablets would enhance my effectiveness in conducting my classes	307.58	844.210	.709	.972
4) Perceived ease of use	307.77	839.481	.884	.972
Learning to use tablets is simple for me	307.20	844.670	.839	.972
I could use tablets for my classroom preparation	307.20	844.670	.839	.972
Difficulties in using tablets to teach make me stressful and nervous	309.20	818.613	.677	.972
The tablets would be easy to use	307.45	850.991	.734	.972
5) Compatibility	307.37	852.470	.791	.972
Tablet use is compatible with my teaching style	307.45	850.991	.734	.972

Tablet integration is a shift in the study mode	307.58	855.777	.246	.973
Using tablets to conduct my classes fits into my work profile	307.08	851.629	.633	.972
6) New teaching styles	307.37	842.140	.832	.972
I'm prepared to attempt distinct techniques of teaching with the tablet	307.20	844.670	.839	.972
I altered the way I taught a lesson while using the tablet.	307.33	848.122	.751	.972
I attempted to structure the tablet interaction to match what I was doing right now.	307.58	833.829	.757	.972
7) Subjective Norms	307.33	848.122	.751	.972
Most of my peers who are important to me believe it's a wise notion to use tablets	307.33	848.122	.751	.972
Most of my colleagues who are essential to me think that using tablets is a good idea.	307.33	848.122	.751	.972
Most of my acquaintances think I should use	307.33	848.122	.751	.972

8) Teachers' Peers influence	307.80	844.258	.915	.972
Using tablets has allowed higher creativity and peer criticism and increased support for students of all skills	307.33	837.960	.755	.972
Using ICT in my school would boost the gratitude of teachers for my teaching job	307.33	847.813	.762	.972
Frequent interactions with mobile learning are hard to schedule	308.95	838.196	.467	.973
We demonstrate each other applications and give assistance to those who experience problems while using tablets	307.58	854.372	.800	.972
9) School heads influence	308.42	855.067	.529	.972
There is a technical team that provides hardware and software support.	308.33	827.194	.700	.972
Tablets require administrators to consider acceptable privacy, security and intellectual property policies	307.95	854.996	.294	.973

There is administrative management and engagement to promote the tablet integration vision	307.70	847.556	.745	.972
I do not feel that kids are interested in designed portable learning practices	309.70	892.546	-.404	.975
10) Perceived behavioral control	308.08	847.548	.529	.972
I have time to build and increase homework and to provide students with better teaching feedback.	307.33	848.122	.751	.972
Using the tablet is entirely within my control	307.83	819.251	.704	.972
I am unlikely to encounter challenges when using the tablet	309.08	876.272	-.112	.974
11) Teachers ICT skills	307.60	848.811	.914	.972
I love using different innovative techniques.	307.58	854.372	.800	.972
I keep up with new mobile learning and teaching systems	307.58	854.372	.800	.972

I actively search application software for particular information material of my concern.	307.58	854.372	.800	.972
I can fix technological issues on my own	307.70	827.351	.692	.972
I commonly update my understanding of multiple mobile apps related to pedagogy and information content	307.58	854.372	.800	.972
12) Pedagogies	307.50	850.270	.800	.972
I feel that I support students in gaining autonomous critical study abilities that are deemed essential for the 21st century.	307.45	850.991	.734	.972
I am free from the use of published materials and can generate my own content..	307.70	857.741	.287	.973
The use of tablets needs continuing professional development in technical and pedagogical fields.	307.20	844.670	.839	.972

Teachers need tablet devices to rethink learning and teaching boundaries and take into account what data and skills are crucial for a digital world.	307.70	847.556	.745	.972
Using tablets improves my withdrawal from teacher-oriented teaching	307.45	850.991	.734	.972
13) Tablet Portability	307.41	846.556	.857	.972
The tablet's flexibility and physical shape not only made students more mobile and able to cooperate, but also enhanced teacher cooperation.	307.33	837.960	.755	.972
The spelling and grammar controls available make it much easier for learners	307.45	850.991	.734	.972
Making revisions on a tablet is an easy swipe instead of receiving eraser marks	307.45	850.991	.734	.972
14) Tablet learning applications	307.39	849.371	.803	.972

using tablets I annotate student work electronically and hence return with feedback in a timely manner	307.33	847.813	.762	.972
There are growing numbers of educational software ' applications, ' including many for literacy, numeracy and other topic fields such as science.	307.45	850.991	.734	.972
15) Teachers experience	307.84	851.006	.941	.972
Using tablets Increases academic achievement (e.g. grades).	307.20	844.670	.839	.972
The use of tablets outcomes in teachers neglecting significant traditional teaching resources (e.g. library books).	307.58	824.006	.708	.972
I find planning using the tablet challenging since I was not informed about the technology	309.95	888.372	-.423	.974
Using tablets enables teachers create writing abilities that they can easily share on tablets	308.45	868.353	.019	.974

I keep using IT techniques effectively, for example. PowerPoint presentations, multimedia presentations or digital professional content	307.95	833.091	.617	.972
In the design and delivery of learning sessions I use specific educational strategies and techniques to achieve significant objectives	307.58	854.372	.800	.972
I feel that using tablets has added fresh requirements to my job and enhanced abilities that I need to obtain	307.33	848.122	.751	.972
I request more training and technical advice to get used to the tablet	307.20	855.117	.500	.972
I encourage learners to express their views, ask questions and answer them, and allow time and opportunity to do so	307.45	850.991	.734	.972

I create a closure to help students come together and comprehend significant problems and recognize individual learning requirements and shortcomings	307.70	847.603	.519	.972

4.2.2 Descriptive Statistics

Response Rate.

The sample size sampled 10 teachers from the school and out of the 10, only 8 gave out their responses which translates to 80% response rate.

Table 4.3 Case Processing Summary

		N	%
Cases	Valid	8	80.0
	Excludedᵃ	2	20.0
	Total	10	100.0

a. List wise deletion based on all variables in the procedure.

Behavioral intention to Use.

Responses sampled from this objective aimed at establishing whether there was a real behavioral intention to tablet utility and ICT related materials within the classroom setup.

With regards as to whether there was a behavioral intention to use, respondents showed much enthusiasm with a majority torn between agreeing and strongly agreeing. Majority (67%) agreed, that there was a behavioral intention to use while 25% strongly agreed with

4% choosing to be neutral and disagreeing respectively. This is a shown in the bar chart below.

Figure 4.1 Behavioral Intention to Use
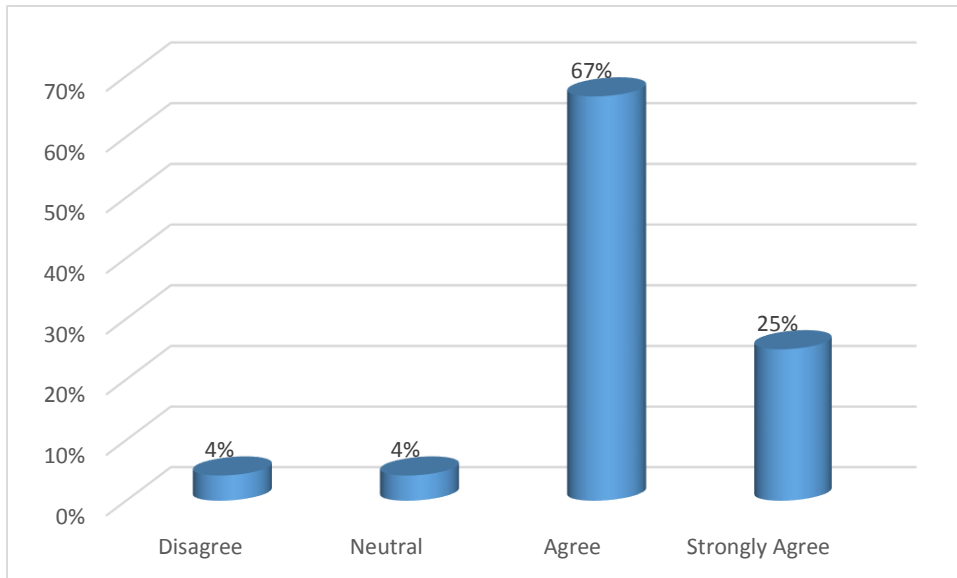
Figure 4.2 Attitude

With regards to attitude, 56% of the respondents strongly agreed that attitude to the use of tablet mattered most while only 44% agreeing on average. For this single variable no one expressed displeasure or neutrality.

This information is presented in the bar charts below.
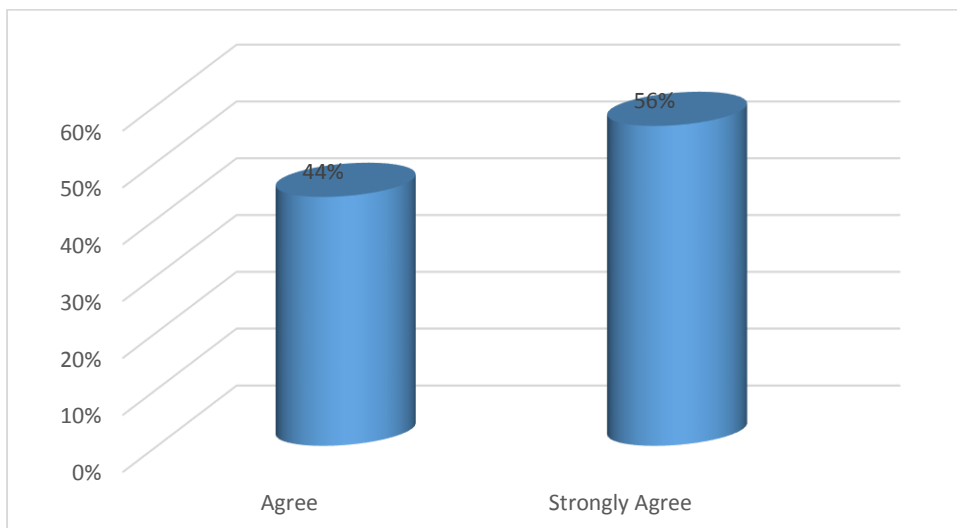
Figure 4.3 Perceived Usefulness

As to whether there was a perceived usefulness in the use of the tablets, 52% of the respondents agreed to this proposition while 31% strongly agreed. 2% were neutral while 10% disagreed with only 4% expressing strong disagreement. This information is presented in the bar chart below.
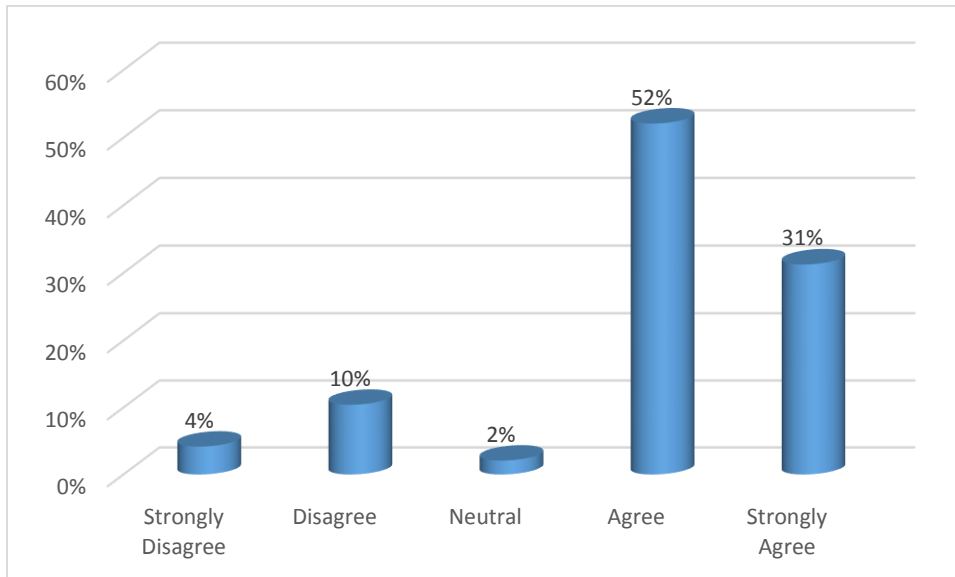
Figure 4.4 Perceived Ease to Use

With regards to Perceived Ease of use, 47% of the respondents agreed that it was important with 34% strongly agreeing. 16% disagreed with only 3% expressing a strong opposition to the belief/ this information is captured in the bar chart below.
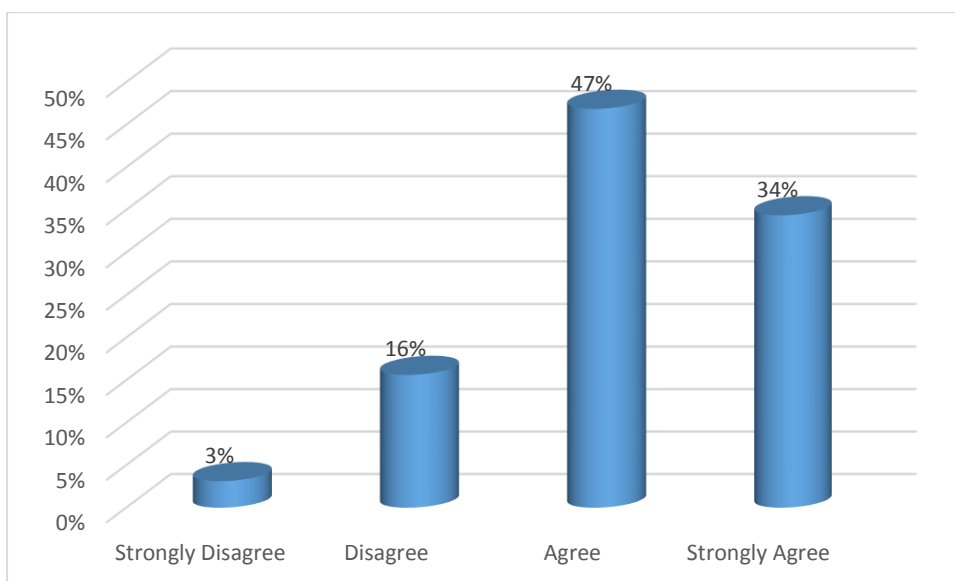
Figure 4.5 Compatibility

On tablet compatibility with teaching style, most of the respondents, 54% alluded that tablet compatibility to teaching style was an issue to consider while 42% of the respondents strongly agreed. Only 4% of respondents disagreed on this proposition.

This information is illustrated in the bar chart below.
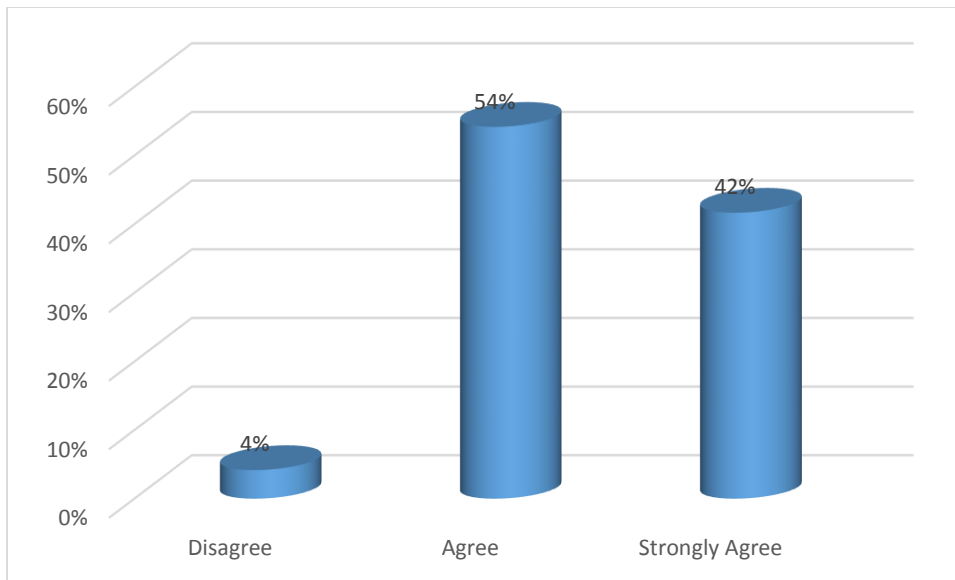
Figure 4.6 New Teaching Styles

The research attempted to further comprehend whether participants were prepared to attempt distinct teaching techniques or altered the way they delivered content using a tablet., 50% agreed that in one way or another the tablet had influenced on the style of delivering content to learners, 42% strongly agreeing and only 4% remained non-committal to this proposition. This information is as shown in the bar chart below.
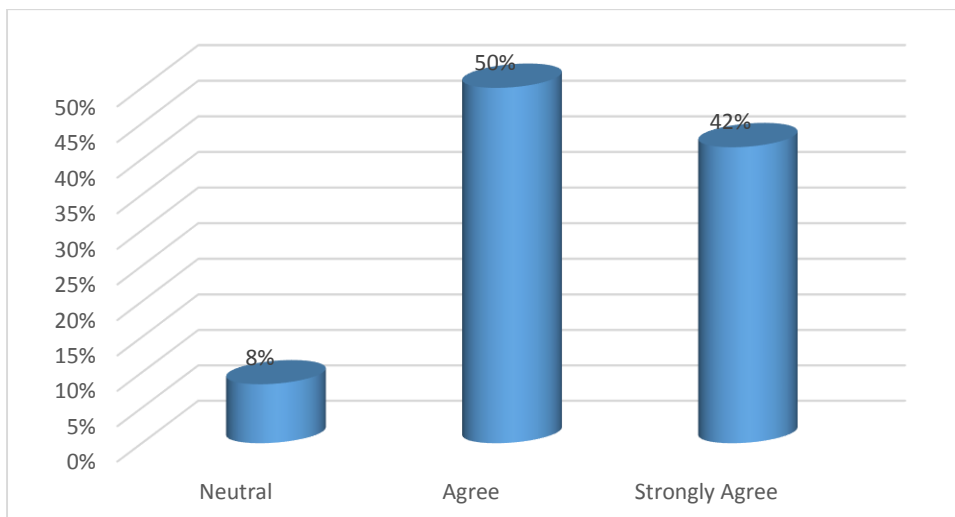
Figure 4.7 Subjective Norms

The researcher further sought to understand whether subjective norms surrounding the use of tablets. Up to 63% of the respondents agreed that third party opinion in one way or another had a direct impact on the use of tablet, with 38% strongly agreeing. This information is a shown in the bar chart below.
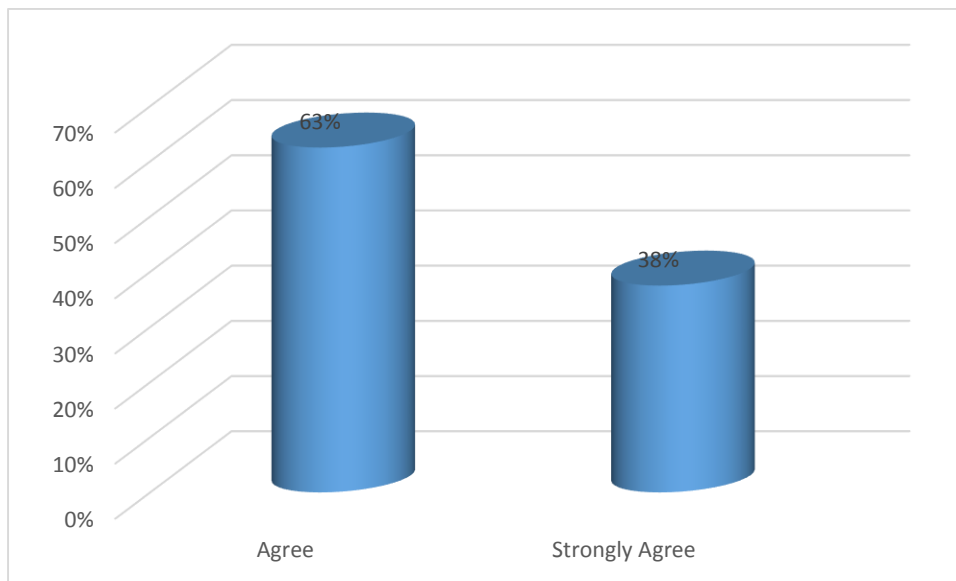
Figure 4.8 Teachers Peer Influence

Whether using tablets has allowed more creativity and peer criticism and has given higher support to students of all skills or use of ICT mechanisms in my class had increased teachers' appreciation for teaching work, almost half of the respondents 50% agreed to these propositions, with 28% of the respondents strongly Agreeing, 6% remaining neutral and 16 % disagreeing. This information is illustrated in the bar chart below.
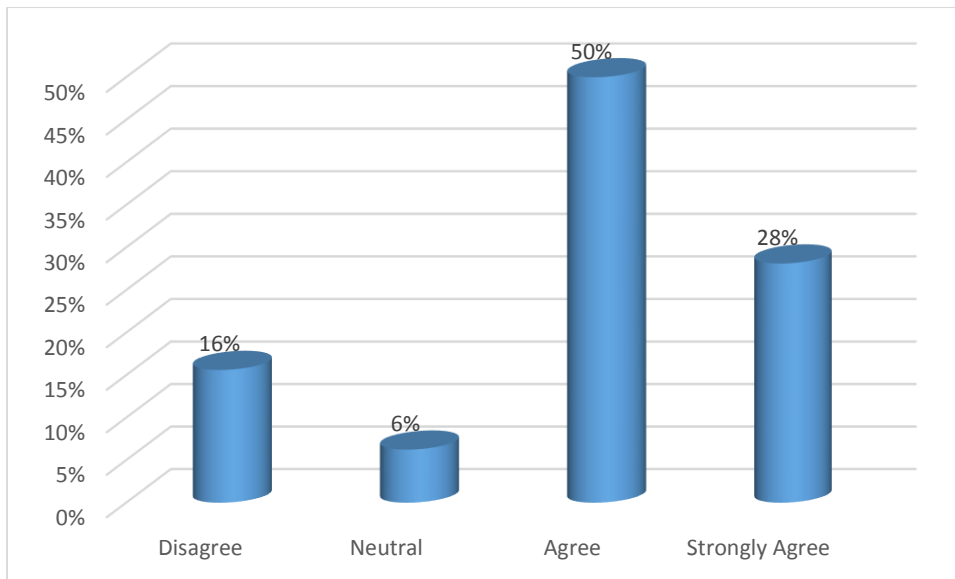
Figure 4.9 School Heads Influence

The study further sought to understand as to whether it was needful of the environment to provide respondents with administrative leadership and direction beside drafting of favorable policies to the use, intellectual property, safety and privacy measures, 47% of the respondents agreed that school heads influence was key, with 9% strongly agreeing. 13% chose to remain non-committal, with 25% disagreeing and only 6% expressing strong opposition to this thought.
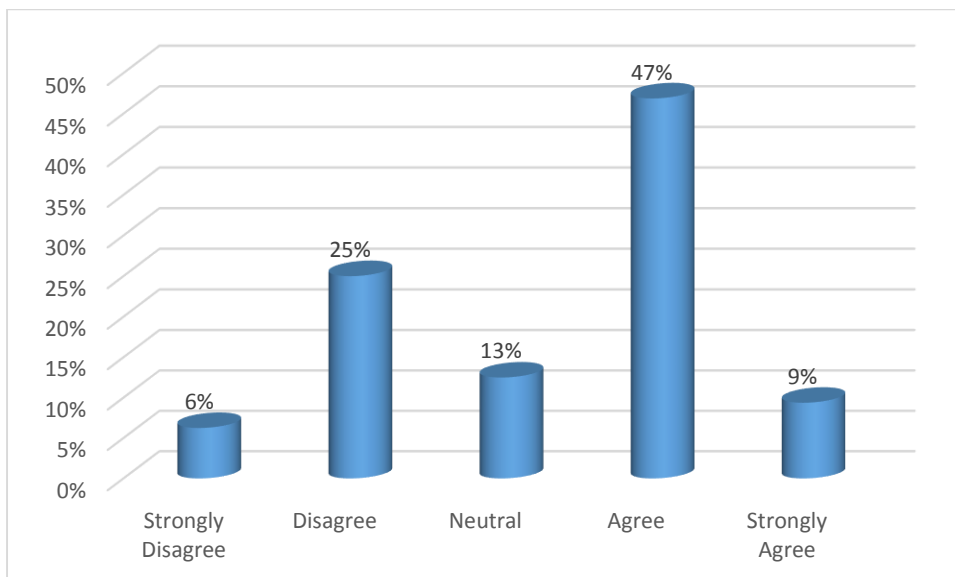
Figure 4.10 Perceived Behavioral Control

The research attempted to determine whether perceived behavioral control was as a consequence of tablet use, in terms of challenges, and problem solving art with learners

42% of the respondents agreed that there was a perceived behavioral control, with 25% strongly backing up. However, 29% of the respondents didn't agree with 4% remaining neutral.
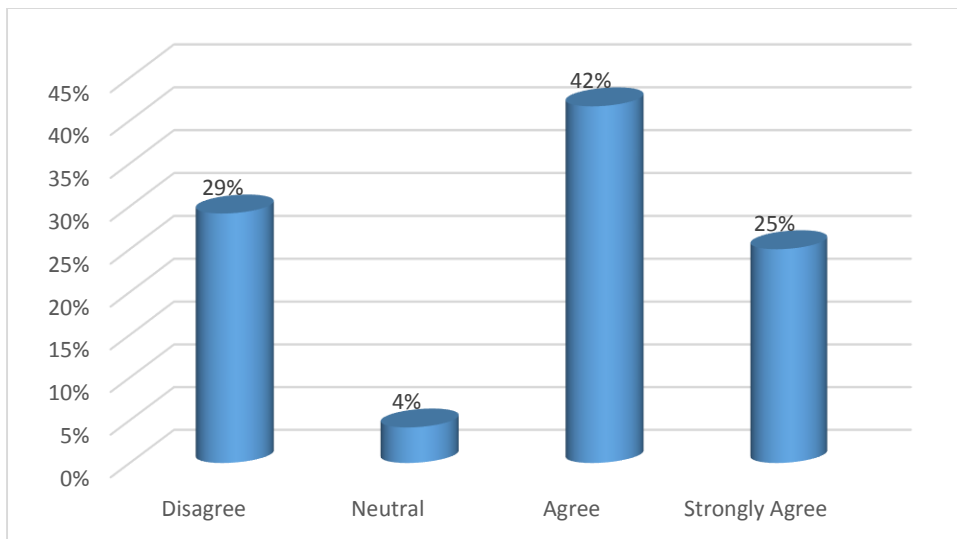
Figure 4.11 Teachers Experience

As to whether there was a teachers experience, in terms of grade improvement, neglect of traditional forms of teaching such as library use, distorted course planning as a result of the use of the tablets, or as to whether in designing and delivering learning sessions, particular instructional strategies and methods were used, Most participants 48% agreed that experiences had a true change, with 29% expressing strong opinion on the same.9% remained neutral, 11% disagreed and 4% strongly disagreeing.

This information is illustrated in the bar chart below.
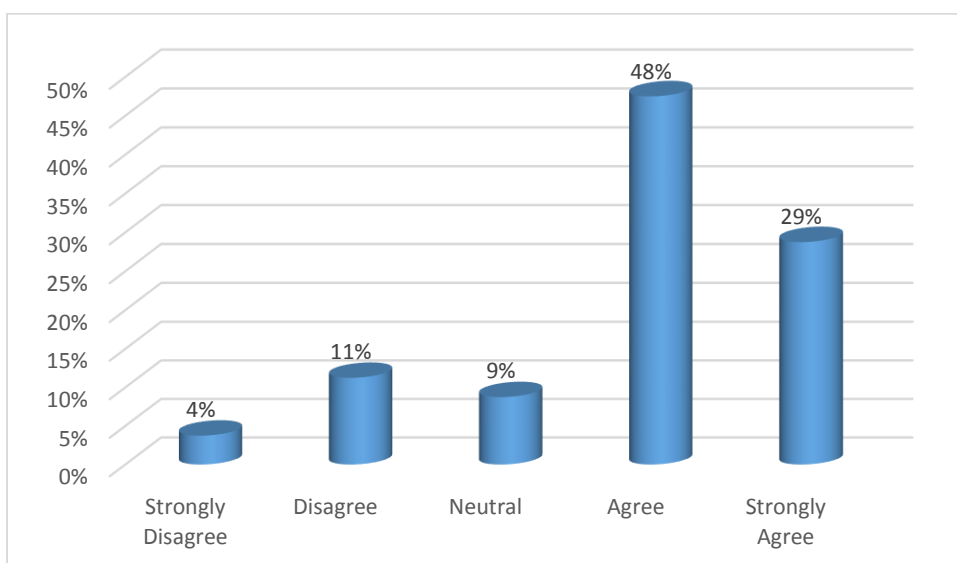
Summary of Mean and Standard Deviation results

Behavioral intention to use (M=4.13 SD=0.641), Attitude (M=4.56 SD=0.496), Perceived usefulness (M=3.96 SD=0.318), Perceived ease of use (M=3.94 SD=0.609), Compatibility (M=4.3 SD=0.398), New teaching styles (M=4.33 SD=0.591), Subjective Norms (M=4.38 SD=0.518), Teachers' Peers influence (M=3.91 SD=0.499), School heads influence (M=3.28 SD=0.508), Perceived behavioral control (M=3.63 SD=0.744), Teachers ICT skills (M=4.10 SD=0.414), Pedagogies (M=4.20 SD=0.441), Tablet Portability (M=4.29 SD= 0.486), Tablet learning applications (M=4.31 SD= 0458) and Teachers experience (M= 3.86 SD=0.362. The summary of means is shown in table 4.4 below

Table 4.4 Summary of Mean and Standard Deviation Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
1) Behavioral intention to use	8	3	5	4.13	.641
2) Attitude	8	4	5	4.56	.496
3) Perceived usefulness	8	4	5	3.96	.318
4) Perceived ease of use	8	4	5	3.94	.609
5) Compatibility	8	4	5	4.33	.398
6) New teaching styles	8	4	5	4.33	.591
7) Subjective Norms	8	4	5	4.38	.518
8) Teachers' Peers influence	8	4	5	3.91	.499
9) School heads influence	8	3	4	3.28	.508
10) Perceived behavioral control	8	3	5	3.63	.744
11) Teachers ICT skills	8	4	5	4.10	.414

12) Pedagogies	8	4	5	4.20	.441
13) Tablet Portability	8	4	5	4.29	.486
14) Tablet learning applications	8	4	5	4.31	.458
15) Teachers experience	8	4	5	3.86	.362
Valid N (listwise)	8				

4.2.3 Normality

One assumption when conducting statistics for small data sets, is that the data is normally distributed.

For smaller data samples less than 2000, we use the Shapiro-Wilk Test, otherwise the Kolmogorov-Smirnov test of normality is preferred.

In our case, the Shapiro wilk was done on every variable data set as shown in the table below. The measurements were done with 95% confidence level.

Clearly the p value for every variable is less than 0.05 since it's a one tailed test and hence rejecting the null hypothesis at 95% confidence interval. The data came from a normal distribution, in conclusion.

Table 4.5 Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
1) Behavioral intention to use	.327	8	.012	.810	8	.037
2) Attitude	.311	8	.022	.736	8	.006
3) Perceived usefulness	.198	8	.200[*]	.865	8	.035
4) Perceived ease of use	.264	8	.107	.761	8	.011
5) Compatibility	.299	8	.034	.815	8	.041

6) New teaching styles	.245	8	.171	.828	8	.030
7) Subjective Norms	.391	8	.001	.641	8	.000
8) Teachers' Peers influence	.300	8	.032	.782	8	.018
9) School heads influence	.208	8	.200*	.943	8	.041
10) Perceived behavioral control	.193	8	.200*	.923	8	.010
11) Teachers ICT skills	.280	8	.065	.848	8	.030
12) Pedagogies	.425	8	.000	.705	8	.003
13) Tablet Portability	.226	8	.200*	.872	8	.040
14) Tablet learning applications	.377	8	.001	.693	8	.002
15) Teachers experience	.334	8	.009	.719	8	.004

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

4.2.4 Correlations

A correlation assessment was performed to check whether there was any connection between the variables in the research. To enable derive this analysis, a Pearson correlation coefficient was preferred. Values with 0 were adjudged to have no correlation at all while those with values of 1 were said to show correlation.

Teachers Experience, attitude, subjective norms, perceived behavioral control and behavioral intention to use were associated and the outcome is as shown in the following table.

Table 4.6 Correlations

	Teachers experience	Attitude	Subjective Norms	Perceived Behavioral Control	Behavioral Intention to Use

Teachers experience	Pearson Correlation	1	.840**	.928**	.868**	.908**
	Sig. (2-tailed)		.009	.001	.005	.002
	N	8	8	8	8	8
Attitude	Pearson Correlation	.840**	1	.803*	.979**	.948**
	Sig. (2-tailed)	.009		.016	.000	.000
	N	8	8	8	8	8
Subjective Norms	Pearson Correlation	.928**	.803*	1	.760*	.807*
	Sig. (2-tailed)	.001	.016		.029	.016
	N	8	8	8	8	8
Perceived Behavioral Control	Pearson Correlation	.868**	.979**	.760*	1	.960**
	Sig. (2-tailed)	.005	.000	.029		.000
	N	8	8	8	8	8
Behavioral Intention to Use	Pearson Correlation	.908**	.948**	.807*	.960**	1
	Sig. (2-tailed)	.002	.000	.016	.000	

	N	8	8	8	8	8

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

There is a powerful positive correlation between teacher experience and 0.840 attitude, 0.928 subjective norms, 0.868 perceived behavioral control, and 0.908 behavioral intent to use. Further there is equally a strong positive correlation between Attitude and teachers experience, 0.840, subjective norms, 0.803, perceived behavioral control 0.979, and behavioral intention to use 0.948. Generally, all variables under study showed a strong positive correlation at 0.05 significance level.

4.2.5 Hypothesis Testing

The hypothesis that was at Chapter 1 will be tested. When accepting or rejecting a hypothesis the decision rule is to accept when a p-value is less than α and reject a hypothesis when p-value is more than α. For this study $\alpha = 0.05$ and will be compared with p-values applicable to the stated hypotheses.

H1 Behavioral intention to use as a function of attitude, perceived behavioral control, and subjective norms

The association between dependent and independent variables was chosen by a multiple regression model. First, we sought to seek the whether Behavioral Intention to Use, Y_i was a function of Perceived Behavioral control X_1, subjective norms $X_{2\text{ and}}$ Attitude X_3,

The model showed an R2 Adjusted of 0.966, which implies that up to 96.6% of the answers as to whether behavioral intention to use is explained by perceived behavioral control, subjective norms and Attitude while 3.4% is explained by other factors. A Durbin Watson test revealed a value of 2.340 hence showing that the data was relatively normal at 0.05 significance level.

Table 4.7 Behavioral intention to use as a function of attitude, perceived behavioral control, and subjective norms

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.995[a]	.966	.966	.050	.966	120.042	3	4	.000	2.340

a. Predictors: (Constant), Perceived Behavioral Control, Subjective Norms, Attitude

b. Dependent Variable: 10) Behavioral Intention to use.

A comparison of the means between Groups (Regression) and within groups (Residuals) was conducted. The difference in means between groups was 0.298 with df of 3 while the difference in means within groups was 0.002 with df of 4. The P value was found to be 0.000 <0.05 implying that the difference between and within groups differed significantly. In other words, perceived behavioral control, subjective norms and attitude had an important impact on the behavioral intention to use. This information is captured in the table below.

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.909	3	.298	120.042	.000[b]
Residual	.010	4	.002		
Total	.919	7			

a. Dependent Variable: Behavioral Intention to use

b. Predictors: (Constant), Perceived Behavioral Control, Subjective Norms, Attitude

The resultant model therefore being $Y_i = -1.320 X1 + 0.621 X2 + 1.441X3$ with R^2 0f 0. 966.where Y_i refers Behavioral intention to use, 0. 621 is the coefficient of the respondent's subjective norms and It shows that there is a positive link between the behavioral intention to use and the subjective norms whereas 1.441 is the perceived behavioral control coefficient which shows a likewise favourable link. The coefficient -1.320 is negative and demonstrates the effect on behavioral intention to use of a negative attitude. This underlines the attitude of the role.

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.109	.179		1.221	.226
Attitude	-1.220	.228	-1.320	-3.912	.004
Subjective Norms	.548	.055	.621	7.422	.000
Perceived Behavioral Control	1.486	.220	1.441	4.110	.001

 a. Dependent Variable: Behavioral intention to use

H2 Teachers experience as a function of behavioral intention to use and perceived behavioral control

A further simple regression analysis has been performed to establish the connection between the classroom experience (Yi) and cognitive intention to use X1 and the perceived conduct control X2.

The resulting adapted R square was 0.804, which implied that up to 80.4% of the variation in teacher experience was explained by behavioral intention to use while other variables described 19.6% of the variation. The model's p value was 0.01

Table 4.8 Teachers experience as a function of behavioral intention to use and perceived behavioral control

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.917[a]	.888	.804	.112	.888	29.010	1	6	.001	1.100

a. Predictors: (Constant), Behavioral Intention to Use, Perceived behavioral control

b. Dependent Variable: Teachers experience.

An ANOVA assessment on the mean difference between groups was 0.665 and those within groups was 0.015 with a p value of 0.01 which is less than 0.05 hence a substantial mean difference. The resultant simple regression model hence

$Y_i = 0.884X1 + 0.664X2$

Where

Y_i denotes the Teacher's Experience

 X1 denotes the behavioral intention to use

X2 denotes the perceived behavioral control.

This indicates that behavioral intention to use the tablet influences up to 88.4% of the teacher's experience, while the perceived behavioral control only accounts up to 66.4% The tables below illustrate this phenomenon.

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.665	1	.665	28.010	.001^b
Residual	.015	6	.015		
Total	.680	7			

a. Dependent Variable: Teachers experience

b. a. Predictors: (Constant), Behavioral Intention to Use, Perceived behavioral control

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.625	0.615		1.115	0.249
	Behavioral Intention to Use	0.804	0.112	0.884	4.272	0.001
	Perceived behavioral Control	0.621	0.562	0.664	3.214	0.003

a. Dependent Variable: Teachers experience

. Predictors: (Constant), Behavioral Intention to Use, Perceived behavioral control

H3 Perceived behavioral control as a function of teachers' ICT skills, pedagogies, tablet portability and tablet learning applications

Another simple regression assessment was performed to determine the connection between Perceived Behavioral Control (Yi) and Pedagogies X1, X2 tablet portability, X3 tablet teaching applications and X4 Teachers ICT skills.

Table 4.9 Perceived behavioral control as a function of teachers' ICT skills, pedagogies, tablet portability and tablet learning applications

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.962a	.926	.828	.266

a. Predictors: (Constant), Pedagogies, Teachers' experience, Teachers ICT skills, Tablet Portability

R^2 is a measure of the linear connection between our predictor variable(s) and our response or target variable(s). It always lies between 0 and 1. From the model summary above, R^2= 0.926 while the R^2 Adjusted = 0.828 with a standard error of 0.266. This implies that up to 82.9% of the variation in the model can be explained by the variable sin play whereas the rest can be explained by other factors. Hence this it can be concluded that the model fits in well.

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.663	4	.666	9.402	.048b
	Residual	.212	3	.071		
	Total	2.875	7			

a. Dependent Variable: Perceived behavioral control

b. Predictors: Pedagogies, Teachers' ICT skills, Tablet learning applications, Tablet Portability

In order to determine the group, a variance analysis was performed and it revealed that the difference between groups 0.666 while within groups is 0.071 with a p value of 0.048, that is less than 0.05, is a substantial difference between the means.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	0.793	0.567		1.432	0.340
1	Pedagogies	0.645	0.340	0.462	3.322	0.007
2..	Portability	0.457	0.111	0.784	1.234	0.002*
3	Learning Applications	0.522	0.131	0.665	2.789	0.003
4.	Teachers ICT Skills	0.621	0.542	0.664	2.766	0.003

    a. Dependent Variable: Perceived behavioral control

    b. Pedagogies, Portability, Learning Applications, Teachers ICT Skills

As to whether extent of teachers' ICT skills, Pedagogies Tablet portability and tablet learning applications in explaining perceived behavioral control, the research carried out a multi regression analysis for behavioral Intention to use as a function of Pedagogies, Tablet Portability, Learning applications and Teacher's ICT skills.

Hence this relationship can be modelled as;

Perceived Behavioral control (Pedagogies, Portability, Learning applications, and Teachers 'ICT skills)

 The resultant model therefore can be referenced as;

$Y_i = 0.462 X1 + 0.784X2 + 0.665X3 + 0.664X4$ Where;

Y_i = Perceived Behavioral control,

X1= Pedagogies

X2= Portability (Weight)

X3=Learning Applications

X4= Teachers' ICT Skills.

Overly, Perceived Behavioral control could be explained by pedagogies up to 46.2%, while 78.4% of the behavior was being shaped by the aspect of Tablet Portability. Learning applications shaped the behavioral aspect by up to 66.5% while Teachers' ICT skills influenced the behavior by up to 66.4%.

This information is shown in the table above.

From the analysis it is quite clear that portability is a significant factor ($P<0.05$) when shaping the behavioral intention to use. The respondents indicated that they preferred tablets to any other form of e- learning material due to aspects of size, and portability.

In the general model therefore, it can be deduced that up to 78.4% of the perceived behavioral control is first shaped by portability of the tablet.

The second shapers of the behavioral intention to use was Learning Applications, 0.665 and Teachers' ICT skills 0.664. These two parameters created the crust regarding the respondents ' perceived behavior regarding the use of tablets as a preferred e-learning material. Most of the respondents believed that their ICT skills (both hard and soft) shaped their behavior towards the use, while some believed that with tailored learning applications, then their experiences and behavioral towards the use of the tablets would different.

CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter shows the results of further research on the same topic based on the results of these research. The study's primary goal was to produce insights into teacher opinions not only on commitment and motivation, but also on how tablets are used to promote education and what they perceive as their instructional advantages and constraints. The attempted model was primarily based on decomposed theory of planned behavior. The test technique was comparable to the technique used in decomposed beliefs (Taylor and Todd 1995).

5.2 Summary of Findings

It was feasible to draw a conclusion from the research undertakings from the outcomes and debate of the study. Assessing attitudinal, normative and perceived behavioral control factors has an important impact on the experience of teachers when tablets are integrated into classrooms. The model indicates a 96% variance that demonstrates behavioral intention to use depends mainly on perceived behavioral control. Subjective norms and attitude, while other variables accounted for 4%. Results from our first regression model show that subjective norms and perceived behavioral control remain a major factor that explains the teachers ' intent to use the tablets. The factor attitude hardly plays a role in explaining the teacher's intentions of the teachers to use the tablet. These results might indicate that the tablet computer has already become a part of the teacher's life in school.

In order to evaluate the perceived behavioral control and behavioral intention to use to have an important impact on the teachers ' real use of the tablets, Descriptive analysis on the mean stated that the participants usually agreed with the majority to show passion for the two variables with behavioral intention (mean=4.13) and perceived behavioral control (mean=3.63). Results from our second regression model indicate that behavioral intention to use the tablets remains an important factor than the perceived behavioral control. It reveals that issues concerning the aptitude for using the tablets will influence the uptake of the teachers in using the devices. The issue of perceived behavioral control can also not be undermined as it also has to be taken into account by the decision makers

Finally, to evaluate how the ICT skills, pedagogy, tablet portability and tablet learning applications of teachers have a major impact on perceived behavioral control, the results of the descriptive statistics indicate the following mean ICT skills of teachers (mean=4.10), pedagogy (mean=4.20), tablet portability (mean=4.29) and tablet learning applications (mean=4.31). The regression model findings indicate that while portability of the tablet has the most significant effect of 78.4 % on perceived behavioral control, pedagogies was the least significant at 46.2 % with learning applications and teachers' ICT skills at 66.5% and 66.4 respectively.

5.3 Conclusion

The research investigated the teachers experience on the integration of tablets in primary school education using Kalawa Primary School, Kitui County as the sample size. The research found that behavioaral intention to use and perceived behavioral control all have an important impact on the general experience of teachers in implementing tablets in primary schools. For the above variables, the research also found that attitude, subjective norm, and perceived behavioral control have an important impact on behavioral intention to use while the latter, i.e. perceived behavioral control, is directly affected by portability, teacher ICT skills, tablet applications, and ultimately pedagogy.

As a result, the following conclusions were drawn first and foremost, tablets have significant potential to improve learning, but as with all technology, the most important element remains the teacher and their practice in the classroom. Second, the main element of this model is behavioral intention, behavioral intention is influenced by the attitude about the probability of the behaviour and subjective assessment of the advantages and dangers of that result.

5.3 Recommendation

The number of respondents in this study was very small, so I would recommend that the number of respondents in further studies increase so as to know whether the findings of the study would be similar. A comparison should also be made between the different classes of teachers in schools in order to determine whether the findings will be similar. All the variables that were used in the study were similar and none the less some variables seem

pretty much stronger than others. I would recommend that further studies are done with teachers who have not started using the tablets so as their experience can be seen right from the onset of the introduction of the tablets.

The implementation of computers in Kenya's primary schools requires to be praised. We are in need of individuals with elevated digital skills in the 21st century. ICT is here and will transform the way the system operates in schools in the years to come. However, this study shows that schools will need to embrace paradigm shifts as they comprehend ICT training and use ICT to teach. In order to empower school leaders and educators, the Education Ministry is supposed to promote important continued workshops for teaching tablets. The role of teachers should also be increased because digital instruments do not teach, but because efficient teachers bring about innovation. It would be difficult to function in digital schools if educators did not feel comfortable and were not in computer attitudes. The digital classroom is unavoidable in a globalized globe. Teachers will utilize pcs and strategies to promote learning in schools.

5.4 Limitations

There was a limitation of exploring the specific innovative approaches of these experienced teachers, or identifying the barrier factors faced by teachers in the implementation of tablet teaching. Strategies for supporting children with special needs in various communities are also necessary for understanding tablet teaching and learning in diverse settings. The impact on tablet teaching adoption by teachers within and outside of the formal curriculum was also limited in the study.

These limitations notwithstanding, the study provided useful findings which contribute considerably to expanding knowledge and understanding of teachers' experience in the integration of tablets in primary schools. This can be a basis for further research in this region.

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APPENDIX 1: PROJECT SCHEDULE

This research will spread across two (2) academic terms which should be approximately six (6) months will give us a perspective of the positive effect of the programme to the teachers and to teaching/ learning and possible challenges that might have been experienced for that period of time.

Table 3.2 Project schedule

No.	Task	Resource	Duration (days)	Start	Finish	Status
1.0	**Consultations and picking of project titles**		**17**			
1.1	Settle on project title	Researcher	4			Done
1.2	Identify project supervisor	Researcher	2			Done
1.3	Register project title	Researcher/ Coordinator	1			Done
1.4	Liaise with supervisor on viability of the project and way forward	Researcher/ Supervisor	10			Done
2.0	**Preparing the proposal**		**26**			
2.1	Chapter 1	Researcher/ Lecturer	6			Done previously
2.2	Chapter 2	Researcher & Lecturer	14			Done previously
2.3	Chapter 3	Researcher & Lecturer	5			Done previously
3.0	**Milestone 1 Presentation**	Researcher/ Panel	1	Fri 13/10/17	Fri 13/10/17	Not done

4.0	**Working towards milestone two**		24	**Mon 16/10/17**	**Wed 15/11/17**	
4.1	Data collection	Researcher + 2 others	3	Mon 16/10/17	Wed 18/10/17	Done
4.2	Data analysis	Researcher	20	Thu 19/10/17	Wed 15/11/17	Done
5.0	**Milestone two presentations**	Researcher / Panel	1	Wed 06/06/18	Wed 06/06/18	Done
6.0	**Working towards milestone three**		13	**Tue 02/01/18**	**Tue 05/06/18**	Done
6.1	Findings, conclusions and recommendations	Researcher	12	Tue 02/01/18	Tue 05/06/18	Done
7.0	**Milestone three presentations**	Researcher/ Panel	1	Wed 06/06/18	Wed 06/06/18	Done
7.1	**Do corrections and prepare final project report**	Researcher	10	Wed 11/07/18	Fri 20/07/18	Done

APPENDIX 2: SAMPLE TEACHER QUESTIONNAIRE

		Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	1) Behavioral intention to use					
1	I intend to use the tablet					
2	In the next three months, I plan to use the tablet					
3	The tablet would be beneficial to me in teaching					
	2) Attitude					
4	I feel using tablets would be a good idea					
5	I feel using tablets would be a wise idea					
6	I feel using tablets would be a pleasant experience					
7	I like to use tablets					
	3) Perceived usefulness					
8	Using tablets would improve my performance in conducting my classes					
9	Using tablets would improve my productivity					
10	Using tablets could decrease my class preparation time					
11	Using tablets makes it easier to do my teaching job					
12	I think my teaching is more efficient without using tablets					
13	Using tablets would enhance my effectiveness in conducting my classes					
	4) Perceived ease of use					
14	Learning to use tablets is simple for me					

15	I could use tablets for my classroom preparation					
16	Difficulties in using tablets to teach make me stressful and nervous					
17	The tablets would be easy to use					
	5) Compatibility					
18	Tablet use is compatible with my teaching style					
19	Tablet integration is a shift in the study mode					
20	Using tablets to conduct my classes fits into my work profile					
	6) New teaching styles					
21	I'm prepared to attempt distinct techniques of teaching with the tablet.					
22	I altered the way I taught a lesson while using the tablet.					
23	I attempted to structure the tablet interaction to match what I was doing right now.					
	7) Subjective Norms					
24	Most of my peers who are important to me believe it's a wise notion to use tablets					
25	Most of my colleagues who are essential to me think that using tablets is a good idea					
26	Most of my acquaintances think I should use tablets					
	8) Teachers Peers influence					
27	Using tablets has allowed higher creativity and peer criticism and					

	increased support for students of all skills				
28	Using ICT in my school would boost the gratitude of teachers for my teaching job				
29	Frequent interactions with mobile learning are hard to schedule				
30	We demonstrate each other applications and give assistance to those who experience problems while using tablets				
	9) School heads influence				
31	There is a technical team that provides hardware and software support.				
32	Tablets require administrators to consider acceptable privacy, security and intellectual property policies				
33	There is administrative management and engagement to promote the tablet integration vision				
34	I do not feel that kids are interested in designed portable learning practices				
	10) Perceived behavioral control				
35	I have time to build and increase homework and to provide students with better teaching feedback				
36	Using the tablet is entirely within my control				
37	I am unlikely to encounter challenges when using the tablet				
	11) Teachers ICT skills				
38	I love using different innovative techniques.				

39	I keep up with new mobile learning and teaching systems					
40	I actively search application software for particular information material of my concern.					
41	I can fix technological issues on my own					
41	I commonly update my understanding of multiple mobile apps related to pedagogy and information content					
	12) Pedagogies					
43	I feel that I am supporting pupils in acquiring independent critical research skills which are considered to be crucial skills for the 21st century.					
44	I am free from the use of published materials and can generate my own content.					
45	The use of tablets needs continuing professional development in technical and pedagogical fields.					
46	Teachers need tablet devices to rethink learning and teaching boundaries and take into account what data and skills are crucial for a digital world.					
47	Using tablets improves my withdrawal from teacher-oriented teaching					
	13) Tablet Portability					
48	The tablet's flexibility and physical shape not only made students more mobile and able to cooperate, but also enhanced teacher cooperation..					

49	The spelling and grammar controls available make it much easier for learners					
50	Making revisions on a tablet is an easy swipe instead of receiving eraser marks					
	14) Tablet learning applications					
51	using tablets I annotate student work electronically and hence return with feedback in a timely manner					
52	There are growing numbers of educational software ' applications, ' including many for literacy, numeracy and other topic fields such as science.					
	15) Teachers experience					
53	Using tablets has increased my performance in teaching					
54	Using tablets results in teachers neglecting important traditional learning resources (e.g., library books).					
55	I find planning using the tablet challenging since I was not informed about the technology					
56	Using tablets enables teachers create writing abilities that they can easily share on tablets					
57	I keep using IT techniques effectively, for example. PowerPoint presentations, multimedia presentations or digital professional content					
58	In the design and delivery of learning sessions I use specific educational strategies and techniques to achieve significant objectives					

59	I feel that using tablets has added fresh requirements to my job and enhanced abilities that I need to obtain					
60	I request more training and technical advice to get used to the tablet					
61	I encourage students to express their views, ask questions and answer them, and allow time and opportunity to do so					
62	I create a closure to help students come together and comprehend significant problems and recognize individual learning requirements and shortcomings					

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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When replying please quote

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Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/18/59320/22661**

Date: **5th June, 2018**

Eric Mwaniki Njeru
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *"Teachers experience in integration of tablets in Primary Schools: A case of Kalawa Primary School Kitui,"* I am pleased to inform you that you have been authorized to undertake research in **Kitui County** for the period ending **5th June, 2019.**

You are advised to report to **the County Commissioner and the County Director of Education, Kitui County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kitui County.

The County Director of Education
Kitui County.

CONDITIONS

1. The License is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No.A 18826

CONDITIONS: see back page

UNIVERSITY OF NAIROBI
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Our Ref: UON/CBPS/SCI/ MSC/ITM/2016   27 April 2018

Director General
National commission for Science and Technology Innovation
P.O. Box 30623-001000
Nairobi

Dear Sir/Madam

RE: RESEARCH PERMIT – ERICK MWANIKI NJERU. P54/85746/2016

The above named is a bona fide student pursuing an MSc course in Information Systems at the School of Computing and Informatics, University of Nairobi. He is currently carrying out his research on the project entitled *"Teachers Experience in Integration of Tables in Primary Schools: A Case of Kalawa Primary Kitui"*

The project involves gathering relevant information from various institutions and he has informed the office that he would wish to carry his research in your organization.

We would be grateful if you could assist Mr. Njeru as he gathers data for his research.
If you have any queries about the exercise please do not hesitate to contact us.

Yours sincerely

DR. AGNES N. WAUSI
DIRECTOR
SCHOOL OF COMPUTING AND INFORMATICS

ANG/jsn