Article

Determinants of E-books Usage of Undergraduates; With Special Reference to Faculty of Commerce and Managment Studies, University of Kelaniya

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Abstract
When learning merges with technology, it creates an e-learning environment. Such environments integrate with software applications and create e-books for the beneficiaries who register with the system. This study aimed to investigate the determinants of e-book usage by Undergraduates in the Faculty of Commerce and Management Studies, University of Kelaniya. Three hundred thirty-five undergraduates from the Faculty of Commerce and Management Studies, University of Kelaniya, were used as the sample. Data were collected through a standard questionnaire distributed via a google form. Version 23.0 of the Statistical Package for Social Sciences (SPSS) was used to analyze the data. The mean score and standard deviation for each variable were utilized for univariate analysis, and the correlation coefficient was employed for bivariate analysis. The regression and Sobel tests were used to test the hypotheses. The results revealed a significant impact of Perceived Ease of Use and Perceived Usefulness on E-book usage that has been significantly mediated by Behavioural Intention to Use. These findings have consequences for educators and instructional methodologists, who must balance the benefits of new learning technology with the realities of student perceptions and use.

Keywords: behavioural intention to use; e-books; perceived ease of use; perceived usefulness; technology acceptance model

1. Introduction

The development of the internet has led to the addition of many concepts starting with "e" to our lives. The leading concepts of e-mail, e-shopping, e-banking, e-commerce, e-government, e-signatures, and e-learning (Nilgun, 2014). E-learning features a well-developed approach to creating and sequencing content-based, single-learner, self-paced learning objects (Thuseethan et al., 2015). With technological development, several inventions have been created. Among them, electronic books (e-books) are one of the major innovations that a human has made. The usage of e-books among people has increased with those technological innovations. Reading is the process of thinking, recalling, and relating concepts under the functioning of written works (Thuseethan et al., 2015). Reading e-books have increased the opportunities to

get more access to knowledge. Traditionally, many students prefer printed books as the best reading material. But with the recent advancement of modern technology, such as the internet, nowadays many of us tend to do our studies online.

The researcher uses Technology Acceptance Model (TAM) to study the impact of perceived usefulness (PU) and perceived ease of use (PEU) on the usage of e-books among undergraduates. Between the PU and PEU, PEU directly impacts each PU and Behavioural intention to use (BIU) (Mahooney, 2008). That perceived usefulness and ease of use proved to be essential elements for the acceptance and use of websites, as these two constructs accounted for 83% of the variance in the acceptance and use (Shonola & Joy, 2014). Mustafa, Harun, and Endin (2014) focused on the studies on how readers react toward new technology and the outcomes of the reactions or changes of attitudes of the readers. Gunasekera, Alahakoon, and Dissanayake (2021) studied the types of e-resources used by undergraduates and what kind of purpose they ful fill by using e-resources. Jayasundara (2009) examined four categories related to the e-information service: infrastructure, support, resources, and patrons, identified as critical success factors from the user perspective in diffusing e- information services. Vithana (2016) has found a high percentage of undergraduates who use e-books more than printed books, but no studies have examined the impact of the TAM model and e-book usage in the Sri Lankan context.

The concept of e-books is still in its infancy in Sri Lanka. But with modern technological advancement, more people have become heavy internet users. Therefore, evaluating their perceptions is vital before any large investments in library catalogs of Sri Lankan academic institutions. So far, no research has been done to evaluate the impact of e-books and perceptions of e-books in Sri Lankan Academic institutions (Ranaweera, 2016). Hence to fill this empirical gap to a certain extent, the researchers explore the impact of perceived usefulness and perceived ease of use on e-books to be analyzed among undergraduates of the University of Kelaniya. The study's objective was to examine the impact of perceived usefulness and perceived ease of use on the e-book usage of undergraduates in the Faculty of Commerce and Management Studies, University of Kelaniya.

2. Literature Review

2.1. E-Book Usage

"An electronic version of a printed book that may be read on a personal computer or hand-held device intended expressly for the purpose" can be defined as an e-book (Anuradha & Usha, 2006). According to the Oxford Dictionary, an e-book is an electronic version of a printed book that can be read on a computer or a specifically designed handheld device. PDF, ePub, PRC, MOBI, etc., are used to read e-books (Vithana, 2016). E-books can be studied on any device with a controllable viewing screen, including computers, computers, laptops, phones, and tablets. Although occasionally described as "a digital model of a printed book", some e-books exist, barring a printed equivalent (Gardiner, 2010). Students and staff could use e-books in their field of study. This was verified by the University of Liverpool, which found that both students and faculty employees used e-books (Borchert et al., 2009). Students, faculty, and staff at the University have been discussing whether or not they prefer reading e-books from an e-reader, computer screen, or smartphone. Most students and faculty members have confessed to reading printed e-books to solve this issue. Users are presently comparing and differentiating their e-book access alternatives and reader inclinations (Ujakpa et al., 2019). E-

books have become a more famous tool for academic and leisure purposes, but there are numerous diverse conclusions concerning their development (Rao,2005). This modern technology style has been commonly proclaimed to have many benefits and usefulness. Hernon has identified benefits such as simplicity, economy, portability, and up-to-date materials (Hernon et al., 2007). Numerous experiments have pursued a deeper understanding of adoption in a particular area of research or the search for a particular pedagogical aim. As anticipated, e-book readers and their accompanying content are presented from a useful viewpoint (Letchumanan & Tarmizi, 2011). Nowadays, teachers can shift their classes' learning from a traditional transmission paradigm to a student-centered approach. Students could complete their education by memorizing a collection of static facts and statistics from the early twentieth century. By 2020, knowledge is predicted to double every 73 days (Jung, Chan-Olmsted, Park, & Kim, 2011). E-books can provide unprecedented opportunities. At their best, computers can support knowledge construction and learning by doing, conversing, and reflecting but managing all this in a student-centered environment is a complex task that might be made more manageable by implementing e-books (Armstrong, Edwards & Lonsdale, 2002).

In terms of students' actual talents in the digital environment, the research literature is ambiguous, but it paints a picture of "a networked, extended community of learners". Only a small percentage of students are the first to adopt new technologies and actively engage in multiple social and learning technologies. A full discussion of the nature of learners and their environments is beyond the scope of this literature review. ; however, it should be noted that students' online behavior is complex and varies in quantity and quality. Students (and faculty) can no longer exist in a "non-digital bubble" For example, students may be required to monitor e-books several times daily, or they may be expected to have access to the e-book for acquiring lesson requirements (Lee and Choi, 2003).

2.2. Technology acceptance model

Davis, Bagozzi, and Warshaw (1989) developed the technology acceptance model (TAM), one of the most commonly used and significant models in information systems. TAM extended the "Theory of Reasoned Action" (TRA) developed by Hill, Fishbein, and Ajzen (1977) by introducing two belief factors, perceived usefulness and perceived ease of use. In general, TAM can explain up to 40% of the variance in usage intentions and 30% in system usage (Dash, Mahanty, Pattnaik, Mohapatra, & Sahoo, 2011). The TAM has been used to investigate the elements influencing the user acceptability of various technologies, which, however, has received moderately less attention from TAM researchers (Brown, 2013; Tsai and Li, 2011), particularly those studying e-book acceptance outside of North America and the UK (as cited in Nasser Al-Suqri, 2014). The Technology Acceptance Model has four major variables: perceived usefulness, perceived ease of use, behavioral intention, and behavior.

2.2.1. Perceived usefulness

Perceived usefulness is the degree to which a person believes a given system would improve his or her job performance (Davis, 1989). Perceived usefulness, widely recognized as an important variable in studies of intention to use technology, was designed by Davis (1993) as

individuals' perception that using new technology will increase or improve their performance (Nasser Al-Suqri, 2014). The researcher may focus on the e-book learning context, where perceived usefulness refers to the belief that the book is useful to enhance a student's performance. According to a study by researchers at Cardiff University and Cardiff University in Wales, male undergraduates have rated computers as more valuable than female undergraduates (Ong & Lai, 2006). The perceived usefulness of e-books will be greater for males than for females. This is because men are motivated by achievement needs more than women. Also, men tend to be more individualistic than women (Venkatesh & Morris, 2000). The literature has long established a relationship between perceived usefulness and behavioral intention to use a system (Davis, 1989; Venkatesh & Morris, 2000; Venkatesh & Davis, 2000). Furthermore, it has been argued that perceived usefulness is more important for men than women in determining the gender of those who intend to use such systems (Venkatesh & Morris, 2000).

2.2.2. Perceived ease of use

Perceived ease of use is the belief that a particular technology is free of effort (Davis, 1989). Perceived ease of use can be defined as the degree of ease associated with using the system (Venkatesh, Morris, Davis, and Davis, 2003). Extensive research has also supported the effect of perceived ease of use on the intention to use technology (Nasser Al-Suqri, 2014). According to a study conducted by (Comber et al., 1997; Durndell et al., 2000; Durndell & Hagg, 2002; Whitely, 1997) found that men score perceived ease of use of e-learning more highly than women, A poor rating of perceived usefulness increased the importance of that perception in deciding perceived usefulness and user acceptance judgments (Venkatesh and Morris, 2000). These findings lead us to believe that for women, perceived ease of use was more important in determining perceived usefulness and behavioral intention to use than for males.

2.2.3. Behavioral intention to use

Behavioral Intention is the degree to which users intend to adopt and use a new system such as mobile payment (M-payment) (Davis and Cosenza, 1993; Fishbein and Ajzen, 1975; and Fishbein and Ajzen, 1979). Intention to use a system can explain a large portion of a user's actual system usage, which is our goals, aspirations, and expected responses to the attitude object (Davis, 1989). Yaseen and Zayed (2012) defined Intention as "an indication of a person's readiness to perform a given behavior, and it is considered the immediate antecedent of behavior." (Venkatesh et al., 2003) expect that behavioral intention will have a significant positive influence on technology usage. The use of a system has been long hypothesized to depend on behavioral intention to use (Davis, 1989). Since intention is predicted by attitude towards an act, it is reasonable to predict that favorable attitudes will lead to favorable behavior. However, men and women have exhibited different attitudes toward computer technologies. A measure like self-efficacy determines how individuals rate their computer abilities lower for women than men (Ong & Lai, 2006). Therefore, the researcher may expect that men's perception of behaviors toward the use of computer technologies will be higher than that of women (Ngafeeson, 2006).

2.2.4. Relationship between perceived usefulness, perceived ease of use, and behavioral intention to use

Technology Acceptance Model has four major variables: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Behavioral Intention (BI), and Behavior (B). Perceived use is used as both a dependent and independent variable since it is predicted by Perceived ease of use and predicts behavioral intention to use and behavior simultaneously. Behavior was usually measured using the frequency of use, amount of time used, the actual number of usages, and diversity of usage (Lee et al., 2003). The research study by Lee et al. (2003) showed that the relationship between PU and BI is strongly significant. Among 101 studies conducted by the researcher, 74 showed a significant relationship between these two variables. These studies stated that PU is a stronger determinant of BI (or B), noting that users willingly use a system with critically useful functionality (Davis, 1989). However, only 58 studies showed a significant relationship between PEOU and dependent variables, indicating that PEOU is unstable in predicting BI (or B). The results are similar to the studies of Gefen and Straub (2000), raising controversy about the role of PEOU in TAM, and (Keil et al. 1995), who questioned the overall effects of PEOU in TAM, noting that "no amount of PEOU will compensate for low usefulness" Many studies found reasons for that non-significance. (Subramanian,1994) asserted that when systems used in studies are by their inherent nature relatively easy to use, Perceived ease of use has less or no impact on the IS acceptance decision. (Igbaria et al. 1995) explained that the hard reality of organizations might prioritize the usefulness of computer systems rather than the pleasure brought by them. Finally, Perceived ease of use was found as a significant antecedent of Perceived usefulness rather than a parallel, direct determinant of acceptance, and thus it can indirectly affect acceptance through PU (Davis et al., 1992). Sixty-nine studies showed a significant relationship between Perceived ease of use and Perceived usefulness, as cited (Lee et al., 2003). There is a significant impact on people's intention to adopt the technology through perceived ease of use and usefulness. The two factors form the core of the technology acceptance model (TAM), verbalized by Davis (1989), which predicts that user behavior is determined by the intention to use a technology, which in turn is driven by the perceived usefulness and perceived ease-of-use of the system (Nasser Al-Suqri, 2014). The TAM emphasizes perceived usefulness rather than perceived ease of use as the most important determinant of acceptance. The majority of research, beginning with (Davis et al., 1989), has failed to find a direct link between perceived ease of use and perceived usefulness, causing perceived ease of use to be considered a "step-child" (Venkatesh, 1999). Davis (1989) discovered that perceived ease of use's direct effect on intentions was stronger in the early phases of learning and behavior. With time and experience, the effect was discovered to be indirect, functioning through perceived usefulness, a hypothesis supported by subsequent studies (Adams et al., 1992; Chau, 1996; Gefen & Straub, 2000; Igbaria et al., 1996). Furthermore, according to (Keil et al., 1995), "no amount of ease of use can compensate for low utility" as cited (Yousafzai et al., 2007). These considerations show that the relative importance of perceived usefulness and perceived ease of use varies depending on the type of technology user group and time, indicating a potential "non-applicability" of the TAM in

various situations. However, these discrepancies have not been well addressed in the TAM literature.

2.2.5. *Relationship between perceived usefulness and an e-book usage*

Past research studies conducted by different scholars have found a link between perceived usefulness and behavioral intentions of e-book readers (Letchumanan & Tarmizi, 2011; Ngafeeson & Sun, 2015; Hyman, Moser & Segala, 2014). According to Tao's (2008) study, perceived usefulness is crucial in affecting student attitudes toward using e-resources. According to Nelson and Webb (2007), perceived usefulness is a strong predictor of future e-book usage by students (Farzana et al., 2021).

2.2.6. Relationship perceived ease of use and e-book usage

Users' perceptions of ease of use lead them to believe that using the technology requires less effort. Furthermore, according to Nelson and Webb (2007), perceived ease of use correlates with students' attitudes and intentions to utilize e-books. As a result, perceived ease of use aids in developing a positive attitude toward using e-books among students (Farzana et al., 2021).

2.2.7. Relationship between behavioral intention to use and e-book usage

Malhotra (1996) defines behavioral intention use as a strength that measures someone's intention to perform a specified behavior. Davis (1989) said behavioral intentions are a person's willingness to use new information technology. Behavioral intention is used as the main determinant the e-book usage behavior. However, according to Saloman and Salman (2013), behavioral intention to use the system, such as use or not use, has resulted from the user's perception of the system (as cited in Cheah et al., 2018). Behavioral intention refers to a user's immediate decision to utilize a specific product or service. When users positively intend to utilize e-books, they will search the internet for more information and compare prices before purchasing. Past scholars (Chiu & Wang, 2008; Lee, 2006; Roca & Gagne'b, 2008) have found that perceived ease of use and usefulness impact increased intention to adopt or use e-learning resources among users (Farzana et al., 2021).

2.3.Research framework and hypotheses development
2.3.1. *Research Framework*

Based on the extant literature, perceived usefulness and perceived ease of use are identified as the independent variables and e-book usage is considered the dependent variable. Further behavioral intention to use is considered as the mediating variable. Figure 1 depicts the associations between such variables identified in the current study.

2.3.2. *Hypotheses Development*

Based on the empirical evidence in the extant literature following seven hypotheses are formulated in the current study to be tested with primary data collected from undergraduates of the Faculty of Commerce and Management Studies, University of Kelaniya.

H_1 – There is a significant impact of perceived usefulness on e-book usage.

H$_2$ – There is a significant impact of perceived ease of use on e-book usage.

H$_3$ – There is a significant impact of perceived usefulness on behavioral intention to use.

H$_4$ – There is a significant impact of perceived ease of use on behavioral intention to use.

H$_5$ – Behavioral intention to use significantly mediates the impact of perceived usefulness on e-book usage.

H$_6$ –. Behavioral intention to use significantly mediates the impact of perceived ease of use on e-book usage and e-book usage.

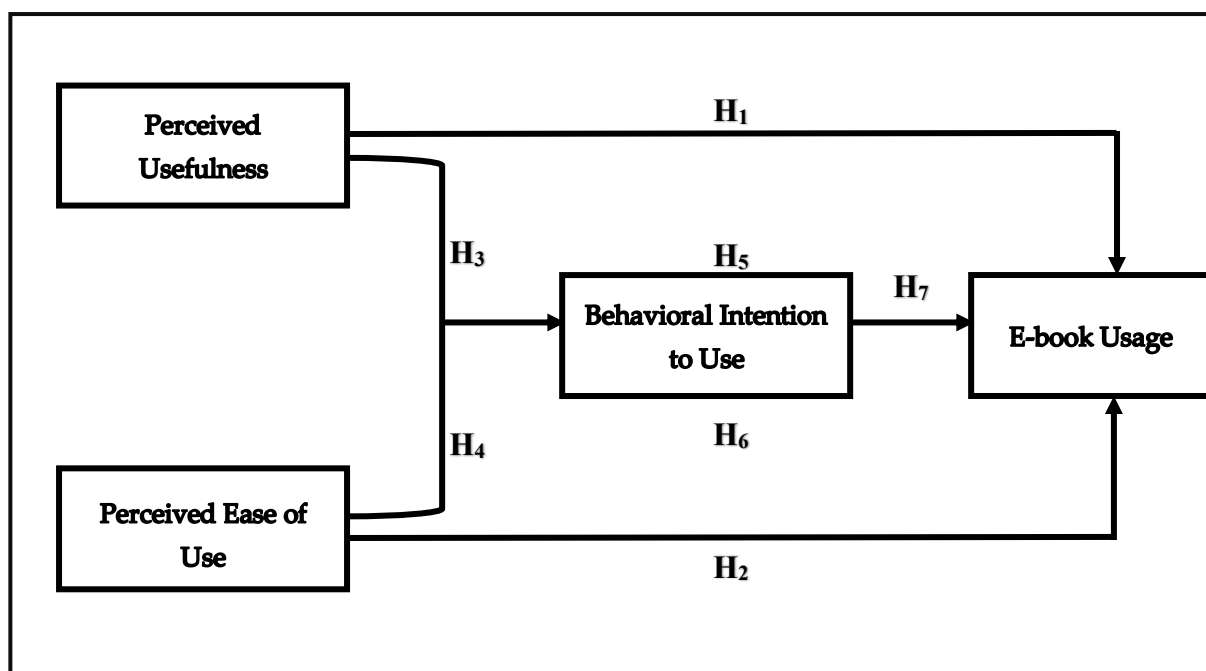**H$_7$** – There is a significant impact on behavioral intention to use e-book usage.

Figure 1: Conceptual Framework

Source: Author 2021

3. Methodology

3.1. Research Design

As the current study intends to test the formulated hypotheses and the established associations in the research model, this would be considered explanatory research. Hence, this is a causal study intending to find the cause-and-effect relationship. Further, this is a cross-sectional study where the researcher's interference is minimal, and at the same time, this will be a field study. The unit of analysis is at the individual level; undergraduates at the University of Kelaniya. The study will be conducted among a sample of 341 undergraduates through a simple random sampling technique. Data were collected through a self-administered, standard questionnaire distributed via a Google form. Data were analyzed using SPSS and Excel. Frequency analysis,

correlation test, and regression analysis were performed to analyze data and test the formulated hypotheses.

3.2. Measurement Scale

Measurement scales of four variables in the research model were adopted from previous studies. The first independent variable, perceived usefulness, was assessed by adopting the measurement scale developed by (Ngafeeson, 2006). Respondents rated their level of agreement for the items on a five-point Likert scale, fixed at 1= strongly disagree and 5= strongly agree. Sample items include: 'Using e-book can improve my learning performance'.

The second independent variable, perceived ease of use, was assessed by adopting the item scale suggested by (Ngafeeson, 2006). Respondents were required to mention their level of agreement with the statements given on a five-point Likert scale fixed at 1 = Strongly Disagree and 5 = strongly Agree. Sample items include: 'Learning to use the e-book is easy for me.

The mediator variable, behavioral intention to use, was assessed using the item scale suggested by (Ngafeeson, 2006). Respondents were required to mention their level of agreement with the statements given on a five-point Likert scale fixed at 1 = Strongly Disagree and 5= Strongly Agree. Sample items include 'I will strongly recommend that others use e-books'. The dependent variable, e-book usage, was assessed using the item scale suggested by (Nasser Al-Suqri, 2014). There are 20 items measured via five dimensions: knowledge, support, satisfaction, availability, and ability. Respondents were required to mention their level of agreement with the statements given on a five-point Likert scale. Sample items include 'Do you know about e-books' (knowledge), 'When doing your academic work, how important is the ability to find e-books in the university library catalog?' (ability), 'How satisfied are you with the ability to download chapters or portions of the e-book to a computer or laptop for later use?' (satisfaction), 'When doing your academic work, how important is the availability of a print copy for borrowing from a university library?' (availability) and 'how do you rate the usefulness of e-books for your final Dissertation?' (support).

3.3. Techniques of Data Analysis

The collected data through primary sources will be used in the analysis stage of this study. The researcher analyzed the questionnaire's statistical data through the analytical tool called Statistical Package for the Social Sciences (SPSS) 23.0 version. Finally, the analysis outcomes will be presented throughout this study using graphs, tables, and figures. The data analysis includes sample description, descriptive statistics, preliminary analysis, and hypothesis testing.

4. Results

4.1. Response Rate

To collect the primary data from respondents, the author distributed 335 questionnaires among undergraduates via e-mails. The author distributes Google forms on online platforms to collect primary data and get back 252 Google forms from respondents. The accepted effective response rate was 33% in social research when collecting primary data (Saunders & Thornhill,

2011). In this research study, the effective response rate was 75.22%, indicating that the researcher got enough primary data to continue further analysis.

4.2. Validity and Reliability

Table 1: Result of KMO and Bartlett's test

Variable	KMO Measure of sampling adequacy	Bartlett's test of sphericity		
		Approx. chi-square	df	Sig.
E-book Usage	0.934	3066.791	153	0.000
Perceived Usefulness	0.758	482.795	3	0.000
Perceived Ease of Use	0.732	319.945	3	0.000
Behavioral Intention to use	0.728	335.459	3	0.000

Source: Analyzed Data,2022

According to the validity statistics shown in table 1 cumulative percentage of the Extraction Sums of Squared Loadings (ESSL Cum%) of constructs and dimensions are more significant than 50%, and the item Factor Loading values are above the threshold limit of 0.5 as recommended by Hair et al., (2010). Therefore, that indicates that construct validity is ensured statistically.

Table 2: Reliability Statistics

Variable	No. of Items	Cronbach's Alpha
E-book Usage	18	0.938
Perceived Usefulness	03	0.910
Perceived Ease of Use	03	0.854
Behavioral Intention to use	03	0.860

Source: Analyzed Data,2022

The rule of thumb for accepting reliability is that Cronbach's alpha should be greater than 0.7 or that if it is a dimension, Cronbach's alpha needs to be greater than 0.5. As shown in Table 2. every variable is reliable and indicates every variable exceeds 0.7 in Cronbach's Alpha value.

4.3. Regression Analysis

Linear regression analysis was used to test the hypotheses advanced for one variable's impact on another variable. According to that, linear regression was done to test the hypotheses of the current study.

H_1 – There is a significant impact of perceived usefulness on e-book usage.

Hypothesis 1 proposed a significant impact of perceived usefulness on e-book usage. The results of the test are given in table 5. The R-value representing the sample correlation is 0.261, indicating a moderate correlation. The R^2 value indicates the total variation in the dependent variable, e-book usage, that the independent variable, perceived usefulness, could explain. In

this case, 6.8% can be explained, which is low. Thus, the Sig value should be less than 0.05. As a result of the analysis, the sig value is .000, which is less than 0.05. Therefore, the result is significant. Further, the F-ratio represents an improvement in the variable's prediction by fitting the model after considering its inaccuracy. In hypothesis 1(H1), the researcher proposed a significant impact of perceived usefulness on e-book usage. Supported by H1, the results show a significant direct effect of perceived usefulness on e-book usage (β= 26.1, t = 4.181, Sig. =.000).

Table 5: Regression Analysis

R	R square	F value	Sig. value	t value	Std. B coefficient
.261	.068	17.478	.000	4.181	.261

Source: Analyzed Data,2022

H₂ – There is a significant impact of perceived ease of use on e-book usage.

Hypothesis 2 proposed a significant impact of perceived ease of use on e-book usage. The test results in table 6 above show that the sample correlation's R-value is 0.413, indicating a moderate correlation. The R2 value indicates the total variation in the dependent variable, e-book usage, that could be explained by the independent variable, perceived ease of use. In this case, 17.1% can be explained, which is low. The Sig value should be less than 0.05. As a result of the analysis, the sig value is .000, which is less than 0.05. Therefore, the result is significant. Further F-ratio represents an improvement in the variable's prediction by fitting the model after considering its inaccuracy. In hypothesis 2(H2), the researcher proposed a significant impact of perceived ease of use on e-book usage. Supported by H2, the results show a significant direct effect of perceived ease of use on e-book usage (β= 41.3, t = 7.019, Sig. =.000).

Table 6: Regression Analysis

R	R square	F value	Sig. value	t value	Std. B coefficient
.413	.171	49.268	.000	7.019	.413

Source: Analyzed Data,2022

H₃ – There is a significant impact of perceived usefulness on behavioral intention to use.

Hypothesis 3 proposed a significant impact of perceived usefulness on behavioral intention to use. The results of the test are given in table 7.

Table 7: Regression Analysis

R	R square	F value	Sig. value	t value	Std. B coefficient
.696	.485	224.731	.000	14.991	.696

Source: Analyzed Data,2022

Table 7 shows that the sample correlation's R-value is 0.696, indicating a moderate correlation. The R2 value indicates the total variation in the dependent variable, behavioral intention to use, and the independent variable, perceived usefulness, could explain that. In this case, 48.5% can be explained, which is high. Generally, the study chooses a 5% level of significance level. Thus, the Sig value should be less than 0.05. As a result of the analysis, the sig value is .000, which is less than 0.05. Therefore, the result is significant. Further F-ratio represents an improvement in the variable's prediction by fitting the model after considering its inaccuracy. A value is greater than 1 for the F-ratio yield efficient model. (F=224.731, Sig = .000). In hypothesis 3(H3), the researcher proposed a significant impact of perceived usefulness on behavioral intention to use. Supported by H3, the results show a significant direct effect of perceived usefulness on behavioral intention to use (β= 69.6, t = 14.991, Sig. =.000).

H4 – There is a significant impact of perceived ease of use on behavioral intention to use.

Hypothesis 4 proposed a significant impact of perceived ease of use on behavioral intention to use. The results of the test are given in table 8.

Table 8: Regression Analysis

R	R square	F value	Sig. value	t value	Std. B coefficient
.783	.613	378.344	.000	19.451	.783

Source: Analyzed Data,2022

Table 8 shows that the sample correlation's R-value is 0.783, indicating a strong positive correlation. The R2 value indicates the total variation in the dependent variable, behavioral intention to use, that could be explained by the independent variable, perceived ease of use. In this case, 61.3% can be explained, which is high. The Sig value should be less than 0.05. As a result of the analysis, the sig value is .000, which is less than 0.05. Therefore, the result is significant. Further F-ratio represents an improvement in the variable's prediction by fitting the model after considering its inaccuracy. A value is greater than 1 for the F-ratio yield efficient model. (F=378.344, Sig = .000). In hypothesis 4(H4), the researcher proposed a significant impact of perceived ease of use on behavioral intention to use. Supported by H3, the results show a 49 significant direct effect of perceived usefulness on behavioral intention to use (β= 78.3, t = 19.451, Sig. =.000).

H5 – Behavioral intention to use significantly mediates the impact of perceived usefulness on e-book usage.

Test the hypothesis advanced for the mediation role of behavioral intention on the impact of perceived usefulness on e-book usage. Here, the researcher used the Sobel test to generate the results.

Input:		Test statistic:	Std. Error:	p-value:
a .185	Sobel test:	3.21799968	0.01782163	0.00129088
b .310	Aroian test:	3.18094879	0.01802921	0.00146794
s_a .044	Goodman test:	3.25637616	0.0176116	0.00112844
s_b .062	Reset all		Calculate	

Figure 2: Sobel Test Calculation

Source: Analyzed data,2022

According to the calculation results, as shown in figure 2, the Sobel test's test statistic is 3.21, with the associate p-value being 0.000, less than 0.05. thus, the mediation effect of students' efforts is statistically significant. And students' effort was found to be a partial mediator. Therefore, H5= Behavioral intention to use significantly mediates the impact of perceived usefulness on e-book usage is accepted.

H_6 –. Behavioral intention to use significantly mediates the impact of perceived ease of use on e-book usage and e-book usage.

Test the hypothesis advanced for the mediation role of behavioral intention on the impact of perceived ease of use on e-book usage. Here, the researcher used the Sobel test to generate the results.

Input:		Test statistic:	Std. Error:	p-value:
a .321	Sobel test:	1.9098945	0.02336202	0.0561468
b .139	Aroian test:	1.89200758	0.02358289	0.05848997
s_a .046	Goodman test:	1.92829852	0.02313905	0.05381801
s_b .070	Reset all		Calculate	

Figure 3: Sobel Test Calculation

Source: Analyzed data,2022

According to the calculation results, as shown in figure 3, the Sobel test's test statistic is 1.90, with the associate p-value being 0.056, which is greater than 0.05. thus, the mediation effect of behavioral intention to use is not significant. Hence H6= Behavioral intention to use significantly mediates the impact of perceived ease of use on e-book usage, and e-book usage is not accepted.

H_7 – There is a significant impact on behavioral intention to use on e-book usage.

Hypothesis 7 proposed a significant impact of behavioral intention on e-book usage. The results of the test are given in table 9.

Table 9: Regression Analysis

R	R square	F value	Sig. value	t value	Std. B coefficient
.396	.156	44.331	.000	6.658	.396

Source: Analyzed Data,2022

Table 4.23 shows that the sample correlation's R-value is 0.396, indicating a moderate correlation. The R2 value indicates the total variation in the dependent variable, e-book usage, that could be explained by the mediating variable, behavioral intention to use. In this case, 15.6% can be explained, which is low. Generally, a 5% level of significance level is chosen for the study. Thus, the Sig value should be less than 0.05. As a result of the analysis, the sig value is .000, which is less than 0.05. Therefore, the result is significant. Further F-ratio represents an improvement in the variable's prediction by fitting the model after considering its inaccuracy. In hypothesis 1(H7), the researcher proposed a significant impact of behavioral intention to use on e-book usage. Supported by H7, the results show a significant direct effect of behavioral intention to use on e-book usage (β= 39.6, t = 6.658, Sig. =.000).

5. Discussion

In the current study, the analysis revealed a significant impact of perceived usefulness and ease of use on e-book usage in the selected domain of the study. By accepting H1, the result indicated a significant impact from perceived usefulness and e-book usage (R Square - 0.68) of the management undergraduates of the University of Kelaniya. There is a significant, positive, and moderate association between perceived ease of use and e-book usage. This result is in line with support Studies that suggest that PU directly influences intention towards usage (Heijden, 2003). As discussed by Davis et al. (1989), a person can develop a positive intention toward using technology if he or she believes that the particular technology can enhance his or her job performance (Letchumanan & Muniandy, 2013). Further, analysis statistically proved a significant positive and moderate association between perceived ease of use and e-book usage by accepting H2. The result indicated that, as given   (R Square - 0.171), There is a significant, positive, and moderate association between perceived ease of use and e-book usage. Past studies revealed that PU and PEOU are crucial determinants of future users' attitudes and behavioral intentions to use a system. Legris et al. (2003) reported that 12 out of 14 studies investigating technology-related attitudes found that PEOU and PU significantly contributed to using a technology product. Past studies also suggest that online applications that are understandable, easy to use, and navigate, contribute significantly to the formation of a positive attitude toward using these online applications (Heijden, 2003). Considering H3, the result indicates that perceived usefulness significantly impacts behavioral intention to use by accepting hypotheses.

Provided evidence that perceived usefulness was an important behavioral determinant. Swanson (1982) hypothesized that potential users would select and use information reports

based on a tradeoff between perceived information quality and the associated cost of access. In his work, information quality was similar to perceived usefulness, whereas the associated cost of access was similar to perceived ease of use. Considering H4, the result indicates that perceived ease of use significantly impacts behavioral intention to use by accepting hypotheses. (Davis, 1989) concluded that the extent to which individuals perceived electronic books to be easy to use was positively correlated with the person's usage behavior. Participants who perceived that electronic books were easier to use also tended to be those who used them more. Analysis statistically proved their behavioral intention to use significantly mediates the impact of perceived usefulness on e-book usage by accepting H5. Hence, behavioral intention to use does not significantly mediate the impact of perceived usefulness on e-book usage. And H6 was rejected. Many studies found reasons for that non-significance. Subramanian (1994) asserted that when systems used in studies are by their inherent nature relatively easy to use, perceived ease of use has less or no impact on e-book usage. (Igbaria et al., 1995) explained that the hard reality of organizations might prioritize the usefulness of computer systems rather than the pleasure brought by them. Statistically, data indicates a significant impact on behavioral intention to use e-book usage by accepting H7. Previous literature in the IT field shows the attitude toward using a system and intention towards using a system are related (Davis, 1989; Ajzen and Fishbein, 1977). Additionally, in online applications, attitude also plays an important role in determining the purchases and intentions of a user (Stevenson et al., 2000). Thus, past literature shows evidence that current research findings support the work of previous researchers who found similar results.

6. Conclusions

The researcher conducted the research based on the data collected from the undergraduates who belong to the Faculty of Commerce and Management Studies, University of Kelaniya. Further, the survey can also be conducted by considering the other four faculties. Further, future researchers can also conduct this survey for the other four faculties in the university and the other government, private, and academic institutes. A study focusing on a larger sample may generate more reliable and validated results. The present study was conducted according to the quantitative research approach. Hence Future researchers should consider both research approaches, such as the quantitative and qualitative approaches. Some of the possible participants in the survey stated that they had no prior experience with e-books. Individuals having no prior experience with e-books, on the other hand, have valuable knowledge to share about the future usage of e-books, and their inclusion in a study may be beneficial depending on the research topics. These findings have consequences for educators and instructional methodologists, who must balance the benefits of new learning technology with the realities of student perceptions and use. These findings would be useful to the e-book industry in determining what characteristics influence e-book acceptability among college students, who are perhaps the most avid users of e-book learning. This research will add to the literature by, bridging the knowledge gap by taking a holistic approach to investigate student intention on e-book adoption, empirically validating the proposed research model using undergraduates, and providing insights into the theoretical aspects of TAM regarding e-books. To increase the usage of e-

books, the software that is used to refer to e-books can be updated more friendly to users. Hence, it's recommended to increase the availability of e-books, and update the e-book reading system more relevant. Otherwise, the updated system is more attractive to the user.

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