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Adoption of electronic books in a higher education setting: an exploratory case study based on Diffusion of Innovation and Garner's Hype Cycle paradigms

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The purpose of this research was to examine the status of library users' adoption of e-books in line with Rogers's Diffusion of Innovation (DOI) theory and Gartner's Hype Cycle (GHC) Model in the context of Fiji National University (FNU). The FNU Library introduced e-books to its user community in 2014. Purposively chosen 40 undergraduate students from the College of Business, Hospitality and Tourism Studies were selected as the sample to conduct in-depth interviews. The study revealed that the participants' e-book adoption habits were primarily divided among early adopters, early majority, and late majority. The results disclosed many factors that influence the adoption of e-books, such as familiarity with the technology, personal taste, exposure to trial access, use of preferred access devices and enthusiasm for reading. Findings indicate that e-books adoption of university undergraduates in line with the DOI and GHC paradigms has substantiated how the underpinning theories could help interpret the adoption of e-books in teaching and learning environment. Thus, this research will help librarians and educators develop a robust mechanism for better understanding the inherent status-quo of e-book usage in higher education institutions. These research findings will also help develop strategies that can significantly enhance universities' traditional teaching and learning performance with emerging technologies.

Keywords: e-book adoption; Information access; Information use; Library services; Academic libraries

Introduction

Today, the teaching and learning process in academic instructions is dialectically intertwined with many technological advancements, which provide "a richer engagement with the ways education is shaped and practised with and through the digital"[1]. New devices have emerged in the market during this period in various forms such as tablets, smartphones, e-book readers, laptops, etc. Also, the advent of electronic books (e-books), electronic databases (e-databases) and other web-based products has created a common ground for all stakeholders to understand the dynamics of digital innovation in the teaching and learning process in the higher education sector[2].

Today, many publishers bring a more significant number of e-books to the book industry, passing through a wide range of business models. Many organisations, including universities and other academic institutions, promote e-books among their wider user community and extensively procure more e-books than ever before. During the last decade, there has been a significant growth in e-books and the use of e-books[3]. The research on e-books, publishing models and use of e-books in different market segments has become increasingly significant. Even if the distribution of e-books to the global publishing industry is exponentially growing, a considerable decline in readership has been noticed in the last few decades[4,5]. The diffusion of technological innovations across universities in developing countries has been acknowledged to be uncoordinated and somewhat lingering. In addition to this fact, academic librarians in higher education, especially in developing economies, believe that their libraries could be at some risk with the use of new technology. Funding and specialised knowledge are two essential elements in implementing and maintaining new technologies. Thus, the risk is exacerbated by poor financial stability, lack of specialisation, and inability to retain the speciality in their libraries. However, many university libraries that have come out of this situation, i.e. lack of money and expertise, are also widely seen in developing countries. They are carrying out technology-based initiatives similar to developed countries.

There are times when the faculty pushes the librarians hard to reach new technological innovations in university libraries in parallel with the libraries in developed countries. Due to this demand and market pressure, librarians are compelled to look at new

technologies. Some libraries use theoretical models to select and implement innovations more effectively. Thus, it evokes an emerging research agenda and a research opening to ascertain as to whether users are ready to adopt e-books and related e-reading devices for their learning purposes. A question that arises in this regard is whether users accept e-books for their learning endeavours in the same way they have used printed materials. On the other hand, libraries struggle with the effective adoption of new technologies. An innovation in conventional universities and the universities primarily in developing countries is still an immature and complex procedure[6], with not many stakeholders not having the expertise and attitudes to make the new introduction successful.

Research questions

Q1. Can we identify a pattern in e-book adoption that the diffusion model explains?

Q2. If so, are there any unique characteristics of the diffusion pattern?

Review of literature

The focus of organisational innovation has received significant attention in the literature[7,8,9]. For example, specific organisational innovation differences are analysed in many countries, with specifications based on globalisation and the different industry or organisational characteristics[10]. Organisational, cognitive and behavioural inferences to a certain degree have an effect on technology adoption.

Today, organisations operate and compete in the networked global market. Even slight turbulence in one corner of the world may cause massive and unpredictable changes in other places. ICT has been widely adopted to manage these dynamic global forces while considering the diversity in cultures, businesses and markets. Acceptance, adoption or rejection of technology-based products and services determine the success or failure of the innovation. Thus, the results of such investigation will have a substantial effect as a tool for policy planning and the interest of ICT, the publishing industry, educational establishments, media, and the general public. The debate in the literature signifies that a solid and differentiated viewpoint on individual disparities in the acceptance of e-books is still rare.

Many research studies have focused on using e-books rather than pondering on reading and understanding the content of books[11,12]. These studies conclude that users take e-books for their studies but do not read them. Students in many academic organisations extract texts from e-books for theirs assignment and dissertations, but not necessarily for reading and comprehension[12]. Thus, e-books are not being read, but some portions of e-content are merely used to prepare and support arguments that they want to draw upon. It implies that the acceptance of e-books will have significant effects from contributing and moderating factors of personal characteristics on intention.

Existing technology adoption models[13] are the starting point for this research because they will most likely relate to e-book adoption challenges. There are quite a few models that serve this purpose. Some of them are very popular for technology adoption. The Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Theory of Planned Behavior, Diffusion of Innovation and Gartner's Hype Cycle framework are some paradigms in research projects. Since this research focuses on businesses in a university, the DOI and GHC are anticipated to be the most relevant for this research.

Rogers[14] describes the innovation-decision process as "an information-seeking and information-processing activity, where an individual is motivated to reduce uncertainty about the advantages and disadvantages of an innovation". The model explains five individual's experience that is being used to make decisions about adopting an innovation. This model was selected as it outlines the stages clearly and step-by-step procedure precisely. Stages of the model, in general, follow each phase in a time-ordered fashion, as indicated in Fig. 1.

The model illustrates and helps to scrutinise the stages of e-book adoption from the beginning till the ultimate adoption or rejection. It supports finding out the possible ways of how technologies diffuse in a particular group of individuals to understand how individuals perceive the technology with possible hurdles for adoption. The adoption and diffusion of new ideas or new products by a social system were thoroughly discussed by Rogers[14]. Rogers' model[14] is commonly utilised to identify the attitudes of users towards their general speed of adoption in terms of new technology. Accordingly, in the usual course of events, users of the new technology proceed with five phases, commonly defined by subjectivity, in the process of innovation-decision when adopting innovations that may be shaped by the surrounding

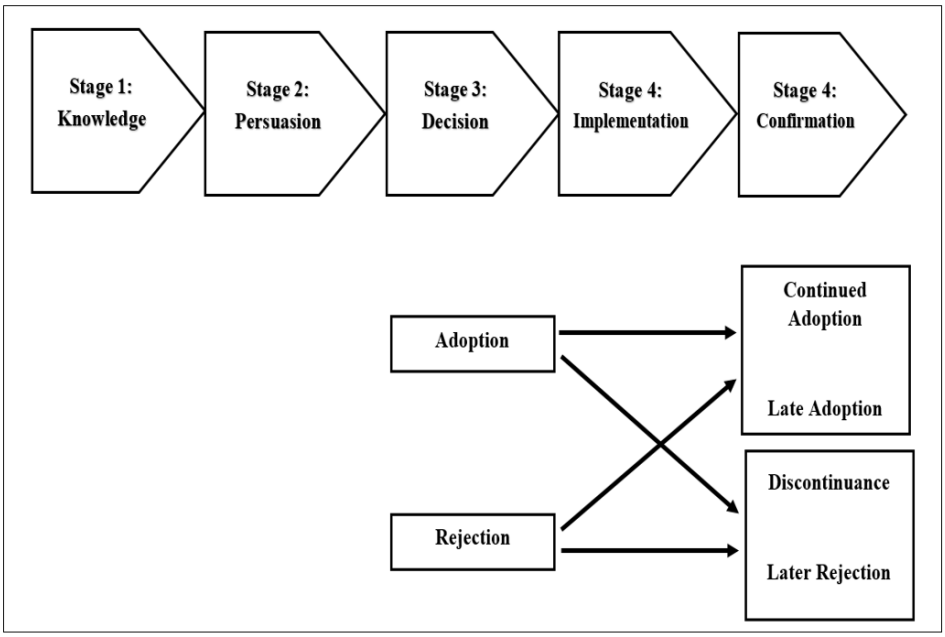

Fig. 1 — The innovation-decision process (Rogers, 2003, p. 170)[14]

socio-cultural system and particularly outside agitations.

In simple terms, innovation diffusion refers to the process that occurs as people adopt a new idea, product, practice or philosophy. The DOI Theory suggests that the patterns of acceptance within a network of users are shaped via a process of communication and social influence, where later adopters are informed of the availability and utility of innovations by early adopters[14]. Rogers mapped out this process, stressing that an initial few are open to the new idea and adopt its use in most cases. As these early innovators 'spread the word', more and more people become open to it, which leads to the development of a critical mass. Over time, the innovative idea or product becomes diffused amongst the population until a saturation point is achieved. Rogers distinguished five categories of adopters of an innovation: innovators, early adopters, early majority, late majority, and laggards. Sometimes, a sixth group is added: non-adopters, as indicated in Fig. 2

Gartner's Hype Cycle is a graphical representation of the maturity, adoption, and social applications of specific technology[15]. According to Gartner, Hype Cycles aim to separate the hype from reality and enable organisations to decide whether a particular technology is ready for adoption. The cycle can offer potential benefits to teaching and learning and provide librarians and university management with a snapshot of what innovations are on the horizon. The Hype Cycle is updated annually to track technologies along this cycle and provide guidance on when and where organisations should adopt them for maximum impact and value.

Gartner has used the Hype Cycle model since 1995 to highlight the typical pattern of over-enthusiasm, disillusionment, and eventual realism that accompanies each new technology and innovation, as indicated in Fig. 3[16]. It allows practitioners/ researchers to regulate how they are theoretically appropriate to resolve real-world business issues and be exploited any innovative openings. This concept has since received much attention from the practising community. It has proved to be answering a need. As the creator of the model, Jackie Fenn, has coined, "Enterprises should evaluate potentially high-impact technologies early in the inevitable cycle of hype and disillusionment, but wait until later to adopt technologies that will deliver only incremental improvements[17]".

Gartner's Hype Cycle model can provide librarians and educationists with opportunities to consider the use of technology, including e-books and an understanding of how innovations can change their learning environment. Understanding the path of the Hype Cycle to bring adopted technologies to the stage of productivity is helpful to navigate through the innovation implementation stages.

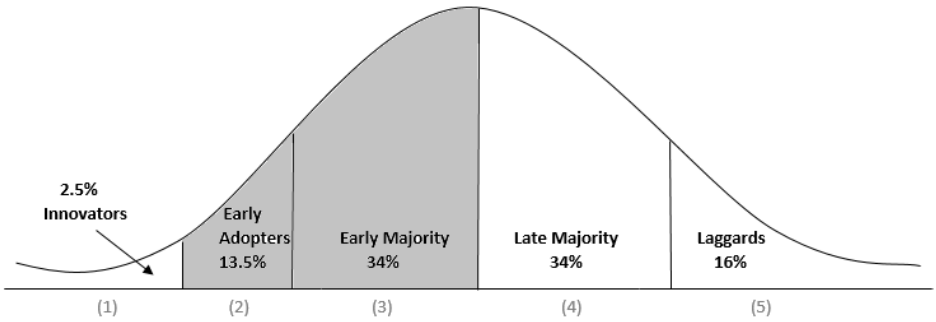

Fig. 2 — Diffusion of the innovation curve (Rogers, 2003, p. 281)[14]

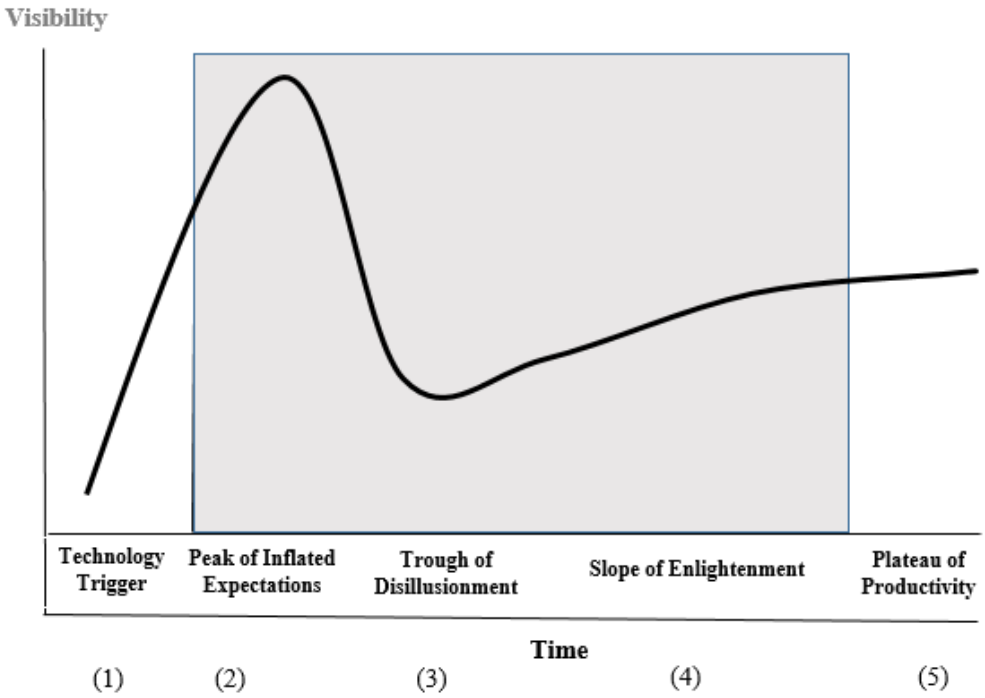

Fig. 3 — Gartner's Hype Cycle[15]

There are five phases in the Hype Cycle. Innovation Trigger instigates at the time that common individuals become aware of the primary hype of any innovation. It may be a newly introduced product in the market or a scientific breakthrough that may cause considerable excitement and desire. In the second phase, innovators and early adopters start consuming and testing the innovation, although the rest have a fear of being left behind. Then the third phase begins - Trough of Disillusionment. In this phase, people begin to look beyond the initial excitement and hype. During this period, many adopters may firmly accept the new technology or abandon it. The slope of the Enlightenment phase is crucial due to many early adopter's experience benefits of adoption. They understand how the innovation is used for their requirements effectively.

Hype describes the over-enthusiasm, and the downside of hype describes the disappointment that typically follows with the introduction of new technology. The Hype Cycle is a concept meant to be used with emerging technologies, and it consists of five phases that illustrate the developmental stages of the technology on the Hype Cycle. Finally, "the plateau of productivity" – where the technology becomes more accepted and proves to be beneficial. These phases and the cycle can be seen in Fig 1. Roger's model for organisational innovativeness gives good insights into different factors that influence the adoption of innovations. A complementary model is

the GHC framework. Together, they provide a good foundation for ascertaining the factors to be determined for the success of technological innovation adoptions. This can contribute to this research since general adoption factors might be significantly relevant for e-book adoption.

It is seen from the literature review that the studies related to e-book adoption are largely from developed countries. This research aims to provide universities with more practical implications to consider when introducing technological products and services from the point of view of a developing country.

Methodology

A cross-seasonal qualitative research strategy was employed to gain insight into how undergraduate students regard e-books and comprehend where they are after few years of e-book introduction to the university library. Data collection was carried out by interviewing only the students familiar with and using e-books for academic purposes. The interviews were informal and conversational, but the interview topics were determined at the outset. However, based on the discussions, certain additional matters and issues were noted and addressed quickly. This method was one of the best data collection methods as it allows the clarification of questions to the respondent immediately and blocking the opportunity to express answers designed based on how those answers will affect future outcomes[18].

Second and third-year university students who had a minimum of one year of experience with e-book use in the university acted as participants in this study since they could be considered "knowledgeable informants"[19]. Accordingly, 40 purposively chosen undergraduates (20 males and 20 females) in the College of Business, Hospitality and Tourism Studies at Fiji National University were interviewed through an unstructured interviewing process. All selected participants were explained the purpose of the research and the e-books further with the hands-on explanation. Rogers's model of the innovation-decision process was employed for drafting the themes for unstructured interview questions to lead the research as this is one of the most applicable theories for researching the adoption of technologies in educational environments, notably higher education institutions[20,21]. Garner's Hype Cycle model was then exercised to understand where they are currently and what they perceive regarding the adoption.

Analysis

Innovation decision process

According to the diffusion curve introduced by Rogers, there are various behavioural reasons for the intention to pursue any innovation. Spreading the knowledge about the technology even prior to the actual product launch has been readily accepted in the existing literature. According to the innovation-decision model, this knowledge is necessary before any adoption can happen[14]. The Roger's model first allows the researchers to gain an understanding of users' knowledge of the relevant devices used to access e-books and e-content. This understanding can be gained by examining how users are accustomed to using e-books and what factors led to this familiarity. Knowledge about e-books did not vary across all forty participants. Almost all users had used different devices, but many of them had not used e-readers. Thus, the researcher asked the participants to indicate the most common means of accessing e-books for library purposes.

It was found that only 8 (20 per cent) students used e-readers for reading e-books, and they demonstrated an excellent knowledge about e-books and related access devices that was measured by a list of 7 questions quizzed by the researcher. However, the other 32 students have identified themselves as e-book users though they do not use e-readers for accessing online information. Despite the lesser number of participants who have used e-readers, all had much to say about e-books, demonstrating their familiarity with the topic. Table 1 indicates the most common device used to access e-books frequently. Participants' use of devices is indicated below in Table 1.

According to Table 1, male smartphone users were higher than female users, while more females use tablets than males. Even though many students do not use e-readers, they use e-books from their personal computers, tablets, smartphones or laptops. However, it was noted that both student groups who used

Table 1 — Widely used access device to e-books

Sl. no.	Device	Number of participants		Total
		Male	Female	
1	PCs or Laptops	08	08	16
2	Smart Phones	07	03	10
3	e-Readers	04	04	8
4	Tablets	02	04	6
	Total	21	19	40

e-readers and smartphones were more into new technologies, and their knowledge about new trends in IT was comparatively more incredible than the non-e-reader users. The technology for their day-to-day work among e-reader and smartphone users is remarkably higher than those who do not use these two devices. Their knowledge about mobile apps, new trendy ICT equipment, and IT use for their daily work was also higher than the rest.

After completing the introductory session for participants, each participant was asked to identify their location on the "Technology Diffusion Graph" according to the status of their e-book adoption. By identifying the location, the researcher was able to determine the participants' levels of e-book adoption decision as indicated in Table 2.

According to Table 2, most e-reader users were excitingly identified as early adopters, while two e-reader users were found as the early majority. However, all users in the smartphone category were identified as early adopters, while six users in the PC / laptop category also appeared to be early adopters. The rest belonged to the group of late majority. Usually, early adopters have the highest degree of opinion leadership compared to other segments of adopters. Early adopters generally hold leadership characteristics that facilitate others in their social system to advise on the innovation or associated information. They are educated, visionary and socially forward people compared to others. One of the students explained in the interview;

"I was learning from what e-books are doing (sic)….. Not a big deal, but the use of e-books really irritated me. To be honest, I felt that it's difficult to read online, not user friendly…. But some of my friends use them. They made me realise the importance and ease of using e-books compared to printed books. And then, I started to use them due to their pressure…It is really… straightforward way to find information for my work. Thanks for my friends who consistently coached me towards e-books use until I adopted it (2nd year, LIS student - Laptop user)

Therefore, attitudes towards innovations of this group of individuals are much crucial as they act as role models. However, the early majority group adopts an innovation after some time which is expressively lengthier than the category of innovators and early adopters. Rogers[14] stressed that although the early majority have a good interaction with all individuals in the social system, their leadership quality is not comparable with early adopters though they still have good interpersonal relationships which support the innovation-diffusion process.

Gartner's Hype-Cycle process

Thus, students were posed questions to find out what they are acquainted with e-books to be on the "Gartner's Hype-Cycle" to understand their attitude and perception towards e-book technology related to usefulness alongside the technological maturity. Fenn and Raskino[16] have stated that patterns happen so frequently. It has been named the Hype Cycle because initial enthusiasm and excitement is based almost exclusively on hype. This observation can be contrasted with the classification of students on the technology diffusion graph. Thus, the researcher posed more questions to determine whether the selected point is correct. If there is a difference between the selected and actual points, the researcher had to make the participants aware and direct amicably to the correct point.

The FNU Library supports innovation, and they have introduced many e-books for the use of their patrons since 2014. Thus, the students were selected in the first, third and fourth phases of the Hype Cycle, the Technology Trigger, Trough of Disillusionment and Slope of Enlightenment. At times, administrators and the workforce fall prey to many possible pitfalls and traps that may lead to too early adoption, too early abundance, too late adoption or too long hanging. According to Fenn and Raskino[16], one of the frequent traps grouped with the Hype Cycle is the inclination to adopt the innovation too early when the hype is peaking. However, the usefulness of the innovation is not still certain. They pursue

Table 2 — Level of e-book adoption

Sl. no.	User catogory	Innovators	Early adopters	Early majority	Late majority	Laggards
1	PCs or Laptops	00	06	00	10	00
2	Smart Phones	00	10	00	00	00
3	e-Readers	00	06	02	00	00
4	Tablets	00	06	00	00	00
	Total	00	28	02	10	00

innovations useful for patrons at FNU libraries, primarily students and faculty, while concomitantly trying to avoid the hype. It can be challenging to stay the course when the library has decided to adopt technology, and the hype begins to turn negative.

Innovation stages of the adoption

Many participants were identified in the GHC as Slope of Enlightenment, and they were particularly e-reader, smartphone, PC and laptop users.

Hyper is defined as a sudden and overly optimistic response to the introduction of new technology. Fenn & Ruskino[16] argue that human nature and institutional phenomena are responsible for the abrupt escalation of the Hype Cycle curve. They are the attraction to innovation, social influences, and administrative attitudes toward satisfactory organisational decision-making solutions. Because of these factors, innovations are initially judged to be overly optimistic.

Ten students were identified at the peak of inflated expectation (Table 3). Hype is basically optimism. Students think that the use of e-books is straightforward and effortless to access and use, and they are different from conventional printed materials. The "Peak of Inflated Expectations" generally means that a technology gathers publicity, followed by a number of success stories. However, these successes are most often accompanied by failures, according to the Hype Cycle. It is a sign of the graph as some students have already realised that e-books are not the solution for their expectation. It indicates the downside of hype. Six students have identified that the hype turned into disillusionment. One student said that,

"Because of the commendations of my friends, lecturers and librarians, I started using e-books for my assignments and also for recommended readings, But, now I have realised it is not a good way if I really want to improve my knowledge. To tell you frankly, I was like a lazy goat… I read only the relevant areas of the book and cut and paste the facts….but ultimately I found many difficulties when I try to answer the question papers at the trimester end exams because I hadn't read the recommended texts properly" (3rd year, Economics student - Smartphone user)

Hype is essential, but it must be tempered with realism. Without that balance, the overblown optimism, in this case, had caused disillusionment to the 10 participants of this study. So how does this play out in FNU? How does FNU's architecture support the right kind of hype and keep the excess optimism at bay? What are the challenges that FNU will face in bringing the right amount of realism to bear upon every opportunity and risk? These questions are also crucial for further investigation.

Expectations for group acceptance are interrupted, and proliferation is faced with temporary stagnation or permanent setbacks as it transitions from one group to another, for example, early adopters to the early majority (Fig. 4). Moore[22] suggests that the gap is most remarkable between early adopters and the early majority, calling it a "chasm." He argues that many innovations cannot bridge the chasm and continue to the next group. In this case, 03 participants have left the innovation during chasm. According to Fig. 4, the students in the hype and downside of hype, which means 13 participants, diffusion is followed by a stagnant period when innovation ceases temporarily or permanently, so it must gain legitimacy and find its primary market. During this period, existing adopters may either worry and abandon adoption that may permanently fail innovation or try to gain and maintain the legitimacy of their early adoption decision through "institutional work"[23]. If the diffusion persists and new construction continues to grow, it is often too early to implement the transition with the expectation of low risk and stable operation. As the situation and performance arise from early adopters, students do not necessarily mean that they are improving or functioning differently.

Table 3 — Innovation stages of e-book adoption

User Category	Early adopters				Early majority	Late majority
	The peak of inflated expectations (hype)	*The downside of hype (Downside of realism)*	*Through Disillusionment*	*Upside of Realism*	*Slope of enlightenment*	*Plateau of productivity*
PCs or Laptops	03	00	00	03	00	10
Smart Phones	04	00	01	05	00	00
e-Readers	00	01	01	04	02	00
Tablets	03	02	01	00	00	00
Total	10	03	03	12	02	10

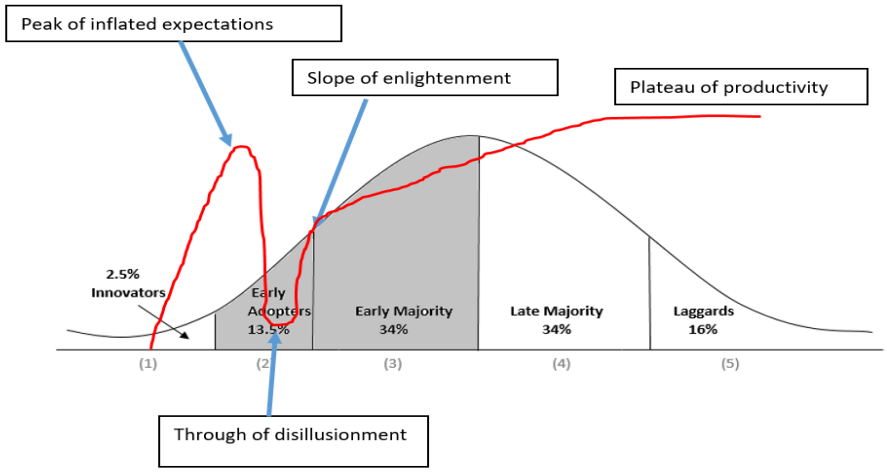

Fig. 4 — Adoption model at FNU

Involvement continues as changes in two early majority users. One participant in the early majority expressed that

"I printed are costly. The Internet provides everything for free! There are excellent search engines combined with pirated sites which leads to download e-books absolutely free. I understand it's unethical, but why should I care about it… I'm just a student with limited resources." (3rd year, Accounting student – e-reader user)

However, the latter group of 10 late majority users accepted the innovation only when it was not considered a risk, and it became a breeding ground for organisations in the university. For them, the main focus is not on performance or value relationships but instead on legitimate and isomorphic compliance[24].

One participant described the importance as follows:

"The availability, searchability and especially in accessibility have greatly supported me for much more information, which can be consulted than ever before. We do not need to go to the local library, and search materials spending hours and hours but end up with frustrations for not having enough information for my work" (2nd year, Customs student – Laptop user).

Interestingly, all participants agreed about both the advantages and disadvantages of e-books, and their responses were not significantly different. Many respondents who did not use e-readers and smartphones for accessing e-books also preferred printed materials as a convenient mean of access. However, their priority was e-books. Moreover, it was noticed that both categories prefer e-books when they are required to make their assignments and research reports because of some advantages associated with e-books, such as searchability, backlinks, convenience and portability.

A participant stressed that e-books have the power to provide answers faster than traditional books. *"I need quick facts! Not stuff taking much time…"* (3rd year, Economics student – Smartphone user)

It was noted that the demand for tablets, including i-Pads, is collapsing as most users claimed that these devices are unfriendly and difficult to access to e-books and do reading as well as its challenging for later retrieval of information when needed. Notably, they found difficulty in personalising the tablet, sharing, carrying, mainly due to its physical size. Thus, it emerges that individual taste is also an essential matter of fact for lesser usage as these devices do not support serious reading. Tablets and laptops are not trendy compared to Smartphones. Many participants indicated that although they would not use their tablets for reading e-books, they prefer to read electronic materials from their smartphones, e-readers or PCs/laptops.

Twenty-five participants were in the decision stage in the innovation-decision process. These individuals choose to adopt or reject the innovation. Twenty four participants stated that they are looking at regular use of e-books. Four participants stated about some challenges in using the -ebooks such as the challenges in finding information needed through e-books, many e-book formats being not compatible with their access devices or software. The four participants (three tablet users and one smartphone user) preferred to use printed books.

It was found that all 24 e-book adaptors had already used e-books, especially during trial access granted by publishers. Many users had recognised the importance of e-books during these trial periods. They had already advised the faculty and librarians to subscribe to those resources due to the importance of the sources, easy access, easy maintenance, easy reading etc., over traditional printed materials. They were quick adaptors as they had a chance to try the innovation in their own situations and make an adoption decision. E-book trials could speed up the adoption process.

It was also noted that PC, laptops, and tablet users had more emotional attachments to books than e-reader and smartphone users. However, it was revealed that the possibility of picking required books directly from the Internet had a more significant influence on motivating users for reading than motivating people for reading with printed books. This motivation was challenging to understand whether it is a genuine interest of the users for reading or used for the convenience of gathering digital content for fulfilling academic requirements such as assignments. However, all participants claimed that it is for genuine reading.

Surprisingly, smartphone owners were reading four times higher e-books compared to tablet/PC/laptop users, and smartphone users had 2.5 times higher e-book reading compared to e-readers, but the participants in e-reader and smartphone categories did not read the complete book while non-users of these two devises predominately read the complete book or all most all of it. E-book reader users and the users who use smartphones were into more night reading as well. Also, many students who were preparing research reports, assignment or dissertations wanted immediate access to e-publications. E-reader and smartphone users pointed out that that e-readers and smartphones are not so easy to cut and paste, and hence they have to re-access the same e-books via laptops or PCs to cut and paste. One student expressed,

"I now consult many e-books that were previously inaccessible or unavailable at my library. That means I can browse more sources. I also have a wider selection of choices when searching for resources I'm required to read. This allows me to cut and paste numerous ideas to put everything together and make my assignment much powerful" (2nd year, Law student, laptop user)

Another student stressed,

"Well…. as it is impractical to cut and paste via my mobile, I email all URLs collected and then access them from my laptop, then it is easier to do cut and paste the facts for my assignments….." (3rd year, Accounting student, Smartphone user)

Content, format and value-added features of e-books were found to be decisive factors in e-book adoption. This is greatly influenced by the ability of users to easily access the content and perform some actions that they want in it. There are cases where e-book users prefer to use printed books due to unsupportive contents, formats and value-added features of e-books such as less user-friendly formats, difficulty in highlighting and marking content, and challenges in making short notes. However, interrupted internet connections, fewer e-books, preference for printed books, limited computers and lack of e-readers were recognised as challenges for the library users. With regard to university students, reading is a unique practice that is culturally and socially rooted in their academic and daily life. Librarians can therefore provide a better service by understanding the inherent characteristics, preferences and status of their library users[25]. Some participants in the study described themselves as e-book users but still prefer to obtain a full print copy of the e-book or a part of it for in-depth reading after screening the book initially via those devices and if it fits their requirement.

Conclusions

The outcome of the study advocates the notion presented by different researchers[26,27] that the products related to new technologies are favourably disposed towards the stimulation of the usage of such products functionally. Users tend to adopt technically advanced versions over traditional products predominantly due to convenience. Nowadays, many students possess e-readers, laptops, smartphones or similar mobile devices vastly. The integration of Rogers's diffusion of innovations and the Gartner Hype-Cycle approach augmented a new aspect to the current research study by ascertaining how users behave in the process of technology adoption. It was found in the study that individuals typically categorised as "Early Adopters". Users who are well known from long or close association with technologies, applications and benefits in their day to day lives are more apt to adopt e-books faster. Based upon the Gartner Hype-Cycle, it was noted that participants, in general, considered their experience

with e-books to be in the "Slope of Enlightenment", which explicates more instances of how the technology can benefit the library.

In essence, many participants have realised that e-books still have many advantages over printed books, and a few disadvantages which need to be resolved, such as e-books do not appear ideally on e-readers and smartphone devices owing to the unsupportive formats. One participant has explained, *"I find it easier and faster when searching it in a real book, rather than an e-book*". Eventually, the hindrance to awareness of e-books is that adopters were more aware, and they have enough information on using related access devices. Librarians and university administrators can also use the Hype Cycle to plan for procurement and services and anticipate adoption issues related to the new use of technologies for teaching and learning. Understanding the Hype Cycle provides leaders time to budget, write policy and procedures, and train staff for new technologies. Better anticipating technology adoption also allows school leaders to solicit buy-in from various stakeholder groups so that once the technology is in hand, it can fully be leveraged.

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