

An investigation of consumer perceptions of adopting an ereader

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Abstract

Title: An investigation of consumer perceptions of adopting an ereader

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Purpose: This study investigates and compares the numerous perceptions that current and potential adopters of ereaders may have.

Design/methodology/approach: This paper first examines diffusion of innovation theory, followed by an account of the current ebook and ereader marketplace. This study obtained the perceptions of book consumers, both ereader adopters and nonadopters, through a structured online survey, which was then analysed and discussed leading to numerous conclusions.

Findings: In five (relative advantage, compatibility, ease of use, result demonstrability, and visibility) out of seven areas adopters were found to be more positive in their perceptions of using an ereader than nonadopters. Ereader adopters were found, on average, to read more books a month than nonadopters. While participants identified numerous benefits of using ereaders, such as space saving and purchase convenience, they also highlighted the drawbacks, such as the fact that ereaders don't emulate the 'feel', 'touch' and 'smell' of a print book. Over 80% of respondents stated that they could not envisage a day without print books.

Originality/value: This study gives insight into the consumer perceptions of using an ereader. These findings can assist in pin-pointing the areas which necessitate improvement in the next generation of ereading technologies. The ereading experience should be continually improved upon if potential adopters are to be successfully acquired.

Declaration

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Chapter 1 Introduction

1.1 Adoption of Innovations

For over half a century numerous studies have been carried out and theoretical models developed by marketers and researchers which seek to examine individual and organisational adoption and acceptance of innovations (Kangis & Rankin, 1996; Grover, 1993; Lai & Chang, 2011). These studies have been carried out across varying disciplines such as marketing, communications and sociology (Russell & Hoag, 2004). The Innovation Diffusion Theory, as initially set out by Everett Rogers in 1983, is one of the most utilised theoretical frameworks in this area, with its constructs tested and refined in almost 4,000 studies (Rogers, 1995). As the technology sector continues to propel rapid technological innovation, the area of innovation diffusion remains a key area of concern for both industry and academia (Liu, Madhavan & Sudharshan, 2005).

This research paper aims to investigate ebooks and ereaders within the theoretical framework set out by Rogers, examining his concepts of innovation diffusion, technology adoption and his theory on the Perceived Attributes of Innovation which influence consumers in their adoption/rejection decision. Following this it will focus on Moore and Benbasat's (1991) development of an instrument for the measurement of the consumer perceptions which affect innovative technology adoption. This instrument will then facilitate the collection and analysis of consumer perceptions in the area of ebooks and ereaders.

1.2 Ebooks and ereaders

In today's constantly changing digital landscape it is more important than ever to monitor consumer trends. Like the music and high street retail industries, the book industry has also felt the effects of digital change. With the increasing dominance of the ebook it has had to evolve in order to keep up with, and to strive to get ahead of, these inevitable changes. Consumer research can help shed light on the current perceptions within the marketplace which can influence or hinder the adoption of ebooks and ereaders over paper books; that is what this research proposes to do.

Numerous research studies have been undertaken in this area in recent years but in many cases they have failed to provide a well rounded insight into consumer perceptions, with many studies only targeting student populations (e.g. Grzeschik, Kruppa, Marti & Donner, 2011; Foasberg, 2011; Gibson & Gibb, 2011). This research aims to address this gap by specifically investigating current and potential individual consumers. Also, with the rate at which changes are taking place within the digital and book industry realms it has been stressed in previous research that continuous monitoring of book consumption is necessary (Vasileiou, Hartley & Rowley, 2009; Foasberg, 2011).

In order to give a well-rounded view of this area, this study will examine the definitions offered in the literature as to what an ebook and ereader are, followed by an examination of the ebook and ereader marketplace today. Book industry and consumer perspectives will be reported in order to show the viewpoints of the providers and buyers of these products. Views on the future of the paper book and ebook and ereaders will also be explored.

Chapter 2 Literature Review

2.1 Rogers' Innovation Diffusion Theory

2.1.1 Innovation

Some scholars have defined innovation as ideas, products, or programs that the adopter considers as being new, while others have portrayed it as a process of creating or inventing (Grover, 1993).

For Rogers (2003, pg.12) innovation is 'an idea, practice, or object that is perceived as new by an individual or other unit of adoption ... the perceived newness of the idea for the individual determines his or her reaction to it'. Lai and Chang (2011, pg. 565) deem ereaders to be innovative products as they 'overturn traditional reading formats and transform and expand existing product function'.

2.1.2 Diffusion

The diffusion process of any innovation, no matter how advantageous it may be to its target market, can often be a timely and difficult one (Rogers, 2003). Diffusion has been defined by marketers as 'the adoption of new products or services over time by consumers within social systems as encouraged by marketing activities' (Robertson, 1971, p. 32), thus emphasizing the connection between both buyer and seller and between adoption and diffusion (Woodside & Biemans, 2005). Rogers (2003, pg. 5) is broader in his definition, stating that diffusion is 'the process in which an innovation is communicated through certain channels over time among the members of a social system'.

According to Rogers (2003) diffusion can spark social change, in that the diffusion of an innovation into a social system can alter the structure and function of

that system, leading to certain positive or negative consequences. Relatively, in the case of ereaders, possible consequences may be the demise of the printed book leading to social change in the shape of the closure of social meeting places such as bookstores and local libraries.

2.1.3 Adoption

When an individual or organisation decides to utilise or invest in an innovation, adoption occurs (Russell & Hoag, 2004). Woodside and Biemans (2005, pg. 385) describe how this decision to adopt an innovation is reliant on numerous factors, one of the most prevalent factors being the individual's 'attitude' toward the innovation itself. The individual's 'personal innovativeness' or 'tendency to accept innovations' is another (Woodside & Biemans, 2005, pg. 385). While supplier 'marketing activities' can also have an influential effect on potential adopters and strategies such as product trials and introductory offers can reduce the associated perceived risk (Woodside & Biemans, 2005, pg. 385). Additionally, Engel, Blackwell and Miniard (1986) state that the potential adopter's perception of the level of disruption in behaviour caused in adopting the innovation can also be a factor. This has been found to affect a 'late adopter' to a larger degree however, as 'innovators' and 'early adopters' may perceive behaviour change in a more positive light which actually promotes adoption rather than deters it (Kangis & Rankin, 1996).

Rogers (2003, pg. 219) highlights that adoption can be analysed from two viewpoints, the more often studied "people" differences in innovativeness (that is, in determining the characteristics of the different adopter categories) and the less often studied "innovation" differences (that is, in investigating how the properties of

innovations affect their rate of adoption)’. Rogers (2003, pg. 219) proffers that the investigation of “innovation” differences can be valuable in allowing for positive modifications to be made to the innovation and therefore potentially increase its rate of adoption.

The speed of the adoption process can be a concern for businesses looking to make a return on their investment as quickly as possible (Kangis & Rankin, 1996). A strong start can also build momentum and further fuel adoption, as innovators and early adopters spread word of mouth to others in the marketplace (Danko & MacLachlan, 1983). Rogers (2003, pg. 221) describes the rate of adoption of an innovation as ‘the relative speed with which an innovation is adopted by members of a social system’ and proposes that five Perceived Attributes of an Innovation (relative advantage, compatibility, complexity, trialability and observability) are the most important aspects in investigating the speed with which innovations are adopted.

2.1.4 Technology

Rogers (2003, pg. 13-14) defines a technology as

a design for instrumental action that reduces the uncertainty in the cause-effect relationships involved in achieving a desired outcome ...
A technological innovation usually has at least some degree of benefit for its potential adopters, but this advantage is not always clear cut to those intended adopters.

It is rare for an intended adopter to be immediately confident that an alternative or replacement innovation (e.g. an ereader) is an improvement on their previous practice (e.g. a print book) (Rogers, 2003).

With technological advancements often allowing for the innovation of new products ahead of an expressed need for them by the marketplace, as can be seen in the case of ebook and ereader innovations (Kangis & Rankin, 1996), it is increasingly important to investigate the extent to which consumer perceptions of the innovative product's attributes influence their adoption of it. Such examination can be obtained through the utilisation of Rogers' Perceived Attributes of Innovation theory.

The originality of an innovation, such as an ereader, can result in an element of uncertainty on the part of the prospective consumer (Rogers, 2003). Uncertainty is defined by Rogers (2003, pg. 6) as the 'degree to which a number of alternatives are perceived with respect to the occurrence of an event and the relative probability of these alternatives'. In this case print books can be seen as the alternative. Rogers (2003, pg. 6) states that a lack of information about the innovation can fuel a potential adopter's uncertainty about the innovation's consequences, though in the case of technological innovations, such as ereaders, the technology itself 'embodies information and thus reduces uncertainty'.

2.1.5 Perceived Attributes of Innovation

Rogers (2003) explains that while some innovations took but a few years to be widely adopted (e.g. mobile phones, VCRs), others (e.g. utilising seat belts or the metric system) were more of a prolonged process before they fully caught on. According to Rogers' research, originally published in 1983, the prospective consumer's perception of these innovations' attributes assist in explaining their diverse rates of adoption. Rogers (2003) identifies five perceived attributes which affect the diffusion of an innovation; relative advantage, compatibility, complexity,

trialability and observability. These attributes determine the attitude that an individual or organisation will have toward an innovation and subsequently their tendency to adopt it.

2.2 Rogers' Perceived Attributes of Innovations

2.2.1 Relative Advantage

Rogers (2003, pg. 15) defines 'relative advantage' as 'the degree to which an innovation is perceived as better than the idea it supersedes. The degree of relative advantage can be measured in economic terms, but social prestige factors, convenience, and satisfaction are also important'.

In terms of 'economic factors', the initial cost of purchase can affect the perceived 'relative advantage' of an innovation and subsequently its rate of adoption, e.g. if too high it can be a deterrent, if too low it can bring up questions of quality in the mind of the potential adopter.

With regard to 'social prestige', the wish to increase social status can be a motivational factor in adopting an innovation, particularly within the innovator, early adopter and early majority categories. However a difficulty in accurately investigating this area has been identified by Rogers (2003), in that respondents may be hesitant in admitting that they adopted an innovation in order to gain social status.

'Relative advantage' is the most significant characteristic in predicting the diffusion of an innovation (Anderson & Narus, 2004; Robinson, 1990) and is positively related to an idea's rate of adoption. Rogers (2003, pg. 15) supports this in stating that 'the greater the perceived relative advantage of an innovation, the more rapid its adoption will be'.

2.2.2 Compatibility

Rogers (2003, pg. 15) defines 'compatibility' as 'the degree to which an innovation is perceived as being consistent with the existing values, past experience, and needs of potential adopters'. The degree of 'compatibility' can be measured in terms of 'the sociocultural values and beliefs, previously introduced ideas, and/or client needs for the innovation' (Rogers, 2003, pg. 240).

Concerning 'sociocultural values and beliefs', an innovation which is incompatible with the values and beliefs of a social system won't be adopted as quickly as an innovation that is compatible. On the other hand, an innovation that is compatible with the values and norms of a social system holds less uncertainty for the potential adopter and integrates more easily into their lifestyle.

In relation to 'previously introduced ideas'; pre-established ideas are the benchmark against which all newly introduced ideas are judged. Through this assessment of the new idea, meaning can be given to it which will consequently affect the rate at which an innovation is adopted. A familiar association with the innovation aids interpretation therefore reducing uncertainty and aiding adoption.

With 'need for the innovation', compatibility is demonstrated in the extent to which there is a need for the idea, though it is possible that this need may not be realised by potential adopters until they become aware of innovation itself.

'Compatibility' is significantly linked to innovation adoption (Tornatzky & Klein, 1982), though it is somewhat less indicative of it than 'relative advantage' is (Rogers, 2003). Like 'relative advantage', 'compatibility' is positively related to an idea's rate of adoption.

2.2.3 Complexity

Rogers (2003, pg. 16) defines 'complexity' as 'the degree to which an innovation is perceived as relatively difficult to understand and use'. The degree of 'complexity' can be measured in terms of how easy or difficult it is for an innovation to be comprehended by potential adopters.

Innovations which are perceived by potential adopters to be simply understood are more quickly adopted and have less uncertainty than those which are perceived to be complicated.

Though 'complexity' may not be as important a characteristic for many innovations as 'relative advantage' and 'compatibility' are, it is a particularly significant factor in the adoption of technology, where a lack of technical expertise can be a barrier for some potential adopters. Unlike 'relative advantage' and 'compatibility', 'complexity' is negatively related to an idea's rate of adoption.

2.2.4 Trialability

Rogers (2003, pg. 16) defines 'trialability' as 'the degree to which an innovation may be experimented with on a limited basis'. The degree of 'trialability' can be measured in terms of how accessible an innovation is for trial by potential adopters.

Innovations which are perceived by potential adopters to be available for and easily trialed are more quickly adopted and have less uncertainty than those which are perceived to be inaccessible prior to purchase as it allows for them to learn by doing.

It is not always simple to divide an innovation for trial, depending on the nature of the innovation itself, but those which are divisible are more readily

adopted. Trial allows those considering adoption to determine whether the innovation is fit for their needs.

‘Trialability’ is perceived as being more important for earlier adopters as they have no guide as to how the innovation will function (Gross, 1942; Ryan, 1948), while later adopters can utilise knowledge that earlier adopters have gained through use, somewhat lessening their need for a personal trial (Rogers, 2003). Like ‘relative advantage’ and ‘compatibility’, ‘trialability’ is positively related to an idea’s rate of adoption.

2.2.5 Observability

Rogers (2003, pg. 16) defines ‘observability’ as ‘the degree to which the results of an innovation are visible to others’. The degree of ‘observability’ can be measured in terms of how easy it is for potential adopters to see the results of an innovation.

Innovations which are perceived by potential adopters to be easily visible or communicated are more likely to be adopted than those which are difficult to observe or describe to others.

Each observance of an innovation fuels conversation among members of a social system as potential adopters will often look for an evaluation of the innovation from those within their peers who have already adopted the innovation.

Like ‘relative advantage’, ‘compatibility’ and ‘trialability’, ‘observability’ is positively related to an idea’s rate of adoption.

2.3 Moore and Benbasat: Rogers' five characteristics expanded

Moore and Benbasat (1991) expanded the five characteristics set out by Rogers (2003) into the Perceived Characteristics of Innovating (PCI) in order to make them more applicable to technology adoption specifically and also developed an instrument to enable the measurement of the potential adopter's perceptions of adopting a particular technological innovation (Miller, Rainer & Harper, 1997). The 25-item instrument encompassed eight scales which, with slight alterations, could be utilised in the study of the adoption and diffusion of any technological innovation by individuals or organisations (Rogers, 2003). Moore and Benbasat (1991) posit that no broad instrument had yet been formulated for measurement, and previously developed scales fail to have the necessary levels of validity and reliability; thus their study endeavoured to address these flaws. Due to the rigorous methodology employed by Moore and Benbasat (1991) in their development of the scale, the findings of a study of the Perceived Characteristics of Innovating undertaken by Miller et al. (1997) affirm that it is a reliable and valid instrument for use by technology researchers.

2.3.1 Moore and Benbasat's Perceived Characteristics of Innovating

The initial five Perceived Attributes of Innovation identified by Rogers (2003) were adapted accordingly by Moore and Benbasat (1991) for their investigation on the factors affecting technology adoption. Another three attributes were also introduced by Moore and Benbasat (1991) to form the eight Perceived Characteristics of Innovating: relative advantage, compatibility, ease of use, result demonstrability, image, visibility, trialability and voluntariness. Though Moore and Benbasat (1991) relied primarily on the work of Rogers (2003) in their study,

numerous alterations were made in order to make it possible to utilise his work in a technological context. Moore and Benbasat (1991) also emphasise that while Rogers' (2003) definitions are based on the perception of the innovation *itself*, their viewpoint is taken from the perception of *using* the innovation. For Moore and Benbasat (1991) this is the key to innovation diffusion and they state that the definitions and constructs utilised by Rogers (2003) can be recast in terms of use (Moore, 1987).

2.3.2 Image

Moore and Benbasat (1991, pg. 195) define 'image' as 'the degree to which use of an innovation is perceived to enhance one's image or status in one's social system'. Rogers (1983, p. 215) classified 'image' under 'relative advantage' but highlighted its importance in stating that 'undoubtedly one of the most important motivations for almost any individual to adopt an innovation is the desire to gain social status'. Moore and Benbasat (1991) stress that other studies (e.g. Holloway, 1977) have found the effect of 'image' to be dissimilar to that of 'relative advantage' and therefore requires it to be assessed as its own characteristic.

2.3.3 Voluntariness

Moore and Benbasat (1991, pg. 195) define 'voluntariness' as 'the degree to which use of the innovation is perceived as being voluntary, or of free will'. It is necessary that researchers investigate whether individuals are free to adopt or reject a technological innovation if they wish to, particularly within an organisational environment where the adoption decision may not be up to the individual themselves. Moore and Benbasat (1991) further this point in stating that studies cannot merely assume 'voluntariness', as while adopting an innovation may not be

mandatory, individuals may feel compelled by the organisation. Here the key point is the individual's perception of whether their adoption is voluntary.

2.3.4 Ease of Use

Moore and Benbasat (1991, pg. 195) define 'ease of use' as 'the degree to which an innovation is perceived as being difficult to use'. This characteristic is adapted from Davis' (1986, pg. 82) Technology Acceptance Model which defined 'ease of use' as 'the degree to which an individual believes that using a particular system would be free of physical and mental effort'. In studies carried out by Davis (1986) 'ease of use' was found to have reliabilities in excess of 0.90 and therefore was chosen by Moore and Benbasat (1991) for their study. 'Ease of use' holds close similarities to Rogers' (2003) 'complexity' characteristic.

2.3.5 Visibility and Result Demonstrability

Rogers' (2003) 'observability' characteristic was initially utilised within Moore and Benbasat's (1991) research, however during the development process refinements were deemed necessary. 'Observability' was split into two characteristics as the process highlighted that it tapped into different constructs and thus each required their own scales. Firstly 'visibility', which is the degree to which the use of an innovation can be seen by others within one's social system (Moore & Benbasat, 1991). And secondly 'result demonstrability', which is defined by Moore and Benbasat (1991, p. 203) as 'the tangibility of the results of using the innovation, including their observability and communicability'.

2.3.6 Relative Advantage, Compatibility and Trialability

For the most part Moore and Benbasat (1991) remain close to Rogers (2003) definition and outline of what ‘relative advantage’, ‘compatibility’ and ‘trialability’ are, though some adjustments are made in reference to the ‘use’ of the innovation, as can also be seen in the aforementioned characteristics previously discussed. For example ‘relative advantage’ changes to: ‘the degree to which *using* the innovation is perceived as being better than *using* its precursor’ (Moore & Benbasat, 1991, p. 196). Although there is no new definition set out by Moore and Benbasat (1991) for ‘capability’, based on the previous alteration, it is possible to suggest: the degree to which *using* an innovation is perceived as being consistent with the existing values, past experience, and needs of potential adopters. In the case of ‘trialability’ it is also possible to suggest: the degree to which it is perceived that an innovation may be *used* or experimented with before adoption.

2.4 Ebooks and ereaders

2.4.1 Ebook definitions

Since their inception numerous varying definitions have been put forward as to what ebooks and ereaders are. In searching for an accurate definition of an ebook, both Vasileiou et al. (2009) and Gibson and Gibb (2011) point to Armstrong, Edwards and Lonsdale’s (2002) definition as being one of the most academically acknowledged attempts;

any piece of electronic text regardless of size or composition (a digital object), but excluding journal publications, made available

electronically (or optically) for any device (handheld or desk-bound) that includes a screen (Armstrong et al., 2002, p. 217).

Armstrong (2008) later revisited this definition, adding that the content of an ebook must also be visibly book-like in its appearance. Gibson and Gibb (2011) find Vasileiou and Rowley's (2008) detailed two-part ebook definition to be supportive of Armstrong's, whilst also having its own specific additions;

Part 1: An e-book is a digital object with textual and or/other content, which arises as a result of integrating the familiar concept of a book with features that can be provided in an electronic environment.

Part 2: E-books typically have in-use features such as search and cross reference functions, hypertext links, bookmarks, annotations, highlights, multimedia objects and interactive tools (Vasileiou & Rowley, 2008, p. 363).

Yet for brevity and ease of use, Gibson and Gibb (2011, p. 307) supply a shorter definition of their own; an ebook is 'a digital object that is recognisably book-like'.

In the case of ereaders, Gibson and Gibb (2011, p. 306) suggest a similarly encompassing definition; 'a device on which one reads an ebook'; due to continuous technological advances bringing to the fore a vast range of devices on which ebooks can now be read.

2.4.2 Ebook and ereader marketplace

The first ereaders were introduced in the late 1990s but failed to take hold of the market despite predicted growth from industry professionals. The ereaders available at this time were often expensive and inadequate, while the ebooks supplied by publishers were limited mainly to mass-market titles; both failing to

meet consumer needs and wants. Herther (2005, p. 48) attributes this to the ‘chicken and egg’ problem which the industry experienced due to ebook and ereader capabilities not aligning. Since then the industry has taken a more cautious approach, with the most recent resurgence of ereader technology taking place in the late 2000s with the introduction of the Sony Reader and Amazon Kindle (Foasberg, 2011). As opposed to the earlier models’ difficulties, this second generation of ereaders were much improved; being lighter, smaller, easier to read and navigate, and with enhanced screen resolution (Gibson & Gibb, 2011).

Today, consumers have a large range of devices to choose from for their ebook reading; these include dedicated ereaders (for example Amazon’s Kindle, Barnes and Noble’s Nook, Sony’s Reader), and other electronic devices with ebook reading capabilities such as generic tablets (for example Amazon’s Kindle Fire, Apple’s iPad, Google’s Nexus), smartphones, portable games consoles, laptops and desktop computers (Lai & Chang, 2011). With this diverse range of devices also comes a wide range of price points from high-end expensive models to more simplistic cheaper ones (Read, Robertson & McQuilken, 2011). As competition within the market continues to grow so has the quality of the ereader devices. Both Gibson and Gibb (2011) and van der Velde and Ernst (2009) identify that in recent years huge improvements have been made; for instance storage capacity has increased to allow for hundreds of titles to be stored, battery life has been extended to allow for longer reading time between charging, and technological developments such as e-ink have been a revelation in allowing the ebook reading experience to simulate that of reading from paper.

The advancements made in recent years have made ebooks more easily accessible to consumers and with that has come predictions of the decline of the

paper book. However in referring to the forecast that print books will be soon be replaced by ebooks, Foasberg (2011) maintains that ereaders are still a niche market and are considered a luxury item by many consumers.

2.4.3 Book industry perspectives

With the growth in interest and uptake of ebooks and ereaders particularly in recent years, the traditional book industry has had to engage with the challenges that digital publishing presents (Chao, Hegarty & Stefanidis, 2012). Connaway (2007) advocates that the arrival of the ebook allows publishers to serve consumers in a new way, therefore giving them the chance to maintain their competitiveness within this new marketplace. Despite this, publishers were initially reluctant to grasp this new technology, as Nicholas, Huntington and Rowlands (2007, p. 33) explains; publishers were ‘still dipping their toes in the water and waiting for someone else to take the initiative’. This was in keeping with findings from a European Commission report from 2005 (EC, 2005, p. 103) which detailed that the book industry had ‘not in general responded through technological innovation: ebooks have not yet developed as a force in European publishing’.

In more recent years advancement toward digital book content has been inevitable for the book industry and it has had a central position in book debate (Nielsen Bookscan UK, 2012). According to the UK *Digital Census 2013* undertaken by FutureBook (2013) over nine in 10 book publishers now sell ebooks, with two in five of them declaring that ebook sales consist of over 10% of their turnover. The same survey found that booksellers lag behind book publishers in their digital readiness, with three in five trading in ebooks and/or ereaders, which consists of less than 3% of their turnover. The survey includes more than 2400 individuals,

all with direct connections to the book industry and depicts a split of opinion on such topics as pricing, digital content in bookstores, digital rights and ebook lending, which portrays an industry with many questions yet to be answered and obstacles to be overcome in the digital environment.

2.4.4 Book consumer perspectives

Numerous studies have been carried out in recent years to find out what consumer perceptions of ereaders and paper books are and how they have and are changing. The findings of a study carried out on college students by Grzeschik et al. (2011), into the extent to which reading behaviour has been influenced by ereader devices, show that consumer reading rates were not reduced when utilising an ereader device and that these devices were perceived to be an as good or better substitute to paper books. However a similar study, also involving college students, Foasberg (2011) found somewhat different results with merely a third of respondents preferring ereaders to paper books and none utilising ereaders exclusively. Here, uptake of ereaders was found to be slow, mainly due to the price of ereader devices, though the benefits incurred through utilising one were believed to be positive by students, such as ereader portability and ebook purchasing convenience.

Several studies have identified other benefits perceived by consumers in relation to ebooks. Read et al.'s (2011) online questionnaire of 500 consumers garnered the following insights into consumer supposed advantages: ereaders allow for physical space saving as paper books can take up considerable space; e-ink technology helps to imitate the paper book reading experience; ereader storage capacity allows for hundreds of books to be saved on one device (also van der Velde & Ernst, 2009); there is a perceived cost saving in purchasing ebooks in comparison

to paper books (also Chao et al., 2012). Consumers have shown environmental concerns with findings showing that one third of respondents would utilise ebooks as they are more environmentally friendly than paper books (Gibson & Gibb, 2011). Read et al. (2011) does also provide insight into some negative consumer perceptions such as the difficulty of reading on digital devices and lack of ability to share books between people.

Read et al.'s (2011) research additionally finds that emotional attachment is linked to paper books, in that it is not just the content of a book which important to consumers but also the physical nature of the book itself. Here respondents were found to take pleasure in collecting paper books, to like the feel and smell of paper books and to enjoy displaying their paper books for others to see. While Gibson and Gibb's (2011) findings in their study of 33 Master's students found that the majority of respondents merely consider ebooks to be an electronic version of text and that paper books were preferred for leisure and heavy reading (also van der Velde & Ernst, 2009; Foasberg, 2011).

2.4.5 The ebook and ereader future

Both Vasileiou et al. (2009) and Herther (2005) point to the new generation of digital users, or Generation Y, as playing a major part in developing and extending the ebook and ereader market. As this generation will have grown up with technology, their digital preferences will make a migration to ebooks not as big of an obstacle as it has been to their predecessors. For now, Vasileiou et al. (2009) suggest that the constant improvements being made in ebook and ereader technology and the increasing availability will bring these digital mediums more and more to the attention of consumers. Furthermore, Read et al. (2011) and Lai and Chang (2011)

maintain that the consumer insights garnered from research can help practitioners to further develop areas of ebook and ereader technology which consumers feel necessitate it, such as e-ink technology, which could boost consumer adoption.

Rao (2004) stresses that book publishers must evolve if they wish to make ebooks a success. With sales of paper books continuing to decline by 4.6% year-on-year in 2012 and ebook adoption on the rise (Nielsen Bookscan UK, 2012), the book industry are in the midst of a challenging time where a more aggressive strategy of digital technology promotion may be necessary (Chao et al., 2012). Almost two-thirds of book publishers predict that digital sales will comprise of over 10% of their turnover by the end of 2013 and half predict that digital sales will be higher than print sales by 2020 (Futurebook, 2013).

In spite of this, a study by van der Velde and Ernst (2009) found that, for now at least, ebooks and paper books can exist together, stating that there is a place for both in the market. Nielsen Bookscan UK (2012) concur, in reference to publishing phenomenon *Fifty Shades of Grey* series selling over 10.6m copies in 2012, stating that print books can still sell fast, in vast quantities and grab the reading public's imagination.

However, Foasberg (2011) proposes that the process of researching ebooks and ereaders is a difficult task as the landscape is constantly shifting and progressing at a fast pace and so future predictions are always prone to change.

This literature review has shown that continued monitoring of consumer engagement with digital reading is necessary in order understand this fast changing environment and its consequences for the book industry. Moore and Benbasat's

(1991) expansion of Rogers' (2003) original 1983 Perceived Attributes of Innovations to incorporate the *use* of an innovation, their specific focus on technology adoption and their development of an instrument to enable the measurement of individuals' perceptions render it the most applicable model for this study's research into the perceptions that individuals have of using an ereader.

Chapter 3 Methodology

3.1 Research Objective

All, but one, of the studies mentioned which investigate consumer perceptions of ereaders and ebooks have utilised students alone in their sample and have not included the wider public in their research. While Futurebook (2013) explored industry opinion and Nielsen Bookscan UK (2012) referred to sales, only one study by Read et al. (2011) could be found to tackle the perceptions of general consumers directly. A broad spectrum of individuals of all ages were investigated in this study in order to allow for a more extensive analysis.

In addition, the study which did consult the wider public, namely Read et al. (2011), limited its analysis to the adoption of dedicated ereaders alone and did not investigate other electronic devices on which ebooks may be read, such as tablets and mobile phones. Read et al. (2011) acknowledges this limitation, stating that it would be of value to compare consumer ebook adoption rates via these differing devices, therefore numerous ereading devices will be examined in this research.

The importance of monitoring the area of ebook and ereader adoption and use by consumers is emphasised by Vasileiou et al. (2009) and Foasberg (2011), particularly as the market is constantly changing and altering attitudes of consumers can have consequences for book publishers, booksellers, libraries and technologists, among others.

In order to address these gaps in the literature and to obtain further knowledge on consumer perceptions of using ereaders, this research paper's objective is to 'measure the various perceptions that an individual may have of adopting an information technology (IT) innovation' (Moore & Benbasat, 1991, pg.

210), specifically ereaders. This objective is directly derived from Moore and Benbasat's (1991) development of a scale which enables the measurement of individual or organisational perceptions of using an innovation. Originating from Rogers' (2003) theory of the Perceived Attributes of Innovation, Moore and Benbasat's (1991) extended model allows for the investigation of an individual's perception of using and adopting different types of technology, including ereaders. Through the following sub-objectives, based on Moore and Benbasat's (1991) Perceived Characteristics of Innovating, the various perceptions of individual's can be examined;

- Sub-objective 1: to measure the degree to which the use of an ereader is perceived to enhance one's image or status in one's social system (image),
- Sub-objective 2: to measure the degree to which an ereader is perceived as being easy to use (ease of use),
- Sub-objective 3: to measure the degree to which the use of an ereader is perceived as being seen within one's social system (visibility),
- Sub-objective 4: to measure the degree to which the tangibility of the results of using an ereader are perceived, including their observability and communicability (result demonstrability),
- Sub-objective 5: to measure the degree to which using an ereader is perceived as being better than using a print book (relative advantage),
- Sub-objective 6: to measure the degree to which using an ereader is perceived as being consistent with the existing values, past experience, and needs of potential adopters (compatibility), and
- Sub-objective 7: to measure the degree to which it is perceived that an ereader may be used or experimented with before adoption (trialability).

3.2 Research instrument

The aim of this study was to collect quantitative data via a conclusive research design, specifically descriptive research. This study followed a cross-sectional study design which investigated a single sample of targeted participants only once, and with a deductive approach utilised in testing the theory. The sub-objectives were tested through the research instrument; a formal and structured online survey was utilised to obtain clearly defined information from the sample. The full survey is shown in Appendix A. Emulating the methods followed in Moore and Benbasat's (1991) study, the survey aimed to collect the respondent's perceptions of using an ereader. This included individuals who had used an ereader before, 'adopters', and those who hadn't, 'nonadopters'. This would later allow for comparison of the perceptions of the two groups. The survey also gathered information on their reading habits and viewpoints, whilst also gathering some general background information.

The survey was generated on surveymonkey.com and distributed to targeted individuals by email via mailchimp.com. The email containing the link to the survey, which was sent to potential respondents, is shown in Appendix B. An introductory page was drafted, providing information such as the aim of the research, the expected completion time, the contact details of the researcher and also detailing an incentive for participating. The incentive consisted of entry into a draw to win €50 worth of books on completing the survey and supplying their email address. This was optional, as individuals could also complete the survey anonymously without entry into the draw.

A slightly altered version of Moore and Benbasat's (1991) 25-item short form instrument, based around his eight Perceived Characteristics of Innovating, was utilised for the main section of the survey. One characteristic, 'voluntariness', was deemed to be inapplicable to this study. Moore and Benbasat (1991, pg. 195) define 'voluntariness' as 'the degree to which use of the innovation is perceived as being voluntary, or of free will' and highlights that this is particularly relevant in the case of organisations where the adoption decision may not be up to the employees themselves. As the use of an ereader within this consumer sample can only be viewed as voluntary and of free will it is therefore not an applicable characteristic to this study. This reduced the instrument by two items. Due to a lack of relevance to this study a number of other items were also omitted; the 'relative advantage' characteristic was reduced from five items to three and 'ease of use' was also reduced from four items to three. In excluding these items the final instrument utilised in this study comprised of 20 items which investigated seven of the eight Perceived Characteristics of Innovating. At least two items were attributed to each characteristic; these are shown in Appendix C.

Each individual respondent was requested to rate their degree of agreement in regard to numerous positively and negatively phrased statements relating to their perception of using an ereader. This quantitative method incorporated closed response questions using a 7-point Likert interval scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree), which should allow for less opportunity for bias (Saunders et al., 2009). The results of which were examined, leading to general conclusions.

3.3 Research sample

Due to the nature of the research, a large sample was needed to be obtained in order to reach conclusions that could be considered generally representative of the targeted sample. The sample was acquired via self selection of the cases. Here the need for cases was made known via an email newsletter to the 6,247 individuals on the mailing list of Irish book publisher Poolbeg Press. Through this method of targeting individuals with a book interest (this is shown by them having signed up to the book newsletter) and then asking those individuals to self-select themselves, those who respond should show interest in the research topic, have an opinion on the research topic and devote time to their responses (Saunders et al., 2009).

3.4 Pilot test

A pre-test of the questionnaire was carried out in advance of the main study. Similar to the procedure followed by Read et al. (2011), the questionnaire was distributed to four marketing academics in order to receive their feedback on aspects such as the clarity, difficulty, completion time and layout of the questions. This helped to identify which areas may cause confusion in the main study and therefore required further consideration (Saunders et al., 2009). The questionnaire was amended accordingly based on the feedback received.

3.5 Data collection

A total of 6,247 email newsletters, which included the weblink to the survey, were sent to subscribers of the Poolbeg Press mailing list. According to

mailchimp.com (2012), subscribers to a newsletter are most likely to open an email between the hours of 2pm and 5pm. More email newsletters are sent on Tuesdays and Thursdays than any other day of the week, with Thursday being the day with the highest open rate, closely followed by Wednesday (mailchimp.com, 2012). With this information in mind, it was decided to send the newsletter on a Wednesday at 2pm as, according to mailchimp.com's (2012) findings, recipients would be likely to receive less emails than on other days, therefore reducing distraction from the study's newsletter, while the open rate should still be favourable with Wednesday having the second highest open rates.

Similar data collected by surveymonkey.com (2013) was also examined before sending the newsletter. Surveymonkey.com (2013) found that Friday is the optimum day for receiving responses to surveys, with the time period between 4am and 12pm obtaining the highest response rates. It was decided however that it was more important to first get potential respondents to open the newsletter itself before they could then be encouraged to partake in the newsletter's survey, and so the recommendations of mailchimp.com (2012) were followed for this study instead of surveymonkey.com's (2013). The newsletter inviting subscribers to partake in the survey was sent on Wednesday 31st July 2013. The survey was then closed several days later on Monday 5th August 2013 in order for analysis of the data to begin.

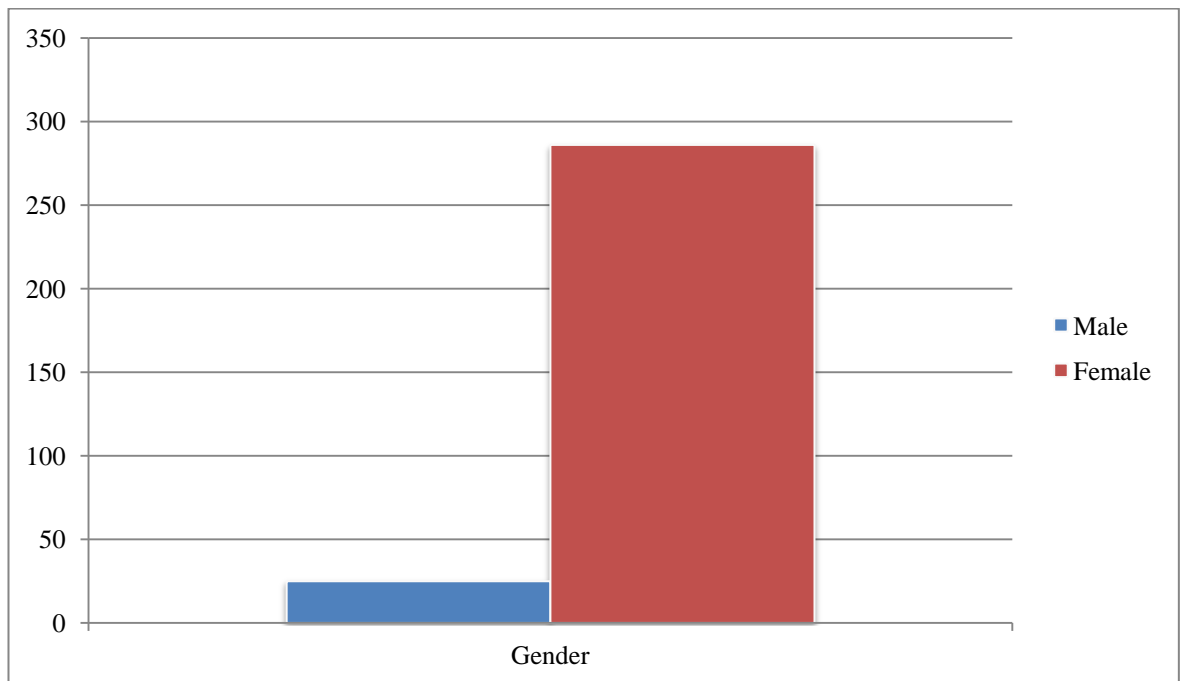
Of the 6,247 newsletters sent 1,036 individuals opened the email, giving an open rate of 16.9%, just over the industry average quoted by mailchimp.com (2013) of 16.5%. Of those that opened, 380 clicked on the link that brought them to the survey introductory page, giving a click through rate of 6.2%, almost double the industry average of 3.4% (mailchimp.com, 2013). 333 individuals commenced the survey. As 22 surveys were incomplete, 311 surveys were determined as having

analysable responses and were inputted into SPSS 21.0 statistical analysis software for further study.

3.5.1 Gender

As part of the survey demographical information was requested from each participant. The ratio of male to female participants was uneven with 8% male respondents and 92% female, see figure 1.

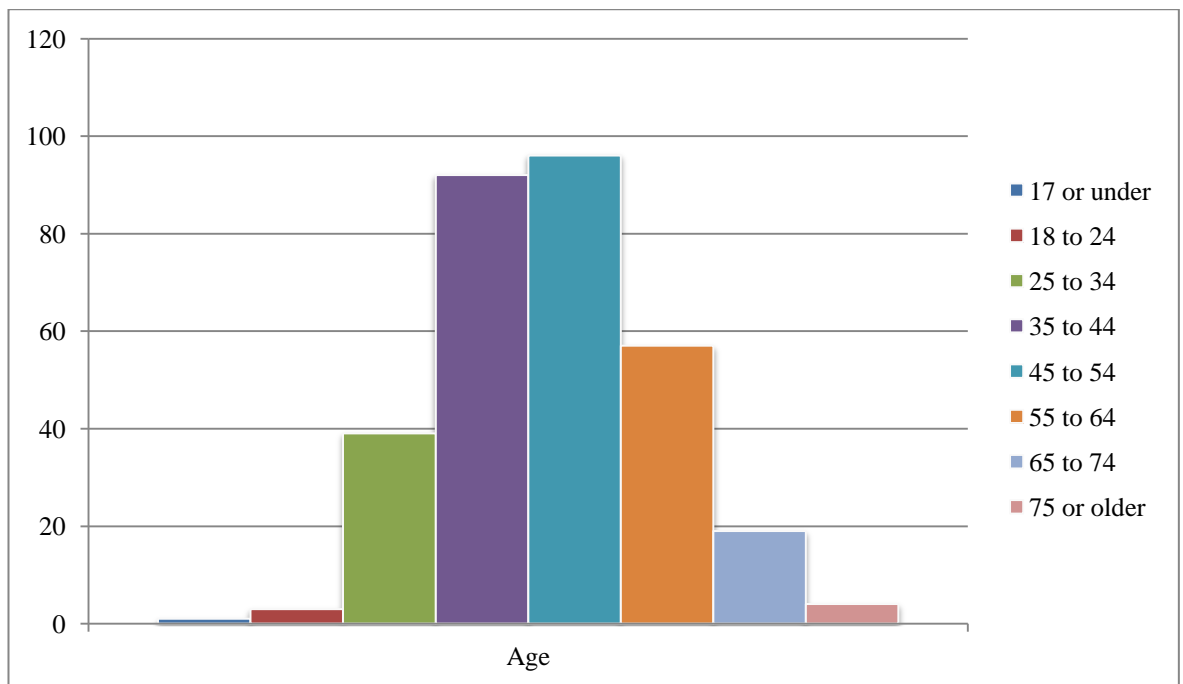
Figure 1: Respondents grouped by gender



3.5.2 Age range

Respondents fell within all of the age ranges investigated, see figure 2, though there was a concentration between the 35 to 54 age brackets; .3% were 17 or under, 1% were 18 to 24, 12.5% were 25 to 34, 29.6% were 35 to 44, 30.9% were 45 to 54, 18.3% were 55 to 64, 6.1% were 65 to 74 and 1.3% were 75 or older.

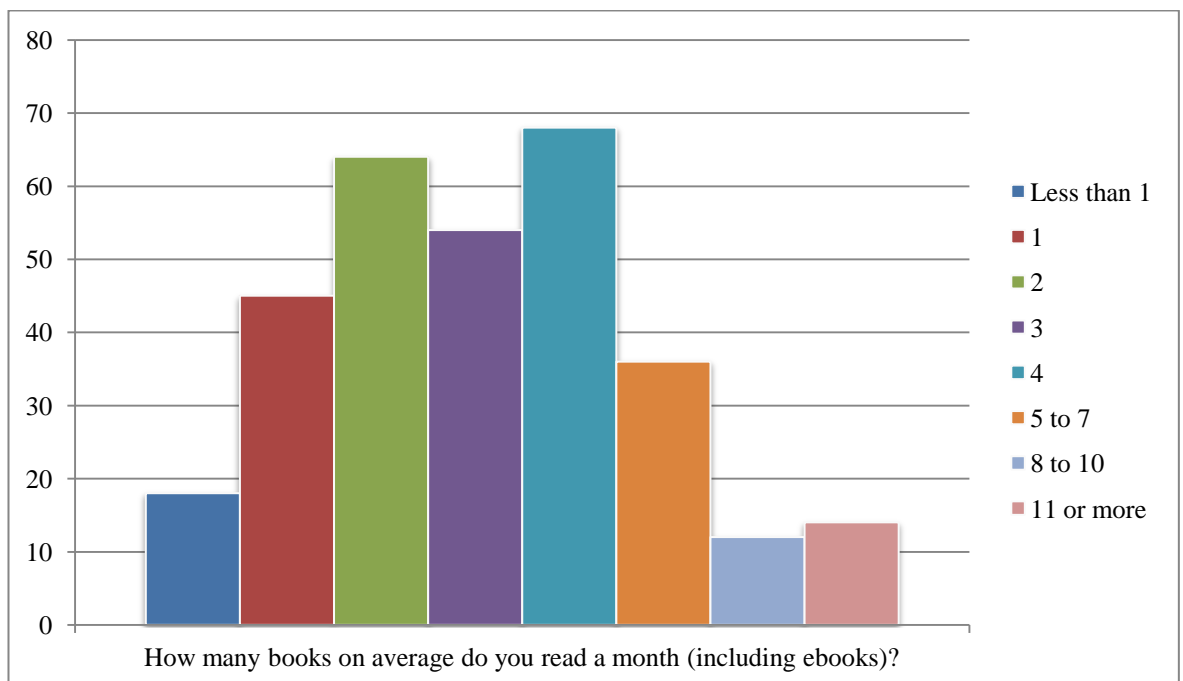
Figure 2: Respondents grouped by age range



3.5.3 Book consumption

The majority of respondents, 94%, answered that they read at least one book a month, proving the sample to be reflective of a reading public, see figure 3. Of the sample, 5.8% read less than a book a month, 14.5% read a book a month, 20.6% read 2 books a month, 17.4% read 3 books a month, 21.9% read 4 books a month, 11.6% read 5 to 7 books a months, 3.9% read 8 to 10 books a month and 4.5% read 11 or more books a month.

Figure 3: Respondents grouped by book consumption per month

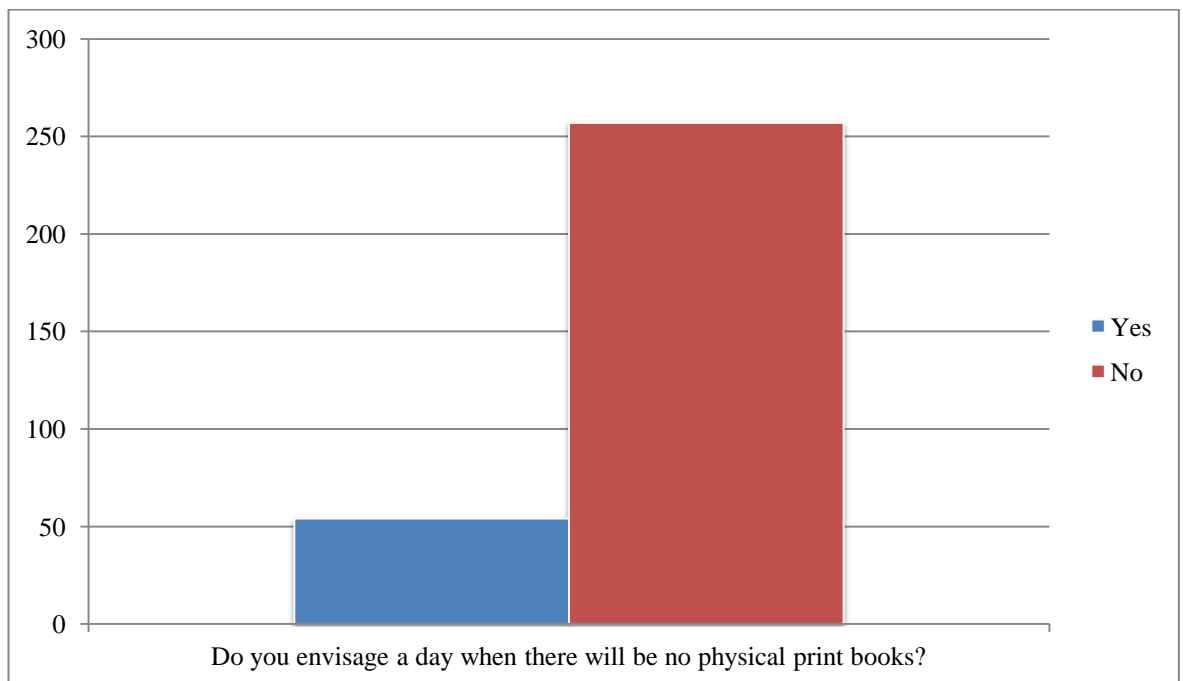


3.5.4 Views

Respondents were asked whether they envisaged a day without physical print books; 82.6% answered ‘no’ and 17.4% ‘yes’, see figure 4. Respondents were asked to comment on their answer, though this was non-compulsory and respondents were allowed to proceed with the survey if they chose not to comment. 186 respondents commented. The tactile nature of the physical print book was much commented on, with respondents commenting on their enjoyment of the ‘feel’ (41 respondents),

‘touch’ (13 respondents), ‘smell’ (18 respondents) and the experience of ‘hold[ing]’ (18 respondents) a book. One participant commented; ‘that would be a very sad day. To hold a book and smell a book is a joy’. Other comments consisted of the fact that certain books such as ‘arts and crafts’ necessitate a physical book and that there ‘will always be a market for beautiful coffee table editions’. While some participants deemed that both versions could ‘co-exist’, others were less optimistic about the fate of the physical print book, with one participant stating ‘the end is nigh’. Respondents also highlighted their views on the practical benefits of using an ereader such as the fact that they are ‘convenient’ especially for ‘travelling’ and ‘holidays’, are generally ‘easier to carry’, there is ‘no need for storage’, they are ‘more environmentally friendly’ and ebooks are ‘cheaper’ to buy than print books.

Figure 4: Respondents grouped by opinion on print book future



3.6 Instrument reliability

Moore and Benbasat (1991) utilised Cronbach's (1970) coefficient ALPHA in measuring the reliability of their scale. Table 1 details the number of items in each characteristic and its reliability in relation to Moore and Benbasat's (1991) study.

Table 1: Moore and Benbasat (1991) scale reliabilities

Construct	Items	ALPHA
Relative Advantage	5	0.90
Compatibility	3	0.86
Ease of Use	4	0.84
Visibility	2	0.83
Voluntariness	2	0.82
Result Demonstrability	4	0.79
Image	3	0.79
Trialability	2	0.71
Total Number of Items	25	

Nunnally (1978) states that reliabilities should exceed the value of 0.70. Therefore with their scale reliabilities ranging from 0.71 to 0.90, Moore and Benbasat's (1991) scale demonstrates a satisfactory level of reliability.

Before analysis was conducted on the data collected for this study, the two reverse coded statements were recoded in order to ensure clear interpretation of the data. Then the internal reliability of the adjusted scale, reduced from Moore and Benbasat's (1991) 25 items to 20 items, was tested. Cronbach's (1970) coefficient ALPHA was used to calculate the reliability of the scale, the results of which are shown in table 2.

Table 2: This study's scale reliabilities

Construct	Items	ALPHA
Relative Advantage	3	0.90
Compatibility	3	0.95
Ease of Use	3	0.74
Visibility	2	0.51
Result Demonstrability	4	0.75
Image	3	0.80
Trialability	2	0.79
Total Number of Items	20	

Acceptable reliabilities of over 0.70 were reported for all but one characteristic, 'visibility', which achieved a poor score of 0.51, while Moore and Benbasat (1991) reported 0.83 for the same characteristic.

3.7 Research Limitations

Though this survey has addressed limitations which were found in previous studies, such as the fact that most samples were of student populations and mainly investigated ereaders alone, as mentioned earlier, this study has its own limitations. Particularly the fact that 92% of the sample were female, making it an uneven distribution between sexes. Additionally there was a concentration of 61% of the sample being aged between 35 and 54. While there were respondents of the male sex and from all other age brackets, this focus narrows the spectrum of respondents.

Only subscribers to the Poolbeg Press newsletter were surveyed, thus the results reflect the perceptions and adoption behaviour of that grouping alone and may not be consistent with the same survey being undertaken by another publishing house (whose catalogue of titles would be different and may attract a different

demographic of reader with contradictory perceptions). The selected sample is inherently biased as they can be grouped under a common profile; readers of Poolbeg Press ebooks and print books. As with many publishers Poolbeg Press have a demographic of reader who they target their books at. With Poolbeg Press predominantly publishing commercial fiction for women, the sample is shown to be limited in reflecting a specific sample alone; an adult female grouping who read commercial fiction.

3.8 Ethical considerations

There are numerous ethical concerns which needed to be taken into consideration throughout the process of this research. These include the nature of gaining access to those asked to take part in the survey and the nature of collecting the data (Saunders et al., 2009). Those asked must not feel that their privacy is being invaded or that their information is being used out of the context in which it was first bestowed. These obstacles were overcome as the nature of the survey was in keeping with the book newsletters that the sample usually receives through the use of a voluntary click-through link to the survey.

In addition, the participants were asked to supply some background information. This was general, such as age and gender, and not requesting the name or address of the individual, however participants may have felt that this information is unnecessary and is an invasion of privacy (Saunders et al., 2009). Respondents were however invited to submit their email address for entry into the draw to win €50 worth of books, however this was clearly displayed as being optional and not a requirement of taking part in the survey.

Chapter 4 Analysis and Findings

4.1 Digital device adoption

Of the 311 individuals who responded to the survey, 194 (62.4%) of them said that they have read a book digitally (i.e. on an ereader, tablet or computer), while 117 (37.6%) stated that they had not, see figure 5 and table 3; thus the majority of the sample had experience of reading a book digitally.

Figure 5: Respondents grouped by digital device adoption

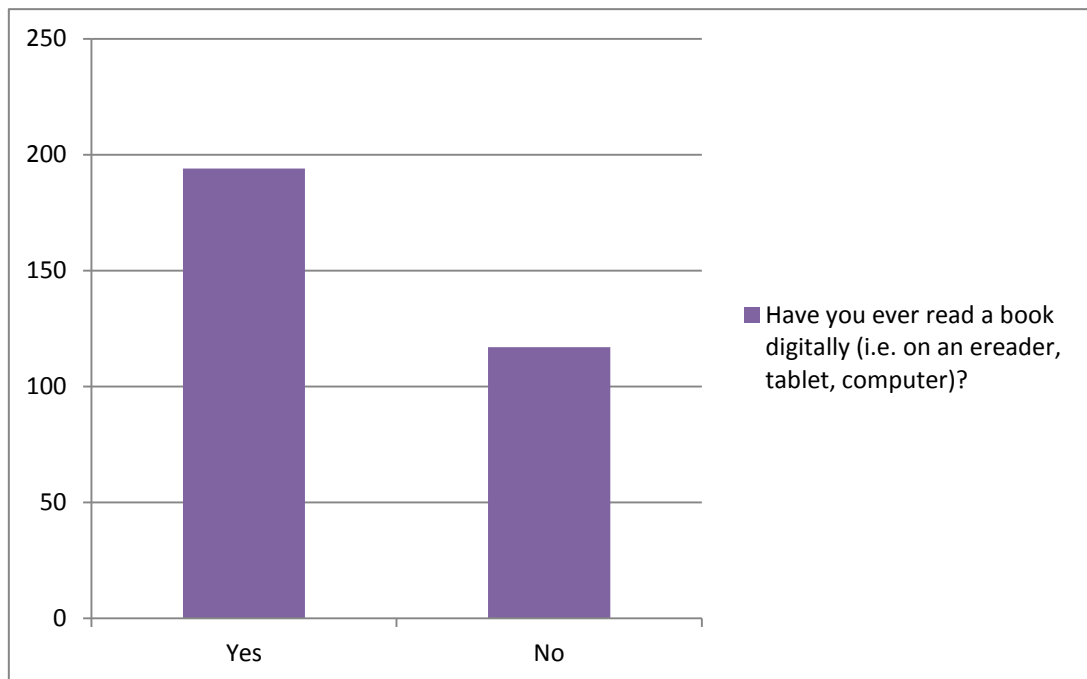


Table 3: Percentage of respondents who have and have not read digitally

Have you ever read a book digitally (i.e. on an ereader, tablet, computer)?				
	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	194	62.40%	62.40%	62.40%
No	117	37.60%	37.60%	100%
Total	311	100%	100%	

In order to examine these two groups in more depth two crosstabulation analyses were undertaken to investigate their relationship with other variables in the survey. The first crosstabulation examined ‘digital device adoption and book consumption’ and the second, ‘digital device adoption and respondents views on the future of physical print books’.

4.1.1 Digital device adoption and book consumption

A crosstabulation analysis of digital device adoption and book consumption revealed notable results. The figures show that those who have not read a book digitally, the ‘no’ group (henceforth nonadopters), read less books overall than those who have read a book digitally, the ‘yes’ group (henceforth adopters)¹. This is shown by the nonadopters peaking earlier in their book consumption (at 2 books a month, 23.9%), while the adopters peak later (at 4 books a month, 24.2%), see figure 6 and table 4. For the higher reading consumption averages of ‘5 to 7’ and ‘8 to 10’ books a month, the two groups were shown to both follow a steady decline and to almost overlap. However, the adopters were shown to spike again at the reading consumption average of ‘11+’ to 6.7%, while the nonadopters continued to decline to 0.9%.

¹ As part of the survey participants were asked to answer ‘yes’ or ‘no’ as to whether they had ever read a book digitally (i.e. on an ereader, tablet, computer). A ‘yes’ indicated a past or present adoption of ereading technology and with this experience the individual was therefore included in the ‘adopter’ category, while a ‘no’ signalled that they were potential adopters or ‘nonadopters’.

Figure 6: Crosstabulation of digital device adoption and book consumption



Table 4: Crosstabulation of digital device adoption and book consumption

Crosstabulation of digital device adoption and book consumption showing percentages within adopters and non adopters			
Average number of books read a month	Have you ever read a book digitally?		Total
	Yes	No	
Less than 1	9 (4.6%)	9 (7.7%)	18
1	25 (12.9%)	20 (17.1%)	45
2	36 (18.6%)	28 (23.9%)	64
3	35 (18.0%)	19 (16.2%)	54
4	47 (24.2%)	21 (17.9%)	68
5 to 7	21 (10.8%)	15 (12.8%)	36
8 to 10	8 (4.1%)	4 (3.4%)	12
11+	13 (6.7%)	1 (0.9%)	14
Total	194 (100%)	117 (100%)	311

4.1.2 Digital device adoption and views on the future of physical print books

A crosstabulation analysis of digital device adoption and respondents' views on the future of physical print books revealed similar results between adopters and nonadopters. 82% of adopters and 83.8% of nonadopters stated that they did not envisage a day when there would be no physical print books, showing a cohesion of opinion between the two groups on this subject.

Figure 7: Crosstabulation of digital device adoption and views on the future of print books

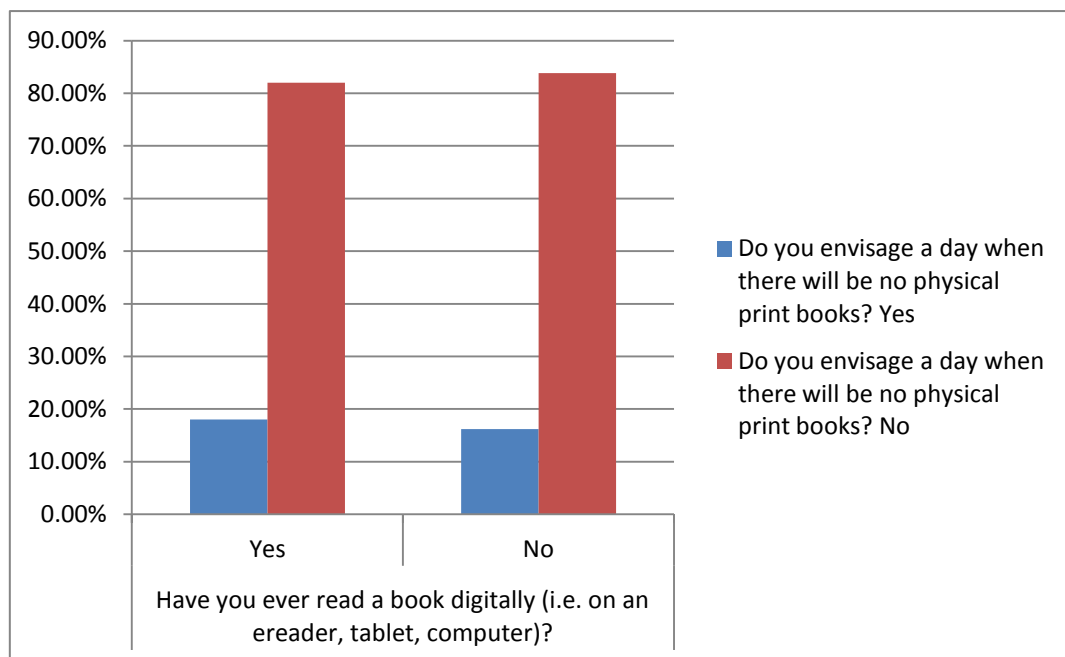


Table 5: Crosstabulation of digital device adoption and views on the future of print books

Crosstabulation of digital device adoption and views on the future of physical print books showing percentages within adopters and nonadopters			
Can you envisage a day without print books?	Have you ever read a book digitally?		
	Yes	No	Total
Yes	35 (18%)	19 (16.2%)	54
No	159 (82%)	98 (83.8%)	257
Total	194	117	311

4.1.3 Digital device adoption: Devices utilised by adopters

As part of the survey, adopters were asked to indicate which digital devices they most commonly use for reading. The survey allowed for the selection of multiple devices as ebooks can be read across numerous platforms. Dedicated ‘ereader’ proved to be the most popular with over twice as many adopters having utilised these devices than any other device (45.3% of cases). ‘Ereader’ was then followed by ‘tablet’ (18.6% of cases), ‘computer’ (13.5% of cases), ‘phone’ (12.5% of cases) and ‘iPod Touch’ (2.9% of cases). Other devices were also included as possible options in the survey, namely ‘gaming device’, ‘PDA’ and ‘other’, but were removed prior to analysis of the data as no respondents selected those options.

Figure 8: Respondents grouped by ereading devices most commonly used

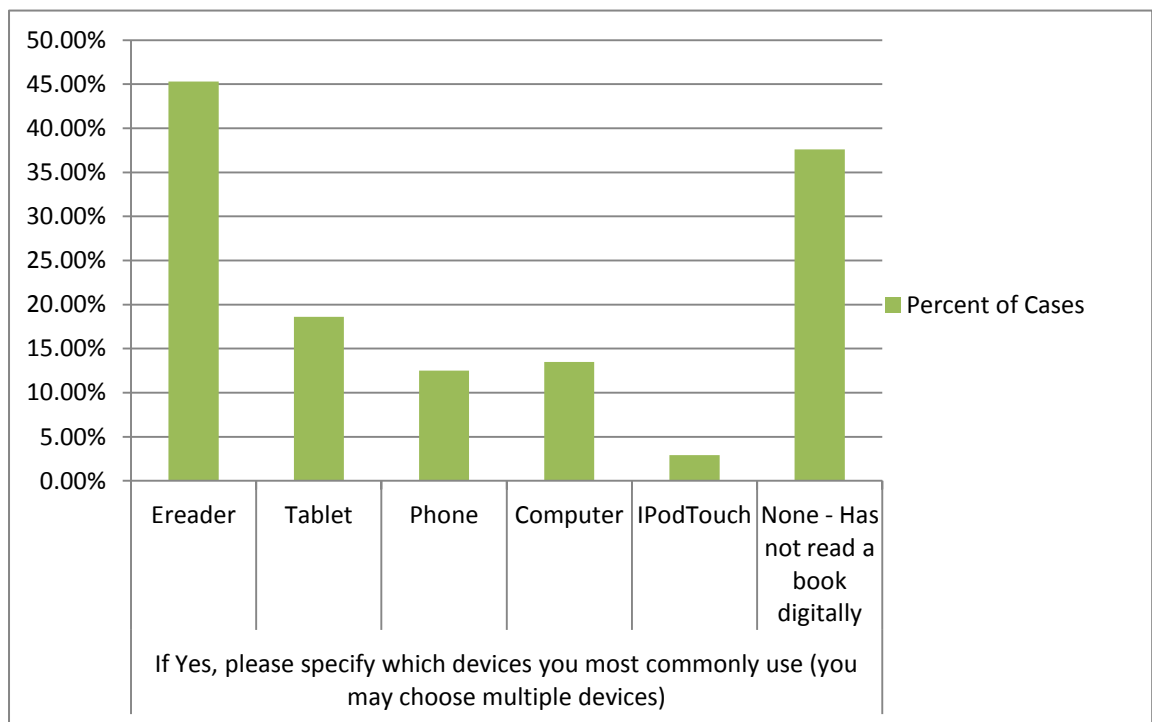


Table 6: Respondents grouped by ereading devices most commonly used

Ereading Devices Frequencies				
		Responses		Percent of Cases
		N	Percent	
Devices most commonly used by respondents	Ereader	141	34.70%	45.30%
	Tablet	58	14.30%	18.60%
	Phone	39	9.60%	12.50%
	Computer	42	10.30%	13.50%
	iPodTouch	9	2.20%	2.90%
	None	117	28.80%	37.60%
	Total	406	100.00%	130.50%

4.2 Adopters versus Nonadopters

Following the procedure employed by Moore and Benbasat (1991), the individual mean for the seven Perceived Characteristics of Innovating were calculated for each respondent. The data file was then split between adopters and nonadopters. This allowed for the data to be analysed between both groups.

Table 7: Split file between groups of Adopters (Yes) and Nonadopters (No)

Have you ever read a book digitally (i.e. on an ereader, tablet, computer)?						
		N	Minimum	Maximum	Mean	Std. Deviation
Yes	Relative Advantage	194	1	7	3.804	1.51542
	Compatibility	194	1	7	4.017	1.62937
	Image	194	1	7	2.239	1.16201
	Ease of Use	194	2.67	7	5.412	0.98378
	Result Demonstrability	194	3.25	7	5.76	0.79906
	Visibility	194	1	7	4.995	1.25193
	Trialability	194	1	7	4.296	1.64963
	Valid N (listwise)	194				
No	Relative Advantage	117	1	7	3.037	1.41339
	Compatibility	117	1	7	2.992	1.557
	Image	117	1	7	2.382	1.21474
	Ease of Use	117	1	7	4.772	1.28776
	Result Demonstrability	117	1	7	4.827	1.15523
	Visibility	117	1	7	4.218	1.41022
	Trialability	117	1	7	4.992	1.43536
	Valid N (listwise)	117				

Like Moore and Benbasat (1991), the nonparametric Mann-Whitney U-test was utilised to compare the scores of adopters and nonadopters. This procedure allowed for the fulfilment of the research objectives, as it measured the various perceptions that the respondents have of adopting an ereader. Table 8 shows the difference between adopters and nonadopters to be significant for all characteristics, with the exception of 'image'.

Table 8: Variable Means for Adopters versus Nonadopters

Perceived Characteristics	Adopters (n = 194)	Nonadopters (n = 117)	U-Test Z-Scores	Significance
Image	2.2	2.4	-1.05	0.294
Relative Advantage	3.8	3.0	-4.49	0.000
Compatibility	4.0	3.0	-5.29	0.000
Ease of Use	5.4	4.8	-4.36	0.000
Trialability	4.3	5.0	-3.55	0.000
Result Demonstrability	5.8	4.8	-7.13	0.000
Visibility	5.0	4.2	-4.70	0.000

Moore and Benbasat (1991) state that adopters should have more positive perceptions of using a technological innovation than nonadopters and therefore score higher on the scales investigated, though this was not the case for both ‘image’ and ‘trialability’.

4.2.1 Relative Advantage

There is evidence to support a difference between the perceptions of adopters (Md = 4.0, n = 194) and nonadopters (Md = 3.0, n = 117) in relation to ‘relative advantage’ (U = 7909.5, z = -4.49, p = 0.0000, two-tailed), see table 10. As the probability value is less than 0.05, at 0.0000, the result is significant, with the r value showing a medium effect size (Cohen, 1988) at 0.25. The Mean Rank in Table 9 shows adopters to be more positive in their perception of ‘relative advantage’, which supports Diffusion theory.

Table 9: ‘Relative Advantage’ Mann-Whitney U-test Ranks

Ranks				
Relative Advantage	Have you ever read a book digitally?	N	Mean Rank	Sum of Ranks
	Yes	194	173.73	33703.5
	No	117	126.6	14812.5
	Total	311		

Table 10: ‘Relative Advantage’ Mann-Whitney U-test Test Statistics

Test Statistics	
	Relative Advantage
Mann-Whitney U	7909.5
Wilcoxon W	14812.5
Z	-4.494
Asymp. Sig. (2-tailed)	0.0000

4.2.2 Compatibility

There is evidence to support a difference between the perceptions of adopters (Md = 4.0, n = 194) and nonadopters (Md = 2.67, n = 117) in relation to ‘compatibility’ (U = 7296, z = -5.29, p = 0.0000, two-tailed), see table 12. As the probability value is less than 0.05, at 0.0000, the result is significant, with the r value showing a medium effect size (Cohen, 1988) at 0.30. The Mean Rank in table 11 shows adopters to be more positive in their perception of ‘compatibility’, which supports Diffusion theory.

Table 11: ‘Compatibility’ Mann-Whitney U-test Ranks

Ranks				
Compatibility	Have you ever read a book digitally?	N	Mean Rank	Sum of Ranks
	Yes	194	176.89	34317
	No	117	121.36	14199
	Total	311		

Table 12: ‘Compatibility’ Mann-Whitney U-test Test Statistics

Test Statistics	
	Compatibility
Mann-Whitney U	7296
Wilcoxon W	14199
Z	-5.292
Asymp. Sig. (2-tailed)	0.0000

4.2.3 Image

The data suggests that there is no significant difference between the perceptions of adopters (Md = 2.0, n = 194) and nonadopters (Md = 2.3, n = 117) in relation to ‘image’ (U = 10553.5, z = -1.05, p = 0.294, two-tailed), see table 14. As the probability value is more than 0.05, at 0.294, the result is not significant, with the r value showing a very small effect size (Cohen, 1988) at 0.06. The Mean Rank in table 13 shows nonadopters to be more positive in their perception of ‘image’, which is contrary to Diffusion theory.

Table 13: ‘Image’ Mann-Whitney U-test Ranks

Ranks				
Image	Have you ever read a book digitally?	N	Mean Rank	Sum of Ranks
	Yes	194	151.9	29468.5
	No	117	162.8	19047.5
	Total	311		

Table 14: ‘Image’ Mann-Whitney U-test Test Statistics

Test Statistics	
	Image
Mann-Whitney U	10553.5
Wilcoxon W	29468.5
Z	-1.049
Asymp. Sig. (2-tailed)	0.294

4.2.4 Ease of Use

There is evidence to support a difference between the perceptions of adopters (Md = 5.7, n = 194) and nonadopters (Md = 4.7, n = 117) in relation to ‘ease of use’ (U = 8021, z = -4.36, p = 0.0000, two-tailed), see table 16. As the probability value

is less than 0.05, at 0.0000, the result is significant, with the r value showing a medium effect size (Cohen, 1988) at 0.25. The Mean Rank in table 15 shows adopters to be more positive in their perception of ‘ease of use’, which supports Diffusion theory.

Table 15: ‘Ease of Use’ Mann-Whitney U-test Ranks

Ranks				
	Have you ever read a book digitally?	N	Mean Rank	Sum of Ranks
Ease of Use	Yes	194	173.15	33592
	No	117	127.56	14924
	Total	311		

Table 16: ‘Ease of Use’ Mann-Whitney U-test Test Statistics

Test Statistics	
	Ease of Use
Mann-Whitney U	8021
Wilcoxon W	14924
Z	-4.361
Asymp. Sig. (2-tailed)	0.0000

4.2.5 Result Demonstrability

There is evidence to support a difference between the perceptions of adopters (Md = 6.0, n = 194) and nonadopters (Md = 5.0, n = 117) in relation to ‘result demonstrability’ (U = 5908, z = -7.13, p = 0.0000, two-tailed), see table 18. As the probability value is less than 0.05, at 0.0000, the result is significant, with the r value showing a medium to large effect size (Cohen, 1988) at 0.40. The Mean Rank in table 17 shows adopters to be more positive in their perception of ‘result demonstrability’, which supports Diffusion theory.

Table 17: ‘Result Demonstrability’ Mann-Whitney U-test Ranks

Ranks				
Result Demonstrability	Have you ever read a book digitally?	N	Mean Rank	Sum of Ranks
	Yes	194	184.05	35705
	No	117	109.5	12811
	Total	311		

Table 18: ‘Result Demonstrability’ Mann-Whitney U-test Test Statistics

Test Statistics	
	Result Demonstrability
Mann-Whitney U	5908
Wilcoxon W	12811
Z	-7.126
Asymp. Sig. (2-tailed)	0.0000

4.2.6 Visibility

There is evidence to support a difference between the perceptions of adopters (Md = 5.0, n = 194) and nonadopters (Md = 4.0, n = 117) in relation to ‘visibility’ (U = 7765, z = -4.70, p = 0.0000, two-tailed), see table 20. As the probability value is less than 0.05, at 0.0000, the result is significant, with the r value showing a medium effect size (Cohen, 1988) at 0.27. The Mean Rank in table 19 shows adopters to be more positive in their perception of ‘visibility’, which supports Diffusion theory.

Table 19: ‘Visibility’ Mann-Whitney U-test Ranks

Ranks				
Visibility	Have you ever read a book digitally?	N	Mean Rank	Sum of Ranks
	Yes	194	174.47	33848
	No	117	125.37	14668
	Total	311		

Table 20: ‘Visibility’ Mann-Whitney U-test Test Statistics

Test Statistics	
	Visibility
Mann-Whitney U	7765
Wilcoxon W	14668
Z	-4.701
Asymp. Sig. (2-tailed)	0.0000

4.2.7 Trialability

There is evidence to support a difference between the perceptions of adopters (Md = 4.5, n = 194) and nonadopters (Md = 5.0, n = 117) in relation to ‘trialability’ (U = 8650, z = -3.55, p = 0.0000, two-tailed), see table 22. As the probability value is less than 0.05, at 0.0000, the result is significant, with the r value showing a small to medium effect size (Cohen, 1988) at 0.20. The Mean Rank in table 21 shows nonadopters to be more positive in their perception of ‘trialability’, which is contrary to Diffusion theory.

Table 21: ‘Trialability’ Mann-Whitney U-test Ranks

Ranks				
	Have you ever read a book digitally?	N	Mean Rank	Sum of Ranks
Trialability	Yes	194	142.09	27565
	No	117	179.07	20951
	Total	311		

Table 22: ‘Trialability’ Mann-Whitney U-test Test Statistics

Test Statistics	
	Trialability
Mann-Whitney U	8650
Wilcoxon W	27565
Z	-3.55
Asymp. Sig. (2-tailed)	0.0000

Chapter 5 Discussion

5.1 Adopters and Nonadopters

The findings of this study largely reflect the perceptions of an adult female population, with 92% of respondents being female and 60.5% of respondents falling within the 35 to 54 age brackets. The majority of the sample, 62.4%, had experience of reading a book digitally and dedicated ereaders proved to be the most popular ereading device, with 72.7% of adopters having utilised one.

5.1.1 Reading habits

The respondents were shown to mainly be regular book consumers, with 94% stating that they read at least one book a month. Adopters proved to consume more books per month than nonadopters, with adopters peaking at 4 books a month (24.2%) and nonadopters peaking at 2 books a month (23.9%). A possible explanation for the higher book consumption of adopters could be that ereading devices allow for more books to be read per month due to ease of purchase and portability (Foasberg, 2011) or a perceived cost saving (Read et al., 2011; Chao et al., 2012) in comparison to print books, which were found to be some of the benefits of utilising an ereader in previous studies.

5.1.2 Viewpoints

Respondents were found to largely agree in their views on the future of physical print books, with 82% of adopters and 83.8% of nonadopters stating that they did not envisage a day without print books. Respondents' enjoyment of the tactile nature of the print book was the factor most commented by the sample. This

corresponds with the findings of Read et al. (2011), whose research found that emotional attachment is linked to print books. As with this study, the respondents of Read et al.'s (2011) study commented on the tactile nature of the print book referring to the 'feel' and 'smell' of paper books. Other links with previous studies include the practical benefits of ereaders, such as the fact that they are 'convenient' especially for 'travelling' and 'holidays' (Foasberg, 2011), there is 'no need for storage' (Read et al., 2011) and they are perceived as being 'more environmentally friendly' (Gibson & Gibb, 2011).

5.1.3 Perceptions

The research objective of this study was to measure the various perceptions that an individual may have of adopting ereader. This was achieved through measuring the seven Perceived Characteristics of Innovating as set out by Moore and Benbasat (1991). Moore and Benbasat (1991) state that, in accordance to Diffusion theory, significant differences should be found between the perceptions of adopters and non adopters, with adopters being more positive in their perception of an innovation than nonadopters. This study has found this to be the case with five of the seven characteristics, 'relative advantage', 'compatibility', 'ease of use', 'result demonstrability' and 'visibility', but not for 'trialability' and 'image'.

5.1.3.1 Relative Advantage

In relation to 'relative advantage', on average, adopters were 'neutral' (scoring 3.8) to the statements linked to this characteristic, while nonadopters 'disagreed somewhat' (scoring 3.0) with the statements. Therefore adopters were 'neutral' in their perception that using an ereader is better than a print book, while nonadopters 'disagreed somewhat'.

5.1.3.2 Compatibility

Regarding 'compatibility', on average, adopters were 'neutral' (scoring 4.0) to the statements linked to this characteristic, while nonadopters 'disagreed somewhat' (scoring 3.0) with the statements. Therefore adopters were 'neutral' in their perception that using an ereader is consistent with their existing values, past experience and needs, while nonadopters 'disagreed somewhat'.

5.1.3.3 Ease of Use

With regard to 'ease of use', on average, adopters 'agreed somewhat' (scoring 5.4) with the statements linked to this characteristic, while nonadopters also 'agreed somewhat' (scoring 4.8) with the statements but to a much lesser degree. Therefore adopters 'agreed somewhat' that they perceive that an ereader is easy to use, while nonadopters also 'agreed somewhat' to a lesser extent.

5.1.3.4 Result Demonstrability

Relating to 'result demonstrability', on average, adopters 'agreed' (scoring 5.8) with the statements linked to this characteristic, while nonadopters 'agreed somewhat' (scoring 4.8) with the statements. Therefore adopters 'agreed' that they perceive that they would be able to communicate the results of using an ereader, while non adopters 'agreed somewhat'.

5.1.3.5 Visibility

With regard to 'visibility', on average, adopters 'agreed somewhat' (scoring 5.0) with the statements linked to this characteristic, while nonadopters were 'neutral' (scoring 4.2) to the statements. Therefore adopters 'agreed somewhat' that

they perceive the use of an ereader as being seen in their social system, while that using an ereader is better than a print book, while nonadopters were ‘neutral’.

5.1.3.6 Trialability

As regards ‘trialability’, although significant differences were found between adopters and nonadopters in their perception of the ‘trialability’ of an ereader, nonadopters were more positive than adopters. On average, adopters were ‘neutral’ (scoring 4.3) to the statements linked to this characteristic, while nonadopters ‘agreed somewhat’ (scoring 5.0) with the statements. Therefore adopters were ‘neutral’ in their perception that an ereader may be used or experimented with before adoption, while nonadopters ‘agreed somewhat’.

A possible explanation for this could be that adopters have knowledge about the ‘trialability’ of an ereader that nonadopters don’t have. Perhaps adopters have found that it was not easy, or perhaps not possible at all, to trial an ereader prior to purchase. As ereaders may be bought online as well as in stores, e.g. Amazon Kindle, adopters may not have been able to try them out before they adopted them.

Additionally, as highlighted by Rogers (2003), nonadopters may have the opportunity to trial an ereader from earlier adopters within their social circle if they should like to do so, whereas innovators and early adopters may not have had that possibility prior to adoption. This therefore may make it easier for later adopters (nonadopters) to trial an ereader and may increase their positive perceptions the ‘trialability’ of an ereader.

5.1.3.7 Image

Concerning ‘image’, no significant difference was found between adopters and nonadopters in their perception of how an ereader enhances one’s ‘image’,

though nonadopters were slightly more positive than adopters. On average, both adopters ‘disagreed’ (scoring 2.2) and non adopters ‘disagreed’ (scoring 2.4) closely with the statements linked to this characteristic. Therefore adopters ‘disagreed’ that they perceive that the use of an ereader enhances one’s image or status in one’s social system, while nonadopters also ‘disagreed’ but to a lesser extent.

A possible explanation as to why both adopter and nonadopters both disagree with the statements and why the results are contrary with Diffusion theory is highlighted by Rogers (2003). Rogers (2003) warns that investigating the area of ‘social prestige’ can be difficult as respondents may be hesitant to admit that they adopted or would adopt an innovation in order to gain social status. Though it is also possible that the responses were wholly truthful, there is a possibility of bias with the results of this characteristic.

5.2 Practical Implications

The findings of this study shed light on consumer perceptions of adopting an ereader. The knowledge garnered through this research can assist in the improvement of the next generation of ereading technologies. This research shows that nonadopters scored ‘relative advantage’ and ‘compatibility’ negatively and both were the lowest scoring characteristics, with the exception of ‘image’. For both of these characteristics respondents ‘disagreed somewhat’ with the relating statements. In essence this research shows that the nonadopters in this sample do not fully perceive that using an ereader is better than using a print book (relative advantage) or that it is consistent with their existing values, experiences and needs (compatibility). Therefore if the various organisations who produce ereaders wish to capture these potential adopters they should address where their products have failed in these

areas. This research points to some of the areas where ereaders have fallen short of both simulating the print book reading experience or being better than it, as respondents themselves have commented on the enjoyment of the ‘feel’, ‘touch’ and ‘smell’ of print book which is difficult to be imitated by technology. However technological developments such as e-ink are significant advancements in emulating the print book reading experience and should be continually improved upon if potential adopters are to be successfully acquired.

5.3 Limitations

As previously mentioned, due to the fact that the selected sample reflects a particular grouping with a common profile, namely adult females who read commercial fiction, the results of this research are only applicable to that grouping, thus narrowing the generalisability of the results. An expansion of this study incorporating individuals with differing profiles would be beneficial in order to obtain a broader view of consumer perceptions within this area.

The current study did not ask adopters to state the brand of ereader that they have used. This would have allowed for adopter responses to be distinguished by brand and to observe whether their perceptions differ depending on their individual ereader experience. Therefore this research is biased due to not differentiating by brand as adopter perceptions are not generalisable for every brand of ereader. Adopter perceptions may differ depending on the quality and user experience of the individual technology. Future studies should consider incorporating an investigation of this area in their research.

Moore and Benbasat (1991) tested their 25-item instrument within an organisational environment. Although Moore and Benbasat (1991) posit that their

scale, with slight alterations, could be utilised in the study of the adoption and diffusion of any technological innovation whether it be by individuals or organisations, the scale would appear to be more applicable for use within an organisational setting. Although the scale worked well in measuring most of the characteristics within the individual consumer situation of this study, there were numerous limitations to the scale. For example, the fact that one characteristic, 'voluntariness', had to be removed as it was not applicable to this consumer sample, and 'visibility' failed to report an acceptable reliability score of over 0.70, instead it merely achieved a poor 0.51. Therefore the scales are not wholly generalisable and may not be appropriate for use in all contexts where the perceptions of adopting an innovation are being investigated.

Chapter 6 Conclusions and Recommendations

This study set out to investigate consumer perceptions of adopting an ereader. This was achieved via measuring the various perceptions that an individual may have of using an ereader, facilitated by Moore and Benbasat's (1991) specially designed instrument. Moore and Benbasat's (1991) theory of the eight Perceived Characteristics of Innovating allowed for the examination of the various perceptions that both adopters and nonadopters may have about technology adoption and furthermore allowed for the comparison of these two groups.

The measurement of seven of those characteristics revealed significant results with adopters' perceptions of using an ereader being more positive in relation to five characteristics (relative advantage, compatibility, ease of use, result demonstrability, and visibility) while nonadopters were more positive in two characteristics (image and trialability). Although it is contrary to Diffusion theory that nonadopters are more positive than adopters, these results gave interesting insights into the differing perceptions of these two groups. For example, it is possible that 'trialability' may not be perceived as being difficult for potential adopters, whereas it may have actually been difficult for earlier adopters to trial an ereader before purchase. In the case of 'image', adopters may not wish to admit that it had a part in play in their adoption decision and therefore score it more negatively than nonadopters.

In addition, nonadopters 'disagreed somewhat' with two of the characteristics (relative advantage and compatibility), inferring that they don't fully agree that an ereader is an entirely better substitute for a print book or fully compatible with their values and needs. These points are again highlighted through respondents' comments that they enjoy the 'feel', 'touch' and 'smell' of a print book over an ereader and

through over 80% of respondents stating that they could not envisage a day without print books. These insights would suggest that there are still improvements to be made in ereading technology and user experience in order to be perceived as a fully superior alternative to print books by the nonadopters within this sample.

However, with sales of print books continuing to decline by 4.6% year-on-year in 2012 (Nielsen Bookscan UK, 2012) and digital sales predicted to be higher than print sales by 2020 (Futurebook, 2013), figures show that ebook buying is set to overtake print book buying in the coming years. Further and continual research is necessary in order to monitor altering consumer perceptions within this evolving digital environment.

There are also specific areas which this research has left open to further investigation. Firstly, as mentioned earlier, it would be beneficial to examine a broader sample than was utilised within this study in order to explore the differing results which may emerge. Secondly, it would be valuable to compare consumer perceptions of utilising an ereader in relation to certain brands to inspect whether differing results are found. Thirdly, while this research utilised quantitative analysis alone, it would be valuable to study the consumer perceptions of adopting an ereader utilising qualitative analysis, in particular for instances where individuals are asked to comment on their perceptions.

Appendix

Appendix A: Text and layout utilised in the survey

Page 1/8

Hello,

This survey aims to find out what you think about ebooks and ereaders.

It should take no more than 5-7 minutes of your time to complete.

You can complete this survey anonymously by refraining to enter your email address. However, if you fully complete the survey and enter your email address in the box provided then you will be entered into a draw to win €50 worth of Poolbeg books.

You can withdraw from the survey at any time.

This study is being conducted as part of a postgraduate dissertation which examines current consumer and potential consumer's perceptions of ebooks and ereaders. If you have any queries relating to this survey please contact Sarah Ormston (sarah_ormston@yahoo.co.uk).

Thank you for your participation.

Page 2/8

1. What is your gender?

Male

Female

2. What is your age?

17 or under

18-24

25-34

35-44

45-54

55-64

65 or over

Page 3/8

3. Have you ever read a book digitally (i.e. on an ereader, tablet, computer)?

Yes

No

4. If yes, please specify the devices you most commonly use (you may choose multiple devices).

Dedicated e-Reader (Kindle, Kobo, Nook etc.)

Tablet (e.g. iPad etc.)

Phone

Computer

Gaming device

iPod touch

PDA

Other (please specify)

Page 4/8

5. How many books on average do you read a month (including ebooks)?

Less than 1

1 (a book a month)

2 (a book every fortnight)

3

4 (a book every week)

5-7

8-10

11+

6. Do you envisage a day when there will be no physical print books?

Yes

No

Please comment on your answer

Page 5/8

7. Please rate your agreement with the following statements in relation to using an ereader (regardless of whether you have ever used one). Page 1 of 3

Strongly Disagree – Disagree - Disagree Somewhat – Neutral - Agree Somewhat – Agree – Strongly Agree

Using an ereader enables/would enable me to read more books.
Using an ereader improves/would improve the quality of my reading experience.
Using an ereader makes/would make it easier for me to read.
Using an ereader is/would be compatible with all aspects of my reading.
I think that using an ereader fits/would fit well with the way I like to read.
Using an ereader fits/would fit my reading style.

Page 6/8

8. Please rate your agreement with the following statements in relation to using an ereader (regardless of whether you have ever used one). Page 2 of 3

Strongly Disagree – Disagree - Disagree Somewhat – Neutral - Agree Somewhat – Agree – Strongly Agree

People who use an ereader have more prestige than those who do not.
People who use an ereader have a high profile.
Having an ereader is a status symbol.
I believe that it is/would be easy to get an ereader to do what I want it to do.
Overall, I believe that an ereader is/would be easy to use.
Learning to operate an ereader is/would be easy for me.

Page 7/8

9. Please rate your agreement with the following statements in relation to using an ereader (regardless of whether you have ever used one). Page 3 of 3

Strongly Disagree – Disagree - Disagree Somewhat – Neutral - Agree Somewhat – Agree – Strongly Agree

I would have no difficulty telling others about the results of using an ereader.

I believe I could communicate to others the pros and cons of using an ereader.

The pros and cons of using an ereader are clear to me.

I would have difficulty explaining why using an ereader may or may not be beneficial.

I see many individuals using ereaders.

Ereaders are not very visible within my social circle.

Before deciding whether to use an ereader, I was/would be able to properly try them out.



I was/would be able to use an ereader on a trial basis long enough to see what it can do.

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Thank you for participating in this survey.

10. To be entered into the draw to win €50 worth of Poolbeg books please enter your email address in the box below (optional). The winner will be notified by email on Monday 12th August 2013.

Appendix B: Email sent to potential respondents



Win €50 worth of Poolbeg books!


Take this 5-7 minute book survey and be entered into the draw to win.

Click [here](http://www.surveymonkey.com/s/ebooks-survey) to tell us what you think: www.surveymonkey.com/s/ebooks-survey

Thank you for participating!

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Appendix C: List of Items by Characteristic

Relative Advantage

1. Using an ereader enables/would enable me to read more books.
2. Using an ereader improves/would improve the quality of my reading experience.
3. Using an ereader makes/would make it easier for me to read.

Compatibility

1. Using an ereader is/would be compatible with all aspects of my reading.
2. I think that using an ereader fits/would fit well with the way I like to read.
3. Using an ereader fits/would fit my reading style.

Image

1. People who use an ereader have more prestige than those who do not.
2. People who use an ereader have a high profile.
3. Having an ereader is a status symbol.

Ease of Use

1. I believe that it is/would be easy to get an ereader to do what I want it to do.
2. Overall, I believe that an ereader is/would be easy to use.
3. Learning to operate an ereader is/would be easy for me.

Result Demonstrability

1. I would have no difficulty telling others about the results of using an ereader.
2. I believe I could communicate to others the pros and cons of using an ereader.
3. The pros and cons of using an ereader are clear to me.
4. I would have difficulty explaining why using an ereader may or may not be beneficial.

Visibility

1. I see many individuals using ereaders.
2. Ereaders are not very visible within my social circle.

Trialability

1. Before deciding whether to use an ereader, I was/would be able to properly try them out.
2. I was/would be able to use an ereader on a trial basis long enough to see what it can do.

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