

**A Novel Romance:  
Conceptualising Emotional Attachment as a Barrier to Adoption**

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**Abstract**

The Technology Acceptance Model (TAM) aims to understand consumers' adoption of new technologies. Some 30 years after TAM was first proposed, it is still widely used today. This paper proposes an extended version of the TAM, with the primary addition to it being the construct of consumers' emotional attachment to an existing product. The expanded TAM, Technology Acceptance Model with Emotional Attachment (TAME), is applied to the understudied area of e-book reader technology and its adoption by consumers who read for pleasure versus for academic purposes, as has been the focus of past research on e-book readers. The extended model considers consumers' emotional attachment to paper books (p-books) as a likely barrier to the take up of e-book reader technology.

Keywords: Adoption, emotional attachment, TAM, e-readers, e-books

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## **Introduction**

A review of the literature highlights that there is a wealth of knowledge relating to the adoption and use of electronic books (e-books) (Ramaiah, 2005). However, closer inspection reveals that much of this research relates to the use of e-books in academic contexts, e.g., reading for study purposes, while there is a limited focus on this technology in respect to consumers who read for pleasure or enjoyment (Clark et al., 2008; Goodwin, Samuelson and Coker, 2008; Littman and Connaway, 2004; Vasileiou, Hartley and Rowley, 2009). The literature also shows that there is scarce work exploring the adoption of the new technology product of electronic book readers (e-readers) (Clark et al., 2008). This paper aims to begin to address these gaps by proposing a conceptual framework of consumers' adoption of e-book readers, set in the pleasure reading context.

There is a variety of definitions of what is classified as an e-book (Vassiliou and Rowley, 2008). We define an e-book as any file that contains an electronic representation of text, read for pleasure, that could otherwise have been created or available in a paper-book (p-book) format (Long, 2003; Vassiliou and Rowley, 2008). In respect to e-readers, the literature highlights that there are several devices that are capable of displaying e-books for reading. These devices include desktop computers and laptops, mobile phones, dedicated e-reader devices and devices designed primarily for other purposes that can use software to read e-books (e.g., the iPad) (Vassiliou and Rowley, 2008). However, for the purpose of this paper, the term e-reader is defined as any product that has the core function of reading e-books. While these dedicated e-readers were first conceived in the 1960s, and have been available to consumers since the turn of the millennium, they are still being diffused throughout the market today and, therefore, are still considered to be a new technology (Clark et al., 2008; Kay, 2000; Mitra et al., 2010; Singh et al., 2010).

## **The Technology Acceptance Model**

Recent research has highlighted the relative strengths of the Technology Acceptance Model (TAM) in predicting consumers' adoption of new technologies over other models, including the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) and their derivatives (Yousafzai, Foxall and Pallister, 2010). Yousafzai, Foxall and Pallister's (2010) study tested these competing theoretical models and concluded that the original TAM continues to be the most effective in capturing the antecedents of consumers' adoption of new technologies. For this reason, the TAM has been used as the basis for the conceptual model presented in this paper.

The original TAM (see the portion of Figure 1 that is contained within the dotted lines) was first developed to understand the adoption of computer software packages in a corporate setting. It consists of four constructs that are proposed to influence the adoption of new technology products (Davis, 1986; Davis, Bagozzi and Warshaw, 1989); they are behavioural intention (BI), attitude towards the technology (A), perceived usefulness of the technology

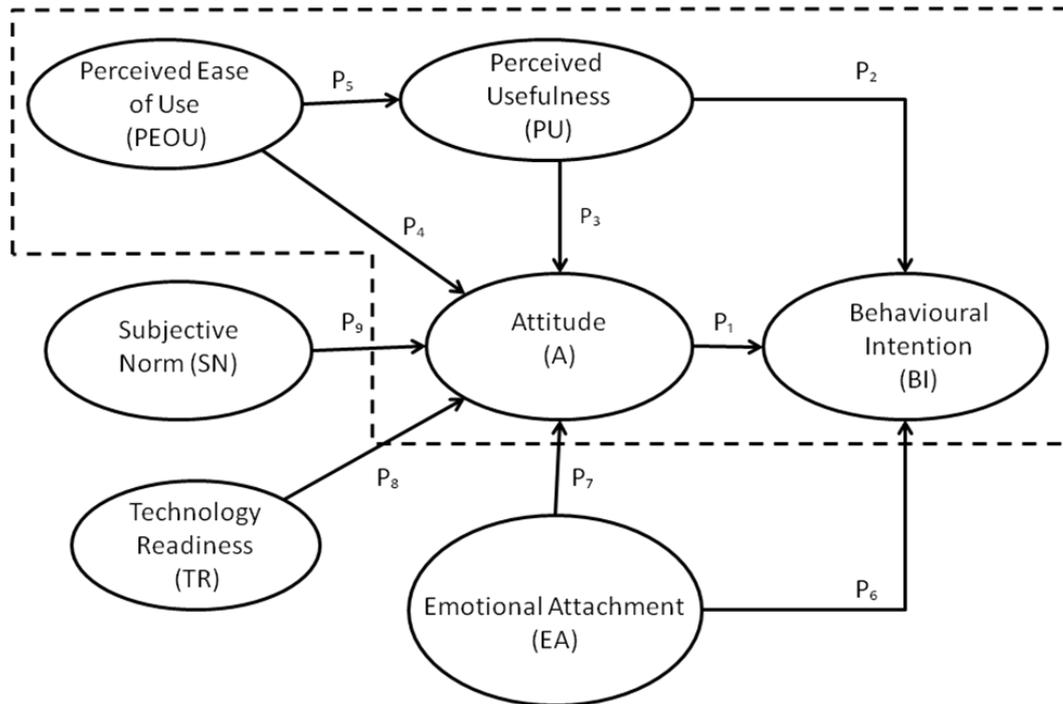
(PU), and the technology's perceived ease of use (PEOU) (Davis et al., 1989). Behavioural intention is defined as the intention to perform a particular behaviour (Ajzen and Fishbein, 1980; Davis et al., 1989), in this case, the behavioural intention to adopt e-reader technology for the purpose of pleasure reading. The TAM advances that BI is influenced by A and PU (Davis, 1986; Davis et al., 1989), with PU also being associated with A. The literature defines attitude towards the technology (A) as consumers' feelings towards the technology (Davis, 1986; Davis et al., 1989). Perceived usefulness (PU) refers to the perceived benefits, in this case of using e-reader technology (Davis, 1989; Venkatesh and Davis, 2000). These benefits can include aspects that are personally salient to consumers, such as the portability of e-readers for those who travel, or the ability to increase the font size of text for those who have diminished eyesight. The construct of PEOU is associated with both A and PU in the original TAM (Davis, 1986). Perceived ease of use (PEOU) refers to how difficult consumers think it is going to be to use the technology (Davis, 1986, 1989; Davis et al., 1989). Transferred to the e-reader context, PEOU relates to how easy consumers' perceive using an e-book reader is compared to reading a p-book. For example, how easy is it to turn the page of an e-book using an e-reader? The original hypotheses of the TAM are applied to the e-reader technology context in respect to pleasure reading. Therefore, the following propositions are advanced:

- P<sub>1</sub> There is a positive association between attitude and behavioural intention to adopt e-readers for pleasure reading.
- P<sub>2</sub> There is a positive association between perceived usefulness and behavioural intention to adopt e-readers for pleasure reading.
- P<sub>3</sub> There is a positive association between perceived usefulness and attitude towards e-readers for pleasure reading.
- P<sub>4</sub> There is a positive association between perceived ease of use and attitude towards e-readers for pleasure reading.
- P<sub>5</sub> There is a positive association between perceived ease of use and perceived usefulness of e-readers for pleasure reading.

The TAM, like most theoretical models, has been criticised. Some researchers, such as Bagozzi (2007) argue that it is too parsimonious and because of this it lacks the ability to understand some of consumers' cognitive and affective functions in the adoption process. The extended version of the TAM proposed in this paper addresses this limitation by incorporating new constructs to better understand consumers' adoption of e-readers for pleasure reading.

### **Extended Conceptual Development**

This paper presents a conceptual model (see Figure 1) that extends the TAM via the inclusion of two constructs that have been previously examined separately within the TAM literature, namely consumers' technology readiness and subjective norm. Further, it adds a new construct that has been previously unexplored in respect to the TAM, that being emotional attachment (EA) to an existing product.



**Figure 1: Technology Acceptance Model with Emotional Attachment (TAME)**

Note: The original TAM is contained within the dotted lines

### Emotional Attachment

Our extension of the TAM argues for the inclusion of the construct of emotional attachment to an existing product/technology (Davis et al., 1989; Thomson, MacInnis and Park, 2005; White, Hayes and Livesey, 2005). Emotional attachment (EA) is defined as a commitment to, or willingness to make a sacrifice for, a product (MacInnis and Park, 1991). Research on emotional attachment can be traced back to psychological studies on parent and child relationships (White et al., 2005). A study by Schouten and McAlexander (1995) illustrated that emotional attachment is also applicable to a consumer context. Specifically, Schouten and McAlexander (1995) undertook an ethnographic study on the relationship that bikers had with their vehicles. The study highlighted the presence of an emotional attachment between bikers and their Harleys, and in one case the seller of a Harley Davidson was motivated to run outside during a sales discussion to hear his bike rumble for one last time.

In respect to the inclusion of emotional attachment in the TAM applied to e-readers, we argue that consumers are likely to have an emotional attachment or commitment to p-books, an existing product (MacInnis and Park, 1991; Schouten and McAlexander, 1995). The importance of consumers' emotional attachment to an existing product was highlighted in the case of 'New Coke' (Ross, 2005; Schindler, 1992). In the mid 1980's, Coca-Cola released a new formula that was rejected by consumers. In discussing this failure, the then president admitted, "we did not understand the deep emotions of so many customers" to the existing Coke formulation (Keough, n.d., as cited in Ross, 2005). We theorise that a strong degree of commitment or emotional attachment exists towards p-books. For example, some consumers bestow shrine like treatment to their bookcases filled with p-books, and sensual cues, such as the smell or feel of a p-book, elicit strong emotions in many readers (Schouten and McAlexander, 1995). Therefore, consumers' emotional attachment to p-books is argued to be a barrier to the adoption of the new technology of e-readers. We suggest that emotional

attachment to p-books (EA) is negatively associated with consumers' attitude towards e-readers and their behavioural intentions to adopt them (Davis et al., 1989; MacInnis and Park, 1991; Schouten and McAlexander, 1995), so that the following propositions are raised:

- P<sub>6</sub> There is a negative association between emotional attachment to p-books and behavioural intention to adopt e-readers for pleasure reading.
- P<sub>7</sub> There is a negative association between emotional attachment to p-books and attitude towards e-readers for pleasure reading.

### **Technology Readiness**

Another factor that is likely to influence consumers' adoption of new technologies is consumers' technology readiness (TR). Parasuraman (2000) defines TR as consumers' likelihood to embrace technology and use it to achieve their goals at home or at work. Literature exists that suggests that TR influences constructs in the TAM (Lin, Shih and Sher, 2007; Lin and Hsieh, 2006). Lin, Shih and Sher (2007) included TR as a construct in a modified version of the TAM, which they coined the Technology Readiness and Acceptance Model (TRAM). They proposed that TR was associated with PU, PEOU and BI to adopt e-services, based on the literature that TR is a state of mind that would influence all aspects of the adoption process. However, they suggested that an association existed between TR and the TAM constructs of PU and PEOU, but they failed to find support for the theorised association between TR and BI. Conversely, Lin and Hsieh (2006) found support for an association between TR and BI in their study on consumers' adoption of self-service technologies. In order to incorporate the TR construct into the TAM, the researchers reviewed the measures of PU and PEOU and identified that these measures are similar to items included in Parasuraman's (2000) TR instrument. This suggests that discriminant validity between TR, PU and PEOU might be problematic (Davis, 1989; Parasuraman, 2000). Our model proposes that TR is associated with attitude toward e-reader technology because TR is likely to influence consumers' overall state of mind as part of the adoption process (Lin et al., 2007). However, this will primarily be through influencing their attitudes towards the new technology (Lin et al., 2007; Lin and Hsieh, 2006; Parasuraman, 2000). Therefore, we advance the following proposition:

- P<sub>8</sub> There is a positive association between technology readiness and attitude towards e-readers for pleasure reading.

### **Subjective Norm**

Consumers' subjective norm (SN) is defined as consumers' perceptions of what might be considered acceptable according to their reference group (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975). SN was originally excluded from the TAM because Davis (1986) argued that there was little time for business consumers to develop an understanding of the norms of their peers in an information technology (IT) context. However, recent research has witnessed the construct of SN included in the revised TAM frameworks (Venkatesh and Bala, 2008; Venkatesh and Davis, 2000). Research suggests that consumers' SN has an important influence on the process of adoption (Ajzen and Fishbein, 1980; Venkatesh and Davis, 2000). Venkatesh and Davis (2000) proposed a modified version of the TAM, TAM2, in which they removed A and introduced several additional constructs in order to better understand factors that influenced PU. The results suggested that SN was associated with PU and also with

intention to use. Davis (1986) proposed the original TAM with constructs of A and BI because, as Fishbein and Ajzen (1975) argued, overall attitudes are viewed as influencing BI. Therefore, by removing A, the TAM2 model suggests that SN directly influences initial intentions to adopt. Venkatesh and Davis (2000) suggested that SN has maintained importance over time, although its contribution has diminished because of an increased emphasis by researchers on the constructs of PEOU and PU. However, these findings might suggest that the relationship between SN, PU and PEOU is not straightforward and that there is another construct involved. The original TAM proposed that PU and PEOU influence A, therefore, it is theorised that SN is likely to have an association with consumers' overall attitude towards new technology (Davis, 1986, 1989; Legris, Ingham and Collette, 2003). This indicates that consumers' perception of what they expect to be appropriate for, or accepted by, their peer group may influence their overall attitude towards e-book reader technology (Parasuraman, 2000). For example, if your friends like to trade books, they might not like e-reader technology. Therefore, we suggest the following research proposition:

- P<sub>9</sub> There is a positive association between subjective norm and attitude towards e-readers.

### **Contributions and Directions for Future Research**

The current research contributes to the academic discussion on the TAM in several ways. Firstly, the TAM is expanded to include the construct of emotional attachment. Secondly, the model incorporates previous attempts to expand the TAM via the inclusion of TR and SN, and in doing so, unifies, to some extent, the existing TAM literature. Finally, the model proposed was developed in the context of the understudied area of e-reader technology, as adopted by consumers for pleasure reading. By exploring the effect that emotional attachment to an existing product has on the adoption of a new technology product, the model proposed, once empirically tested, offers several potential managerial implications. The results may suggest that new product managers need to consider consumers' emotional attachment to an existing product when developing new technologies and their marketing communications. Managers could include new technology features that resemble an existing product, thereby reducing the potential negative influence of emotional attachment on the adoption process, and possibly transferring the established attachment to the new technology and its communications.

The ability to generalise the proposed model highlights the need to explore the TAME in the context of other new technologies. For example, consumers might be attached to existing products that are being superseded, such as combustion fuelled automobiles, light bulbs, and newspapers. This paper also identifies the need for further research on e-book readers, particularly in the pleasure-reading context. In developing the conceptual framework, several questions were raised in respect to consumers' acceptance of e-readers. The adoption of e-book readers might not be a dichotomous choice, but rather consumers could use both formats, i.e., e-books and p-books, depending on situational factors. It would be interesting to explore how factors such as location of reading, such as at home or away, might influence the take up of this new technology when reading for enjoyment.

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