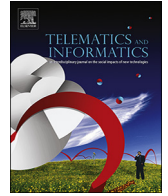


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Adoption of digital devices for children education: Korean case

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ABSTRACT

Korea is at the forefront in information and communication technology (ICT). The adoption of digital learning device such as e-books amongst Korean students is accelerated by its nation-wide high mobile connectivity. When children adopt such new technology, parents are often the buyers, while the children are the actual users. To date, within the technology adoption literature, little is known about where buyers and users are different entities, and even less is known within the context of family. By filling this gap, the purpose of this research is to examine the parents' perceived notion of their child's propensity to accept a new product. By extending the technology acceptance model (TAM), we considered two additional factors: perceived playfulness and risk. Results show that unlike in traditional TAM research, when buyers are not the users of the new product, the perceived usefulness and perceived ease of use differently influence attitude formation. We also found that perceived playfulness can offset perceived risk, which is highly associated with using a new product. Findings not only add to our understanding of technology and product acceptance but also provide insight to business practitioners for launching and marketing their new products, especially when it is a technology-based one.

1. Introduction

Starting from 2019, all Korean students receive software coding education from elementary schools. The adoption of digital technologies in the Korean education system is driven by its advanced infrastructure in information and communication technology (ICT). With its high mobile connectivity nation-wide, Korean students from an early age, access and use digital devices as learning tools including PC, tablets, smartphones, and virtual reality. The number of new tech products that target children is also increasing globally (Forbes, July 29, 2016). For example, e-books are being introduced to K-12 schools as a new instructional technology in the U.S. (Bowen, 2015). Therefore, understanding how children adopt and use technologies as their learning tools has become essential not only to parents but also to marketers.

When children adopt a technology-based product, parents or guardians are often the customers, while the actual consumers are their children. Although the terms “consumers” and “customers” are often considered synonymous, these are also linguistically distinguishable. Merriam-Webster's English Dictionary defines customers as those “who purchase a commodity or service,” and focuses on the buyer's role. Meanwhile, consumers are defined as those who “utilize economic goods,” and focuses on the users' role. This distinction is particularly relevant when consumers and customers are not the same entities, such as when parents purchase new products for their children or managers buy equipment for their team members.

Literature on new product adoption has largely examined factors that influence an individual's new product adoption behaviors,

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such as self-construal (Ma et al., 2014), regulatory focus (Herzenstein et al., 2007), network externalities (Nair et al., 2004), and such individual characteristics as gender, age, and income (Im et al., 2003). However, this literature has used the terms “consumers” and “customers” interchangeably, and it remains to be ascertained how customers may perceive a new product that will be adopted by actual users.

This study fills this gap in literature by examining a parent’s perceived notion of their child’s propensity to accept a new product. Addressing this issue is particularly critical, as the number of new products targeting children has increased. Recently, *Forbes* listed 20 innovative companies whose main targets are children (*Forbes*, July 29, 2016). The present study explores a case in which Korean parents purchase an electronic book, or “e-book,” for their children. It is particularly relevant to our research as e-books are being introduced to parents and schools (Bowen, 2015).

Our underlying theory is based on the technology acceptance model (TAM), one of the most widely accepted theories on an individual’s acceptance of new technology (Davis, 1989; Davis et al., 1992; King and He, 2006; Venkatesh and Davis, 2000). This study also extends the traditional TAM model by considering two additional factors that can form parents’ attitudinal ambivalence in accepting a new product: (1) perceived playfulness, as play is primarily associated with juveniles; and (2) perceived risk in using a new device (Jacoby and Kaplan, 1972; Moon and Kim, 2001). We define perceived playfulness as parents’ perceived notion of their child’s propensity to play with a new product. In this study, perceived risk refers to parents’ perceived notion of their child’s facing an uncertain threat associated with using a new product.

The following section begins by reviewing literature, and then presents a research model with hypotheses. We then present the methodology and empirical results. Subsequently, the paper concludes with a discussion of the results.

2. Conceptual background

2.1. Extended technology acceptance model

The TAM is grounded in Fishbein and Ajzen’s (1975) theory of reasoned action, which explains that the attitudes that form one’s behavioral intention directly influence one’s actual behavior. The TAM adapts these consequential attitude → intention → actual behavior links to explain an individual’s technological acceptance behaviors (Davis, 1989; Davis et al., 1992). According to Davis (1989), the TAM assumes perceived usefulness (PU) and perceived ease of use (PEOU) as two important predictors of causal relationships (see Fig. 1). The PU refers to the extent of an individual’s perceived effectiveness of using a new product. The PEOU is the degree to which an individual perceives that using a new product would be effortless. The TAM has been proven as reliable and robust in terms of describing an individual’s prudent acceptance of new technology (King and He, 2006; Lee et al., 2003).

Many researchers have attempted to provide further explanation by proposing and testing extended versions of the TAM by considering the other relevant factors in a specific research situation. The extended and modified versions of TAM incorporate other constructs as antecedents, mediators, or moderators to increase explanatory fit (e.g., a larger R^2 value) in a particular context (Marangunić and Granić, 2015; Mortenson and Vidgen, 2016). In this study, we extended traditional TAM to incorporate other factors that can influence the context in which parents perceive their child’s adoption of a new product. Previous literature regarding new products has suggested that consumers experience attitudinal ambivalence through both positive and negative attitudes (Jonas et al., 1997; Park et al., 2016; Zemborain and Johar, 2007). For example, a positive feeling, such as hope, can be coupled with a negative feeling, such as the fear of using a new product (Park et al., 2016).

Similarly, in our research context, parents may have ambivalent attitudes when adopting new high-tech products for their children education. For example, in one hand, playfulness may serve as an important predictor from a parent’s perspective for their child’s adoption. This is because children may regard digital devices as mere play rather than learning as younger generations interact with digital devices from their early developmental stages (Padilla-Meléndez et al., 2013). On the other hand, adopting a new tech product for children may also entail parent’s subjective impressions of perceived risk (Horst et al., 2007; Yang et al., 2012; Yang et al., 2015). To illustrate, parents may have performance risk as the product can be less than the expected quality. Besides, news of a

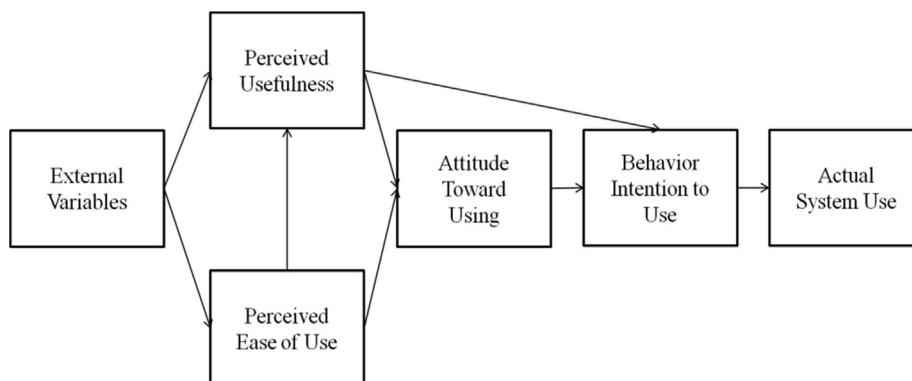


Fig. 1. Technology Acceptance Model (Davis, 1989).

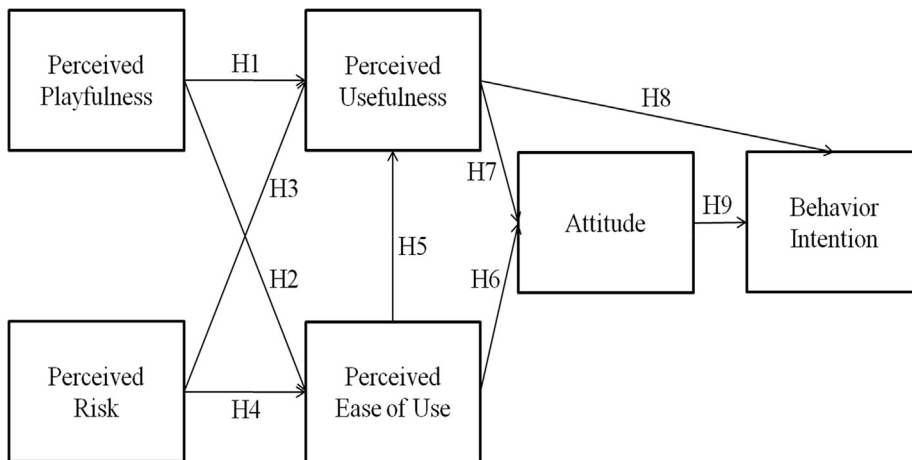


Fig. 2. Research Model.

heated batteries inside an electronic device causing fire may lead parents to have physical risk toward the product, as their children can potentially be injured. Overall, in our research context, above two factors are particularly considered: (1) perceived playfulness and (2) the perceived risk. These are situated as antecedents to a classical TAM framework to capture parents' attitudinal ambivalence toward a high-tech product for their children (Fig. 2).

2.2. Perceived playfulness

Early philosophers and psychologists have observed the importance of play relative to children's education (Bateson and Martin, 2013). Specifically, the authors described Plato, who posited that play allowed a child to develop adult skills. They also discussed Rousseau, who purported that a child becomes civilized through play in a natural environment. Moreover, they introduced Piaget, who viewed play as cultivating a child's logical mind and imagination. In summary, all these illustrations conclude that play serves as an important factor relative to a child's education (Bateson and Martin 2013, pp. 7).

More recently, Moon and Kim (2001) defined perceived playfulness as "the extent to which the individual perceives that his or her attention is focused on the interaction with the World Wide Web, is curious during the interaction, and finds the interaction intrinsically enjoyable and interesting." They found that perceived playfulness had a significant effect on attitude and the intention to use the World Wide Web. Moon and Kim's (2001) definition may not be directly applicable to our research context, as this study primarily focuses on e-book product adoption, but we borrow from their prior conceptualization to define perceived playfulness as the parent's perceived notion of their child's propensity to play with a new product.

Related to the e-learning context, perceived playfulness has been posited as a significant predictor based on TAM (Davis and Wong, 2007; Padilla-Meléndez et al., 2013). Studies have demonstrated that perceived playfulness positively relates to attitude formation toward a new technology as well as an intention to use (Davis and Wong, 2007; Moon and Kim, 2001; Padilla-Meléndez et al., 2013). Further studies view perceived playfulness as a consequence of perceived ease of use and perceived usefulness (Anandarajan et al., 2000; Lee et al., 2005; Shih, 2008; Tao et al., 2009). However, as previous findings have viewed buyers and adopters' roles as the same, it is still unknown how perceived playfulness influences differently when the entities are different. Therefore, perceived playfulness is denoted as the antecedent to the research model to study the attitudinal ambivalence toward a new product. It is hypothesized that, following previous findings' results, the PU and PEOU will both be positive when parents perceive playfulness in their children using the e-book. More formally:

H1. When parents perceive the propensity of their child's playfulness as an attribute of the new product, perceived usefulness (PU) will be positive.

H2. When parents perceive the propensity of their child's playfulness as an attribute of the new product, the perceived ease of use (PEOU) will be positive.

2.3. Perceived risk

Perceived risk is known to have multiple dimensions; Jacoby and Kaplan (1972) identified five theoretically distinct types of perceived risk: financial, performance, physical, psychological, and social. Financial risk refers to the possibility of losing money. Performance risk is the likelihood of a product's quality failure or malfunctioning. Physical risk involves the possibility of a product safety failure, which may cause harm or injury. Psychological risk is the potential mental suffering from using a new product. Social risk refers to another person's evaluation of the product's usage, which can threaten an individual's status. Collectively, these five sub-dimensions are demonstrated to be reliable, valid components of perceived risk (Kaplan et al., 1974; Murray and Schlacter, 1990).

Sheeran et al. (2014) conducted a *meta-analysis* to conclude that risk perception negatively influences both intention and behavior. The greater the risk an individual perceives, the greater one's negative attitude and behavioral intentions (Bolton et al., 2006; Cox et al., 2010). Perceived risk may foster and serve as a barrier for an individual to adopt a new product as their uncertainty level increases, and especially in the context of a new product's adoption (Ross, 1975). Additionally, as children can be vulnerable, parents are likely to have a sense of duty to protect their children as much as they can from risk. Accordingly, when parents perceive that their children may experience risk from using a new product, both the PU and PEU toward the product are likely to be negative. More formally:

H3. When parents perceive the likelihood of any risk that a product may present to their child, the perceived usefulness (PU) will be negative.

H4. When parents perceive the likelihood of any risk that a product may present to their child, the perceived ease of use (PEOU) will be negative.

2.4. Technology acceptance model (TAM)

Our arguments are based on TAM as an underlying model. We are particularly interested in a context by which customers and consumers are two different entities. Therefore, the following hypotheses are verified, in the context of parents purchasing an innovative product for their child. More formally, when parents purchase an innovative product for their children:

H5. Perceived usefulness (PU) and perceived ease of use (PEOU) are positively related.

H6. Perceived ease of use (PEOU) positively relates to the attitude toward the product.

H7. Perceived usefulness (PU) positively relates to the attitude toward the product.

H8. Perceived usefulness (PU) positively relates to the intention to purchase the product.

H9. Attitude positively relates to the intention to purchase the product.

3. Methods

3.1. Sampling and participants

We considered several factors when recruiting our participants. First, participants have to be either parents or guardians of a young child/children. Second, they had to have a prior experience of purchasing a digital device for their children education. Considering that there can be a number of different kinds of digital device, such as mobiles, robots, virtual reality, and cloud computing, we had to focus on one device in order to maintain homogeneity across different new-tech learning tools. Third, for certain electronic device, such as tablets or smartphones, parents and their children can both be the end-users. Yet, such products digress from our research scope, as we are to examine a product whose buyers and end-users are different entities. That is, customers should be parents/guardians and the end-users should be children.

In order to recruit our study samples that meet all these requirements, we reached out to a private education agency in South Korea. The agency was specialized in teaching English to both primary and elementary school students. Notably, e-books was utilized in its teaching curriculum. The contents were all about learning English as a secondary language, such as English alphabets, daily expressions, and reading materials. During the time of a data collection period, the e-book was beginning to be introduced so that all parents/guardians from this agency had a prior chance of purchasing e-books for their children education. Overall, the parents/guardians associated to this agency satisfied all three criteria to be our research samples.

The appropriate number of sample sizes were calculated by considering the number of latent variables, observed variables, probability level, power level, and effect size (Soper, 2018; Westland, 2010). By convention, we applied the default of 0.05 for the probability level, and 0.8 for the desired power level (Cohen, 1988; Fisher, 1925). The results by Soper's (2018) online software tool indicate that the recommended minimum sample size was 161, and the minimum number to analyze model structure was 89. Therefore, we asked the agency to distribute our survey to more than 161 parents/guardians from March to April of 2015. Finally, we obtained a total of 153 participants who had purchased e-books for their children education. The children age ranged from 4 to 12 years old. A majority of our participants were Female (97.4%), with an average age of 36.38 (SD = 4.05). More than a half of them had a university degree (69.9%). A majority of them classified themselves as a middle-income family (75.1%).

We account for our participants' gender imbalance as the cultural background. Compared to other western countries, in South Korea, fathers are supposed to work outside and earn household income as breadwinners. Meanwhile, doing house chores as well as raising children have long been regarded as mothers' roles. Thereby, our participants were mostly mothers, and that a majority of them were female (97.4%). The overall results remain the same regardless of the gender being included as a covariate or not.

3.2. Measurement

The survey consisted of three parts. First, on the introduction page, we introduced the definition of the e-book as a digital contents

that is designed particularly for their children education. From then on, the survey referred products as the e-books. Although most of the parents may already be informed of the e-book, the definition provided in order to ensure that all participants were at the same levels of understandings regarding the product. Also, as a screening question, we let participants to provide their answers on whether they had purchased the e-book or not. If the selected answer was “no,” then the survey was ended.

Second, we asked items related to perceived playfulness, risk, PU, PEOU, and attitude. Overall the original items were slightly reworded to fit with the current research context. For example, original items related to perceived playfulness do not contain any words related to a product for digital learning device. Also, from the five original items from Moon and Kim (2001), we had to exclude two of them due to high cross-loadings, as suggested by Hair et al. (2010). Then, participants provided their answers on perceived risk. Based on the previous literature, we asked a total of five items (Kaplan et al., 1974; Murray and Schlacter, 1990). Next, from the original work of Davis (1989), items related to PU, PEOU, and attitude were asked. Notably, for the items related to the perceived ease of use (PEOU), we modified original items and asked five items that specifically asked parent’s perceived notion of their children’s ease of use. Appendix A illustrates the full list of items.

Lastly, participants were asked to submit their answers on demographic profiles, such as age and gender. Then, we thanked for their participation in the survey.

4. Results

4.1. Measurement model

We evaluated multivariate normality through SPSS 21.0. There was neither outliers nor missing data in our data set. As the data were normally distributed, the following analysis is based on maximum likelihood estimation. To perform confirmatory factor analysis (CFA), we used the SEM software, AMOS 21.0. We hypothesized a six-factor model. The results of confirmatory factor analysis is presented in Fig. 3. The comparative fit index (CFI) was 0.93, Tucker-Lewis fit index (TLI) was 0.92, and the RMSEA was 0.08.

Construct validity is confirmed through tests on convergent and discriminant validity. Convergent validity refers to multiple items’ convergence to measure the same construct. Table 1 indicates that all constructs met convergent validity, as the composite reliability scores well surpass the suggested threshold of 0.6 (Bagozzi and Yi, 1988). Further, all values for the average variance extracted (AVE) are greater than 0.5 (Fornell and Larcker, 1981). Finally, all t -values are greater than 1.645 (Bagozzi et al., 1991), demonstrating that all factor loadings are significant.

Discriminant validity refers to how different constructs capture distinct aspects with no correlation with each other. According to Fornell and Larcker (1981), discriminant validity is satisfied when each construct’s AVE is greater than the squared correlation of the construct with any other construct. Table 2 illustrates that discriminant validity was present.

4.2. Structural model

The hypotheses were tested through structural equation modeling. The results demonstrate that the data fits with the structural model (CMIN = 602.492, $df = 289$, $p < 0.001$, NFI = 0.885, IFI = 0.936, TLI = 0.928, CFI = 0.936, FMIN = 3.674, RMSEA = 0.081, AIC = 778.492, and SRMR = 0.065), allowing for assessments of the following hypotheses.

Fig. 4 depicts all coefficients in the structural model. Hypotheses H1 and H2 suggest that perceived playfulness positively affects both PU and PEU. The results support these hypotheses, in that perceived playfulness positively influences PU ($\beta = 0.263$, t -value = 3.644, $p < 0.001$) and PEU ($\beta = 0.394$, t -value = 4.946, $p < 0.001$). Hypotheses H3 and H4, in contrast, suggest perceived risk’s negative effects on PU and PEU. The anticipated results demonstrate that perceived risk negatively influences PU ($\beta = -0.183$, t -value = -2.701 , $p < 0.01$), and PEU ($\beta = -0.341$, t -value = -4.402 , $p < 0.001$).

Additionally, the other hypotheses were supported except H6. Specifically, and consistent with TAM literature, the PEU indicated a positive influence on PU ($\beta = 0.463$, t -value = 6.238, $p < 0.001$), supporting H5. Further, PU significantly affected both attitude ($\beta = 0.515$, t -value = 5.503, $p < 0.001$) and behavioral intention ($\beta = 0.428$, t -value = 5.107, $p < 0.001$), supporting H7 and H8. Moreover, attitude directly and positively affected behavioral intention ($\beta = 0.468$, t -value = 5.280, $p < 0.001$), supporting H9. However, the data does not support H6, which suggests that PEU positively influences attitude ($\beta = 0.071$, t -value = 0.770, $p > 0.05$).

4.3. Discussion

The results reveal that parents who recognize perceived playfulness form favorable attitudes toward the product through perceived usefulness (PU) and perceived ease of use (PEOU). Alternatively, when parents perceive a risk associated with the product, both PU and PEOU will decrease, leading to a less favorable attitude toward the product. More importantly, PU and PEOU presented distinctive patterns in attitude formation. Although literature has identified both PU and PEOU as significant determinants of new product adoption (King and He, 2006; Lee et al., 2003; Venkatesh and Davis, 2000), results indicate that PU is a more important factor in attitude formation than PEOU when buyers and adopters are different entities. It is particularly important to delve into this issue, as attitude directly translates to behavioral intention.

According to Hu et al. (1999, pp. 94), “the importance of perceived ease of use as a determinant of the intention to use a technology may become insignificant after users’ prolonged exposure to the technology.” Therefore, some parents may have prior

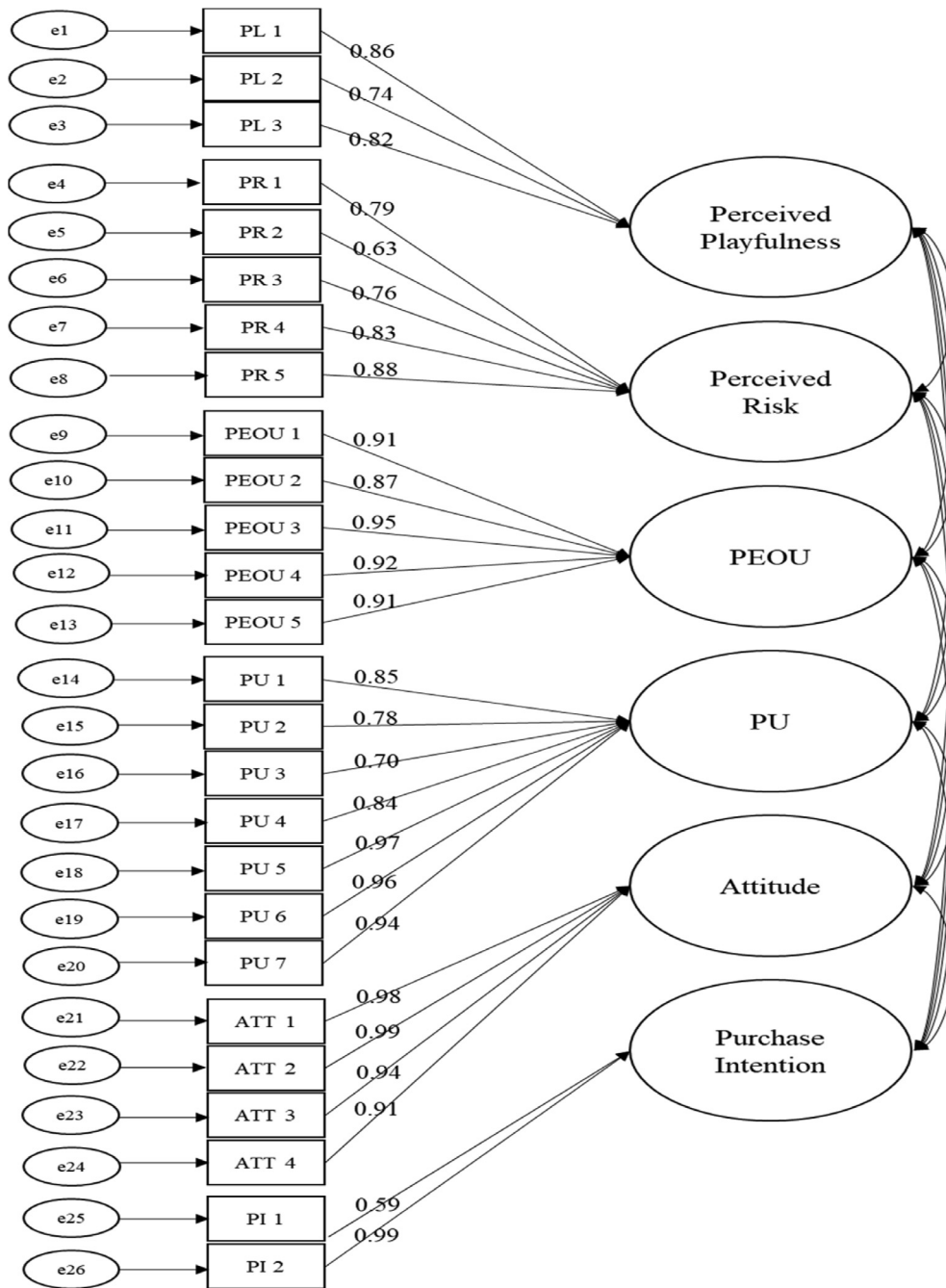


Fig. 3. Results of Confirmatory Factor Analysis (CFA).

experience in using the product. Indeed, from a demographic perspective, we verified that a majority of participants (90.3%) were already well aware of the product, and had purchased the product beforehand. This prolonged exposure to the product may suggest a weaker relationship between perceived ease of use and attitude. However, when the prior exposure level is considered as a covariate, the resulting patterns are still the same. Therefore, we provide further rationales in the following contribution section for the different roles of PU and PEOU.

Table 1
Measurement model fit indices.

	Standardized Factor Loadings	t-value	Composite Reliability	AVE
Perceived Playfulness				
Play 1	0.804		0.85	0.650
Play 2	0.734	9.613		
Play 3	0.875	10.951		
Perceived Risk				
Risk 1	0.784		0.88	0.607
Risk 2	0.636	8.277		
Risk 3	0.763	10.248		
Risk 4	0.829	11.303		
Risk 5	0.865	11.861		
Perceived Ease of Use				
PEOU 1	0.92		0.96	0.835
PEOU 2	0.955	23.491		
PEOU 3	0.869	17.638		
PEOU 4	0.912	20.186		
PEOU 5	0.91	20.037		
Perceived Usefulness				
PU 1	0.957		0.96	0.803
PU 2	0.974	32.748		
PU 3	0.844	17.949		
PU 4	0.772	14.444		
PU 5	0.849	18.301		
PU 6	0.936	26.137		
PU 7	0.923	24.533		
Attitude				
ATT 1	0.907		0.98	0.911
ATT 2	0.936	21.25		
ATT 3	0.989	26.017		
ATT 4	0.983	25.333		
Purchase Intention				
PI 1	1.00		0.740	0.669
PI 2	1.654	7.339		

Table 2
AVE and squared correlations.

	Play	Risk	ATT	PU	PEOU	PI
Play	(0.650)					
Risk	0.034	(0.607)				
ATT	0.131	0.169	(0.835)			
PU	0.223	0.171	0.314	(0.803)		
PEOU	0.163	0.176	0.173	0.440	(0.911)	
PI	0.063	0.165	0.408	0.340	0.143	(0.669)

Note: The average variance extracted (AVE) is noted in parentheses.

5. Conclusions

5.1. Contribution

This study offers a novel approach to new product adoption literature by examining a case in which purchasers are not adopters. A majority of literature on the new product adoption process examines when buyers and end-users are the same agent; however, buyers are not always the actual users. For example, when purchasing an innovative product as a gift for others, or when parents buy such items for their children, purchasers and users are not the same entity. This study provides the first empirical finding in new product adoption literature with a case in which buyers and adopters are different entities.

This is also particularly noteworthy in TAM literature, as a different resulting pattern appeared compared to a traditional TAM, and a conceptual difference exists between PU and PEOU. According to Davis and Wong (2007, pp. 102), “perceived ease of use can be regarded as *process* expectancy because it is a construct focused on an individual’s perception about the level of effort needed to use a system. It represents the user’s subjective evaluation of the *process* of interaction with a system.” Meanwhile, the authors argue that “perceived usefulness can be regarded as *outcome* expectancy because it is a construct measuring the user’s subjective perception of the extent to which using a particular information system will aid work performance and enhance productivity” (Davis and Wong,

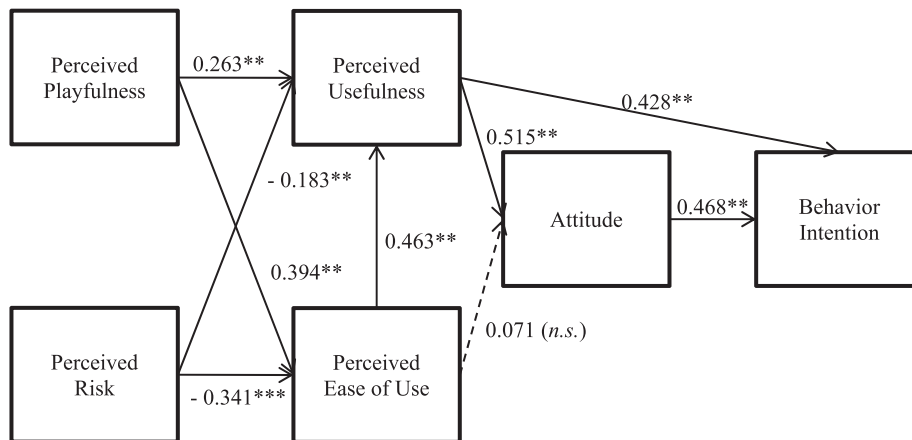


Fig. 4. Structural model. Note: * $p < 0.05$; ** $p < 0.01$, *** $p < 0.001$.

2007, pp. 102). Therefore, PU and PEOU are differently weighed regarding process-focused versus outcome-focused orientations.

These differences should be considered when buyers and adopters are different entities, in that PU should be more an important factor in attitude formation than PEOU. It is relatively easier for parents to determine and be certain of a product's *outcomes*. However, it would be less clear if parents decided all the *procedural* steps of handling and maneuvering the new device from their children's perspectives. As PU is more related to outcome-based orientations, and PEOU is more associated with those that are process-based, the results theoretically contribute to TAM literature by revealing a robust relationship between PU and attitude, but a less clear relationship between PEOU and attitude, when buyers and adopters are different entities.

Moreover, our findings also provide implications for managers. When managers consider the introduction of a new product in a market in which buyers and end-users are not necessarily the same, promoting a new product's PU rather than PEOU seems to be an effective marketing strategy. Moreover, promoting perceived playfulness can attenuate the negative effects of a new product's perceived risk. These efforts are noteworthy as our results indicate that attitude directly affects the behavioral intention to use the product. Ultimately, this can help firms generate positive profits.

5.2. Limitations & future research topics

This study has several limitations. First, our findings' generalizability is limited to the scope of the parent–child relationship. Some other occasions can also represent when buyers are not adopters, such as purchasing an innovative product as a gift for a significant other, or procuring technology for an entire office to improve its productivity. As different relationships are qualitatively distinct, future research may add other variables relevant to that particular research setting.

Second, lab experiments may more clearly demonstrate the causal effects in the relationships among the constructs. As the findings are based on survey data, other confounding factors can prevent the results from establishing a clear causality. For example, possible common method variance and response biases can be inherent in a survey method. Therefore, our findings' robustness could be augmented by corroborating with other research methods, such as lab experiments.

Moreover, most participants were female; a likely reason for this may be that mothers tend to become more involved with their young child's education, and this survey recruited parents/guardians interested in high-tech educational equipment. Given the modern culture that emphasizes males' increased involvement with technology, it would be interesting to replicate this study with fathers instead deciding the technology that is acceptable for their children. This would reveal whether gender roles influence customers' behavioral intent.

Finally, cross-cultural differences can exist in appreciating new products. For example, Ma et al. (2014) illustrated that those with an independent self-construal prefer radically new products than those with an interdependent self-construal. Generally, easterners are more interdependent than westerners. A new product's degree of novelty may be significant in its acceptance across cultures. For example, parents from a low-tech society may demonstrate a low propensity to purchase innovative products if the product is radically new due to the higher social risk associated with using the product. It would be noteworthy to examine whether perceived playfulness in this context could attenuate the negative effects of perceived social risk. Consequently, future research may further investigate these cross-cultural differences.

Appendix A

Please note that the product below refers to the e-book for children education.

Perceived risk (1 = strongly disagree; 9 = strongly agree)

1. Do you expect to experience financial loss by using the product?

2. Is there a possibility of a product failure or malfunction?
3. Would you experience physical threat or harm by using the product?
4. How much do you agree with whether the product fits with your self-concept or identity?
5. Would others around you evaluate your social status as low when using the product?

(Note. Item #1 is for financial risk, #2 is for performance risk, #3 is for physical risk, #4 is for psychological risk, and #5 is for social risk.)

Perceived playfulness (1 = strongly disagree; 9 = strongly agree)

1. My children will not realize how much time elapses when using the product.
2. My children will forget the things that they should do when using the product.
3. The product will be entertaining and keep my children happy while they use it.

Perceived ease of use (1 = strongly disagree; 9 = strongly agree)

1. Using the product will not require a lot of mental effort.
2. My child will not experience any difficulties when using the product.
3. Learning to operate the product would be easy for my children.
4. It seems clear that using the product will not cause my children to experience any frustration.
5. Overall, I believe my children will find the product easy to use, and it will do what they want it to do.

Perceived usefulness (1 = strongly disagree; 9 = strongly agree)

1. Using the product will enable me to effectively read books.
2. The product will enable me to easily read books.
3. The product will be useful for me.
4. The product will be useful for my child.
5. The product will improve my child's receptive and productive reading skills.
6. The product will support my child's easily reading a book.
7. The product will improve my child's comfort while engaged in the activity of reading.

Attitude (1 = strongly disagree; 9 = strongly agree)

1. Using the product is a good idea.
2. Using the product is a wise idea.
3. It is pleasant to have the product.
4. Using the product is positive for me.

Behavioral intention (1 = strongly disagree; 9 = strongly agree)

1. I will definitely purchase the product.
2. I will strongly recommend that others use the product.

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