

## Understanding Customer Acceptance of e-Magazine: Innovation Resistance Perspectives

Fajar Purwo Nugroho, Achmad Nizar Hidayanto, Puspa Indahati Sandhyaduhita and  
Nur Fitriah Ayuning Budi  
Faculty of Computer Science, Universitas Indonesia, Depok, Indonesia

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**Abstract:** The potential of digital magazine (e-Magazine) is growing rapidly as we are running into new era with technological advancements. e-Magazine becomes a new business in the area of news and advertisements. This study is designed to evaluate the determinant factors of user's purchase intention of e-Magazine. Technology Acceptance Model (TAM) and innovation resistance model were adopted to examine those critical factors. Data collection was performed by distributing offline and online questionnaire via email. Then, the obtained data was processed and analyzed using Partial Least Square (PLS) technique. The result of this study indicates that perceive ease of use and relative advantage precede customer's purchase intention of e-Magazine. Finally, this study concludes that e-Magazine quality including security, service quality and appearance become significant factors determine perceived risk and perceived ease of use.

**Key words:** Partial least square, e-Magazine, Technology Acceptance Model (TAM), (PLS), critical factors

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### INTRODUCTION

Technological advancements create new media channels that become alternatives for communities to get information. Digital text is the future of internet media as magazines are rapidly moving online. If previously, we enjoyed physical (printed version of) magazines, books and newspaper, now many advertising and news agents are producing and distributing them in digital form (Lee, 2013).

The emergence of new media affects people's behavior in searching and consuming information. It can be seen from the rapid increase of internet usage by communities to access information through the internet. The increasing number of internet users turns out to have an impact on the media industry. In addition, the development of electronic device also affects people's behavior. With the advent of the internet, digital content like e-Books, e-Magazine, e-Music, video and internet broadcasting can be downloaded for free or pay-in-advanced to obtain the content. Therefore, understanding and analyzing the critical factors that influence user behavior to purchase a digital content has become an important issue (Wang *et al.*, 2013).

The acceptance of a technology does not always bring positive response and prone to be rejected. According to previous study, most researcher's discussion focused only on success in adopting the acceptance of technological innovation (Lee, 2013). They

believe that every innovation is profitable and will always be accepted (Lee, 2013). However, a study claims that innovation resistance should be analyzed further because an innovation tends to force users to change and as the impact, resistance toward changes represents their response given toward an innovation (Ram, 1987).

Looking at this opportunity, we are interested to investigate the determinant factors that influence the smartphone device users to make a purchase of e-Magazine. This study adopted Technological Acceptance Model (TAM) and innovation resistance model to construct the research model.

### Literature review

**Electronic magazine:** Digital magazine is defined as a replica or copy of a printed-magazine which can be read through electronic media such as computers. The definition of digital magazine was further developed, not only just a copy of the printed-magazine but also rich with interaction (Santos, 2011). Besides rich of interaction, digital magazines are also rich of content selection such as articles, photos and ads which are mutually integrated (Jue, 2009).

**Technological acceptance model:** TAM Model explains and predict the users interest and behavior of a technology (behavior intention) (Venkatesh and Davis, 2000). This model was formulated by Davis (1989). According to TAM, user behavior is determined by

perceived ease of use and perceived usefulness. Perceived ease of use describes user perception that the technology is not difficult to use. Meanwhile, perceived usefulness is the perception that the technology used has benefits for the users.

**Innovation resistance model:** Ram (1987) explains innovation as a new product perceived by consumer. Innovation resistance toward an innovation is understood as the impact of the changes that is applied upon consumer's status quo or because innovation adoption leads to conflict toward their beliefs (Lian and Yen, 2013). Innovation resistance model consists of three main factors, perceived innovation, consumer characteristics and characteristics of propagation mechanisms (Ram, 1987).

**Research model:** We developed a research model by adopting previous studies model that is supported by relevant theories. m-Commerce quality model was chosen to describe the quality of an online magazine app (Wang and Liao, 2007; Ha and Stoel, 2009). We also adopted variables that affect the purchase intention from the study of user resistance to a technological innovation of e-Book reader and the study of the effect of relative advantage against user intention of online travel purchasing (Lee, 2013; Amaro and Duarte, 2015). We construct 26 proposed hypothesis as:

- H<sub>1</sub>: security has influence to perceived risk
- H<sub>2</sub>: appearance has influence to perceived risk
- H<sub>3</sub>: appearance has influence to perceived ease of use
- H<sub>4</sub>: appearance has influence to perceived enjoyment
- H<sub>5</sub>: service quality has influence to perceived risk
- H<sub>6</sub>: service quality has influence to perceived ease of use
- H<sub>7</sub>: service quality has influence to perceived enjoyment
- H<sub>8</sub>: experiential has influence to perceived ease of use
- H<sub>9</sub>: experiential has influence to perceived enjoyment
- H<sub>10</sub>: experiential has influence to relative advantage
- H<sub>11</sub>: content quality has influence to perceived ease of use
- H<sub>12</sub>: content quality has influence to perceived enjoyment
- H<sub>13</sub>: content quality has influence to relative advantage
- H<sub>14</sub>: financial advantage has influence to perceived enjoyment
- H<sub>15</sub>: financial advantage has influence to relative advantage

- H<sub>16</sub>: perceived enjoyment has influence to perceived ease of use
- H<sub>17</sub>: perceived enjoyment has influence to relative advantage
- H<sub>18</sub>: perceived risk has influence to purchase intention
- H<sub>19</sub>: perceived risk has influence to innovation resistance
- H<sub>20</sub>: perceived ease of use has influence to purchase intention
- H<sub>21</sub>: perceived ease of use has influence to innovation resistance
- H<sub>22</sub>: perceived enjoyment has influence to purchase intention
- H<sub>23</sub>: perceived enjoyment has influence to innovation resistance
- H<sub>24</sub>: relative advantage has influence to purchase intention
- H<sub>25</sub>: relative advantage has influence to innovation resistance
- H<sub>26</sub>: innovation resistance has influence to purchase intention

## MATERIALS AND METHODS

Preliminary study was performed to explore further the formulated problem by conducting in-depth interview to one of the largest media conglomerates in Indonesia and also to several e-Magazine users. We adopted research instrument from previous studies (Lee, 2013; Wang *et al.*, 2013; Wang and Liao, 2007; Ha and Stoel, 2009; Amaro and Duarte, 2015; Wolfenbarger and Gilly, 2003; Hong and Cha, 2013; Davis, 1989; Kim *et al.*, 2007; Chen and Granitz, 2012) and combined them with the result of our preliminary study. Data collection was established by distributing questionnaire using nonprobability sampling technique which is purposive sampling. The questionnaire was designed as closed-ended questionnaires and used Likert scale for the answer choices. The collected data was then processed and analyzed by using Structural Equation Model (SEM) PLS technique and Smart-PLS Software.

## RESULTS AND DISCUSSION

**Respondent demographic:** Table 1 pictures profile of our respondents describing gender, age, occupation, education, e-Magazine usage, media and purchase frequency. Our respondents come from private sector employee, public/civil servant and others. 40% of respondents have used e-Magazine more than 2 years

**Table 1: Respondent profile**

Gender	Percentage
Female	29
Male	71
<b>Age (years)</b>	
15-25	21
25-35	21
>35	58
<b>Education</b>	
High school	9
Bachelor (S1)	66
Master (S2)	25
<b>Media</b>	
Laptop	27
Smartphone	42
Tablet	31
<b>Occupation</b>	
Private sector	53
Employee	16
Public/civil servant others	31
<b>e-Magazine usage (years)</b>	
<1	33
1-2	27
>2	40
<b>Purchase frequency in last a month</b>	
1 time	46
2 time	13
3 times	4
Unspecified	7
Others	30

with purchase frequency once in last a month. In addition, our data shows that most respondents prefer to use smartphone as their media to purchase e-Magazine.

**Measurement model test:** SmartPLS was used to analyze our data. We follow two-stage procedure by assessing the measurement model first and then the structural model according to Hair *et al.* The measurement model test was used to evaluate reliability and validity of our research instrument whereas the structural model test examines research hypotheses and model fitness.

Table 2 presents the result of measurement model test, consists of standardized item loadings, Average Variance Extracted (AVE), Composite Reliability (CR) and Cronbach's alpha. The listed values are the final result after the elimination of the invalid indicator. Reliability test is measured by Cronbach's Alpha (CA) and Composite Reliability (CR) value. According to the result, Cronbach's Alpha (CA) and Composite Reliability (CR) value are greater than their cut-off value which is  $\geq 0.7$ . On the other sides, validity test is divided into two items test, they are convergent validity and discriminant validity test. We eliminated 18 indicators as they have loading factor value  $\leq 0.7$ . After all, the reliability test shows all loading factor value exceeded the minimum value. In addition to examine convergent validity, we also consider the value of AVE. According to the result, AVE value has satisfied 0.5 ranging from 0.587 and 0.812. Whereas the assessment of cross-loading technique was used to examine

**Table 2: Result of measurement model test**

Variable names	Code	Standardized loading			
		factor ( $\geq 0.5$ )	AVE	CR	CA
Security (SEC)	SEC2	0.7210	0.587	0.850	0.766
	SEC3	0.8230			
	SEC4	0.7730			
	SEC5	0.7360			
Appearance (APP)	APP2	0.7360	0.649	0.880	0.819
	APP4	0.8310			
	APP5	0.7770			
	APP6	0.7810			
Service Quality (SQ)	SQ2	0.7390	0.604	0.821	0.695
	SQ4	0.7630			
	SQ5	0.7570			
	SQ6	0.7300			
Experiential (EXP)	EXP1	0.7300	0.660	0.853	0.741
	EXP2	0.7540			
	EXP3	0.7150			
	EXP4	0.7370			
Content Quality (CQ)	CQ1	0.7150	0.588	0.895	0.859
	CQ2	0.7370			
	CQ3	0.7670			
	CQ4	0.8350			
Financial Advantage (FA)	FA1	0.8200	0.786	0.916	0.863
	FA2	0.8770			
	FA3	0.8730			
	FA4	0.8730			
Perceive Risk (PR)	PR1	0.7730	0.664	0.922	0.899
	PR2	0.8000			
	PR3	0.7560			
	PR4	0.8420			
Perceived Ease of Use (PEOU)	PEOU1	0.8260	0.644	0.900	0.860
	PEOU2	0.8390			
	PEOU3	0.7880			
	PEOU4	0.8410			
Perceived Enjoyment (PE)	PEJY1	0.7840	0.735	0.917	0.879
	PEJY2	0.8330			
	PEJY3	0.7980			
	PEJY4	0.7860			
Relative Advantage (RADV)	RADV1	0.8460	0.709	0.906	0.861
	RADV2	0.8190			
	RADV3	0.7300			
	RADV4	0.8600			
Innovation Resistance (IR)	IR2	0.8230	0.812	0.896	0.768
	IR3	0.8210			
	IR4	0.8600			
	IR5	0.8600			
Purchase Intention (PI)	PI1	0.8600	0.702	0.921	0.892
	PI2	0.9000			
	PI3	0.8530			
	PI4	0.8230			
	PI5	0.7420			

discriminant validity and resulted all indicators have passed discriminant validity test using cross-loading assessment technique. Looking at the result of validity and reliability test, we conclude that our research instrument is valid and reliable.

**Structural model test:** After ensuring that our research instrument is valid and reliable, then, we perform structural model test to exercise our proposed hypotheses. In order to measure how close the correlation between exogenous latent variable and endogenous latent variables, we use the coefficient of determination. Variable Perceived Ease Of Use (PEOU) has the highest coefficient of determination (0.32) which means

Table 3: Result of structural model test by PLS

Hypothesis	Path ( $\geq 1.96$ )	t-values	Significant/ not significant	Conclusion
H <sub>1</sub>	SEC->PR	3.65	Significant	Hypothesis accepted
H <sub>2</sub>	APP->PR	0.22	Not significant	Hypothesis rejected
H <sub>3</sub>	APP->PEOU	1.85	Significant	Hypothesis accepted
H <sub>4</sub>	APP->PEJY	0.98	Not significant	Hypothesis rejected
H <sub>5</sub>	SQ->PR	1.89	Not significant	Hypothesis rejected
H <sub>6</sub>	SQ->PEOU	0.57	Not significant	Hypothesis rejected
H <sub>7</sub>	SQ->PEJY	0.20	Not significant	Hypothesis rejected
H <sub>8</sub>	EXP->PEOU	1.57	Not significant	Hypothesis rejected
H <sub>9</sub>	EXP->PEJY	0.76	Not significant	Hypothesis rejected
H <sub>10</sub>	EXP->RADV	0.38	Not significant	Hypothesis rejected
H <sub>11</sub>	CQ->PEOU	0.88	Not significant	Hypothesis rejected
H <sub>12</sub>	CQ->PEJY	1.34	Not significant	Hypothesis rejected
H <sub>13</sub>	CQ->RADV	0.61	Not significant	Hypothesis rejected
H <sub>14</sub>	FA->PEJY	2.01	Significant	Hypothesis accepted
H <sub>15</sub>	FA->RADV	1.94	Significant	Hypothesis accepted
H <sub>16</sub>	PEJY->PEOU	2.63	Significant	Hypothesis accepted
H <sub>17</sub>	PEJY->RADV	4.79	Significant	Hypothesis accepted
H <sub>18</sub>	PR->PI	0.70	Not significant	Hypothesis rejected
H <sub>19</sub>	PR->IR	2.40	Significant	Hypothesis accepted
H <sub>20</sub>	PEOU->IR	3.01	Significant	Hypothesis accepted
H <sub>21</sub>	PEOU->PI	2.37	Significant	Hypothesis accepted
H <sub>22</sub>	PEJY->IR	0.09	Not significant	Hypothesis rejected
H <sub>23</sub>	PEJY->PI	1.41	Not significant	Hypothesis rejected
H <sub>24</sub>	RADV->IR	1.59	Not significant	Hypothesis rejected
H <sub>25</sub>	RADV->PI	2.01	Significant	Hypothesis accepted
H <sub>26</sub>	IR->PI	0.366	Not significant	Hypothesis rejected

32% variance of Perceived Ease Of Use (PEOU) is simultaneously affected by variable Appearance (APP), Experiential (EXP), Service Quality (SQ) and Content Quality (CQ). Meanwhile, variable Perceived Risk (PR) has the lowest coefficient (0.19) which means 19% variance of Perceived Risk (PR) is simultaneously affected by variable Appearance (APP), Security (SEC) and Service Quality (SQ). According to the coefficient of determination value, we conclude that exogenous latent variable correlates weakly or moderate with their endogenous latent variables. The proposed model is not quite robust and needs additional variables which are not covered in this study.

Table 3 summarizes the result of our hypotheses testing. Structural model test was performed by examining t-value ( $\geq 1.96$ ) and path coefficient value ( $> 0.1$ ). According to the result, we have 11 accepted hypotheses out of 26 hypotheses proposed. Appearance (APP) has no significant correlation with Perceived Risk (PR) and Perceived Enjoyment (PEJY). Perceived Risk (PR) is only influenced by the factor of Security (SEC) while Appearance (APP) only has great impact to Perceived Ease Of Use (PEOU). Service quality (SQ), Content Quality (CQ) and Experiential (EXP) does not essentially affect Perceived Ease Of Use (PEOU) and Perceived Enjoyment (PEJY). Regarding to the result, Service Quality (SQ) has no influence to Perceived Risk (PR) while Experiential (EXP) and Content Quality (CQ) has no influence to Relative Advantage (RADV). However,

Perceived Enjoyment (PEJY) and Relative Advantage (RADV) are greatly affected by the factor of Financial Advantage (FA). Further, perceived enjoyment has significant impact to Perceived Ease Of Use (PEOU) and Relative Advantage (RADV). Perceived Enjoyment (PEJY) has no influence to Innovation Resistance (IR) and Purchase Intention (PI) whereas Perceived Enjoyment (PEJY) influences both of them. In addition, Perceived Risk (PR) does not correlate with Purchase Intention (PI) but it correlates with Innovation Resistance (IR). Meanwhile, Relative Advantage (RADV) does not correlate with Innovation Resistance (IR) but it correlates with Purchase Intention (PI). According to the result, our finding shows that Innovation Resistance (IR) has no significant influence to Purchase Intention (PI).

**The impact of e-Magazine quality toward perceived risk and perceived ease of use:** Result of this study shows that e-Magazine quality (represented in security factor) can affect perceived risk of the user. The security factor can guarantee users in using e-Magazine safely. The higher security level provided, the less user perceived risk in using e-Magazine. Additionally, service quality of e-Magazine negatively affects perceived risk. It indicated that the better service quality will reduce perceived risk of the user. Previous study supports that, service quality influences perceived risk of the user. This research also proved user interface design can influence perceived ease of use of the user in using e-Magazine. From this finding, we can conclude that e-Magazine apps which have consistent and attractive design, easy to understand and easy to use will improve perceived ease of use of the user. This result is in line with previous study which found attractive e-Shopping website design will improve perceived ease of use of the user (Ha and Stoel, 2009).

**The impact of financial advantage toward perceived enjoyment and relative advantage:** According to this study, financial advantage proved to be one of determinant factors that affect relative advantage of the e-Magazine user. This result supports previous study which implied financial advantage provides significant benefit for e-Magazine users to purchase online (Ha and Stoel, 2009). The price of an e-Magazine is known to be much cheaper than the price of a printed-magazine. This reason is considered to be the factor that makes e-Magazine more favorable over printed-magazine.

**The impact of perceived risk toward innovation resistance:** Our finding confirms that perceived risk has positive influence to innovation resistance which

conforms to previous study. Lee (2013) used perceived risk factor to investigate the acceptance of e-Book reader based on the perspective of innovation resistance of e-Book reader. According to this previous study, perceived risk becomes the most dominant factor in inhibiting the adoption of an innovation and reducing perceived risk becomes determinant factor to urge user to make use an innovation (Lee, 2013).

**The impact of perceived ease of use toward innovation resistance and purchase intention:** Previous study found that user intention to use or to buy significantly influenced by perceived ease of use (Lee, 2013). The results of this study support previous study as we found perceived ease of use affect user intention to purchase e-Magazine (Lee, 2013). Perceived ease of use is also proved negatively influence innovation resistance of e-Magazine. This indicates that the greater perceived ease of use to employ an innovation, the less resistance level that might occur. The finding is in line with previous study that found perceived ease of use affects negatively innovation resistance (Lee, 2013).

**The impact of perceived enjoyment toward perceived ease of use and relative advantage:** Perceived enjoyment becomes determinant factor of perceived ease of use (Venkatesh, 2000). This study supports previous study as the result of structural model test shows perceived enjoyment affect the perceived ease of use (Venkatesh, 2000). User perceives enjoyment when using e-Magazine because of its simplicity. Thus, it will increase user motivation to use it. This study also determines that perceived enjoyment significantly affect relative advantage. This finding supports previous research which proved enjoyment as dominant factor to form relative advantage (Amaro and Duarte, 2015).

**The impact of relative advantage toward purchase intention:** In this study, the result shows relative advantage becomes determinant factor of purchase intention. If users perceive the benefit of e-Magazine, the intention to buy e-Magazine will significantly increase. This result is in line with previous study which concluded that relative advantage is a significant factor in predicting user intention to purchase online (Amaro and Duarte, 2015). e-Magazine offers more advantages compared with printed-magazines such as lower prices, higher levels of availability and more practical. Obviously, these advantages influence user intention to buy e-Magazine. This research also confirms previous

findings that e-Commerce users in Indonesia ignoring risk when purchasing product from e-Commerce systems (Hidayanto *et al.*, 2012, 2014, 2015; Alfina *et al.*, 2014).

## CONCLUSION

The purpose of this study is to investigate critical factors that influence user acceptance to purchase e-Magazine. Our finding shows that, the determinant factors affecting user acceptance to purchase e-Magazine are perceived ease of use and relative advantage. Perceived ease of use is the most dominant factor in influencing user intention to purchase e-Magazine. Further analysis indicates that e-Magazine quality including security, service quality and appearance become significant factors determine perceived risk and perceived ease of use. However, this study failed to prove that innovation resistance influence user purchase intention to buy e-Magazine.

## ACKNOWLEDGEMENTS

We gratefully thank the Universitas Indonesia for the International Publication Grants for Student Thesis for financial support. Grant title: Mobile Advertising Acceptance from Uses And Gratifications Theory (UGT) Perspectives and Its Impact Towards Buying Behavior of Smartphone Users (No: 1753/UN2.R12/PPM.00.00/2016).

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