

## Influencing Variables Towards the Intention to Purchase (ITP) and Their Research Gaps

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**Abstract.** *Purchase intention is important to study because research results are frequently used for making decision about product and services and, the research result could predict future sales for organisation. The objective of the research is to define the independent variables which influence the intention to purchase as the dependent variable. The method used in this study was systematic literature review that was supported by articles from prominent journals. The literature review found that there were contradictions in the relationship between variables, such as variables for intention to purchase (trust, price, perceived value and attitude) and technology management to trust, were contradicting on their hypotheses. The study result provided a significant contribution to the academic field like building a conceptual framework for further study in Asian countries context because there are lack research on Asian contexts about all variables in this research. Besides, the contradiction of all linkages between variables will contribute to the body of knowledge.*

**Keywords:** *Attitude, intention to purchase, perceived value, price, trust, technology management*

### 1. Introduction

Intention to purchase must exist in any individual who wants to buy things or services. Wu, Wu, Lee and Lee (2015) stated that purchase intention coexist in consumer' planning to buy a product. Therefore in online shopping context, consumer attitude is another way to ascertain that the consumer will purchase online or decline (Hidayat & Diwasasri, 2013, Waruyanti & Suyanto, 2015).

In view of this, Chen et al., (2010) highlighted that purchase intention is an outcome of prior to purchase enjoyment. Therefore, in an online situation, information that is shown to consumers play a vital role in influencing consumer purchasing decisions (Mangold &

Faulds, 2009). Therefore, the objective of this research is to search for independent variables which influence the intention to purchase, as dependent variables, and to identify which relation between independent variables and dependent variable have contradictions in their relation with the intention to purchase. Meanwhile, the problem statement of the study is that previous studies seldom defined the gap in the relationship between independent variables and intention to purchase (ITP) as dependent variable; consequently, the independent variables should be defined.

Table 1 depicts the five research questions, five research objectives and methodology of research.

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Table 1.  
Five Research Questions, Five Research Objectives and Five Method

Research Question	Research Objective	Method
RQ1. Does trust having relationship to ITP?	RO1. To determine relationship between trust and ITP and, define the gap between them	Systematic literature review
RQ2. Does price having relationship to ITP?	RO2. To determine relationship between price and ITP and, define the gap between them	Systematic literature review
RQ3. Does perceived value having relationship to ITP?	RO3. To determine relationship between perceived value and ITP and, define the gap between them	Systematic literature review
RQ4. Does attitude having relationship to ITP?	RO4. To determine relationship between attitude and ITP and, define the gap between them	Systematic literature review
RQ5. Does technology management having relationship to trust?	RO5. To determine relationship between technology management and trust and, define the gap between them	Systematic literature review

The literature review was done by using systematic literature review method which typically involves a detailed and comprehensive plan and a search strategy priority derived with the goal to reduce bias by identifying, appraising, and synthesising all relevant studies on a particular topic. The systematic literature review found that trust, price, perceived value, attitude had relationship with ITP. In addition, technology management had relation with trust. The literature review results found that trust, price, perceived value, attitude had relations with ITP, and there was a gap among them. Technology management had relation to trust and there is a gap between them.

## 2. Literature Review

The study was limited to variable linkages which only had the contradictions. The compiled literature was on all marketing subjects, including online marketing.

In addition, the study considered that technology management only had operational capabilities instead of both dynamic and operational capabilities. Besides, the researchers limit the relationship of technology management only with trust.

### 1. Definition of Variables

#### *Intention to Purchase*

Consumers' behaviour can be predicted by knowing their intention towards purchasing. Normally, consumers who can explore and see the content have higher acceptance of resonance behaviour which will finally lead them to purchase a product (Zolait, 2014). Meanwhile, purchase intention has relation with consumers' concentration to purchase a product and tend to buy it later (Wu et al., 2015). This is supported by Chen et al. (2010) whose research on online environment found that information which sellers advertise in their platform can coax consumers on making decisions (Mangold & Faulds, 2009).

In a social commerce situation, every customer who wants to purchase online from an e-vendor on social networking service (SNS), the customer needs to be engaged with the e-vendor whenever there is a desire to purchase the product. This 'intention' is defined as "the strength of one's intention to perform a specific behaviour" (Fishbein and Ajzen, 1975), while Kim and Park (2013) stated that consumers who put their trust on a certain platform tend to tell others about the benefit of using the social commerce sites and purchase by using the platform.

#### *Technology Management*

To create a competitive advantage, organisations should manage their technological fundamentals by using technology management as one of their disciplines (Wikipedia, 2018). The strategy in technology concept is based on logic or the role of technology in the organisation, forecasting in technology (identification of technologies which is possible and relevant to the firms, possibly via technology scouting), road-map of technology (mapping pertaining technologies in business and market requirements), technology project portfolio of (under development projects) and finally technology portfolio (technologies in use).

The technology management is functioned by understanding the importance of technology that are used in the organisations (Wikipedia, 2018). Therefore, technology management consists of all management activities which govern the policy application in technological aspect, objectives and responsibilities, including their execution in the organisations, namely planning, confirming resources, arranging, steering the technology development and application process improvement (Lunarski, 2009). The survival of the organisation depend on their technology prosperity management activities. It is beneficial in developing countries which attempt to attract direct foreign investments (Sharif, 1993). It is very crucial to integrate technology in their organizations, whereby technology management will help to achieve

their intended objectives (Batane & Motshegwe, 2012).

Technology management is also known as policy and practices that are used to guide the technology uses as tools to improve particular organizational capacity (Del Guidice et al., 2010). Technology management is defined as 'a process which includes planning, directing, control and coordination of the development and technological capabilities implementation to shape and accomplish the strategic and operational objectives of an organisation" (NRC, 1987). Meanwhile, Phaal et al. (2004) illustrated technology as a combination of the 'hard' aspects (science and engineering) and 'soft' dimension which is the processes that enable its effective application. On top of that, dynamic capabilities are defined as activities and competencies embedded in organisations (Eisenhardt & Martin, 2000; Bergek et al., 2008). Eisenhardt and Martin (2000) defined technological capabilities as consist of both dynamic and operational capabilities which are routines/activities collected to execute and coordinate the variety of tasks required to manage the technology.

According to Drejer (1996), to have a better understanding about technology management, technology can be represented by four schools of thought, namely the R&D management school, innovation management school, technology planning school and strategic management of technology school. Meanwhile, Miyazaki and Kijima (2000) pointed that the grid depends on factors related to external and internal complexities as well as conflicts of interest by the actors based on a case study of an automobile sector in Japan. By analysing the complexity involved in technology management through this framework, they may extract crucial dimensions of technology management which provide a case study on the strategies of the Japanese automobile sector by mainly focusing on the technological perspective. Based on past studies, there are two aspects in technology management which consists of "hard" aspects (Phaal et al., 2004) and "soft"

aspects (Lunarski, 2009; Miyazaki & Kijima 2000; Drejer, 1996; NRC, 1987). According to Lunarski (2009), “soft aspects” are planning, confirming resources, arranging, steering technology development and application process improvement. Meanwhile Miyazaki and Kijima (2000) defined the “soft aspect” in technology management as technology perspective. Other findings by Drejer (1996) was by using R&D, innovation technology, planning and strategic management as the “soft aspects” in technology management and NRC (1987) defined the “soft aspects” in terms of planning, steering technology development and control, as well as development coordination. Past studies also found that “soft aspect” was a combination of dynamic and operational capabilities (Eisenhardt & Martin, 2000; Bergek et al., 2008). From the literature above, the study decided to choose the definition of technology management as operational capabilities because the study will discuss the relationship among internal variables excluding the external ones. Therefore, the operational definition of this study was technology capabilities which consisted of only operational capabilities.

#### *Trust*

Trust is a very important part when dealing with anybody. Therefore, trust can be translated into having willingness on exchange information or anything with no doubt (Moorman, Deshpande, & Zaltman, 1993). Referring to the online visual community, the word “trust” is an additional key for an individual to exchange messages (Jarvenpa, Knoll, & Leidner, 1998) and the push factor to influence consumer towards the purchase intention (Duanne et al., 2014). Trust is an integral part when doing online businesses as consumers do not personally know the site owner and sellers. However, with trust, consumers will use online purchase because they have belief towards the platform (Chen et al., 2015).

#### *Price*

The most common issue when dealing with store brand’s purchase intention is the price being offered (Jin & Suh, 2005). According to Junquera et al. (2016), price and range for purchase intention will influence consumers’ intention to buy chosen goods. There was difference in approaches between consumers with high and low electric vehicle whose purchase intention, which was chosen by Plotz, Schneider, Globisch, and Dutschke (2014). They belief that ‘it is important to drive a car that harms the environment as little as possible’ (Plotz et al., 2014, p106). Although imitation goods are considered less quality as compared the originals, many consumers considered counterfeit goods will have a good value for their money as they have a slightly substandard quality which at the end will affect the consumers’ behaviour (Ang et al., 2001, Phau & Ng, 2010; Wang et al., 2005; Yeap & Ramayah, 2006).

#### *Perceived Value*

The high value of purchase producer brand, will have higher acceptance for consumer purchase intention towards the brand (Collin-Dodd & Lindley, 2003). Perceived value is defined when the overall assessment of a product utility is based on the perception of what is received and what is given. This assessment should be done by consumers in terms of getting the genuine of perceived value towards the brand, which means that what consumer has paid for is what they should be given (Zeithaml, 1998).

#### *Attitude*

The intention to purchase can be determined by studying the consumer behaviour towards shopping attitude decision (Hidayat & Diwasasri, 2013; Warayuanty & Suyanto, 2015). According to Kamins (1990), who referred to congruity theory in the context of celebrity endorsement, found out that celebrity images were consistent with brand or product images which meant the celebrities will have more positive aura and will be influenced on consumer attitudes and behaviours. Bloch and Richins (1983) defined utilitarian value as a

customer-involving process, such as collecting information out of necessity rather than recreation.

## *II. Linkages between Variables*

### *1. Trust and Intention To Purchase*

According to Hsu et al. (2016), trust as a variable had a close relation with intention to purchase (ITP) for male Taiwanese customers, whilst trust was not closely related to ITP for female Japanese customers in the context of social shopping purchase intention. Meanwhile, Hajli et al. (2016) found out that trust had relation with ITP in their research on social commerce.

Hypothesis H<sub>1</sub>: Trust has a positive relation with ITP.

### *2. Price and Intention To Purchase*

Degirmenci and Breitner (2017) stated that price as a variable does not have a relation with IPT in the context of electric vehicles. Meanwhile Calvo –Porral and Levy-Mangin (2017) stated that price as a variable had direct relation with ITP for high perceived value (HPQ) which was not significant, while price had direct relation with ITP for (LPQ), which was significant in context of store brand or retailer brand.

Hypothesis H<sub>2</sub>: Price has a positive relation with ITP.

### *3. Perceived Value and Intention To Purchase*

According Calvo–Porral and Levy-Mangin (2017), perceived value as variable had relation with ITP for high perceived quality but it was not significant, while perceived value was significant for low perceived quality in the context of store brand or retailer brand. Meanwhile, Ghasemaghaei and Hassanein (2016) found that perceived value with ITP had direct relation, and the result was significant in the context of social bundling.

Hypothesis H<sub>3</sub>: Perceived value has a positive relation with ITP.

### *4. Attitude and Intention To Purchase*

Findings from Fereirra, Veiga, Kudlawicz-Franco, Scalercio, Ramires, Pontarolo, Calvalho, and Veig (2017) showed that attitude

as variable had a direct relationship with ITP and its relation was significant in the context of drugs. Another scholar from Degirmenci and Breitner (2017) found that attitude also had a direct relation with ITP but it was not significant in the electric vehicles context. Meanwhile, Ting, Goh, and Isa (2016) found that attitude had significant relation with ITP in their research on counterfeit luxury goods context.

Hypothesis H<sub>4</sub>: Attitude has a positive relation with ITP.

### *5. Technology Management and Trust*

According to Inman and Nikolova (2017), technology management (operational capabilities) had a relation with trust in the context of Amazon's online. Another scholar from Abu-Shahab (2013) found that technology management had significant relation with trust in the context of Jordan country. However Lee and Turban (2014) found that technology management use of e-commerce success, especially in the business-to-consumer area showed negative and not significant for a study on students who used the Internet technology in Hong Kong.

Hypothesis H<sub>5</sub>: Technology has a positive relation with trust.

## *III. Theories*

To support the antecedent of technology management, independent variables (trust, price, perceived value and attitude) and their linkages to the dependent variable (intention to purchase). This article used contingency theory as underpinning theory and several supporting theories, which were Theory of Reasoned Action, Theory of Planned Behavior and Complexity Theory.

### *Contingency Theory*

Contingency theory is an organisational theory which agrees that there is no other best way in organising an organisation other than depending on the optimal course of action which is contingent (dependent) upon the internal and external situations. A contingent leader will effectively apply his own style of leadership to the right situation. Scott (1981)

related contingency theory based on the nature of environment, which would be the best way to organise an organisation. An empirical study by Pennings (1975) examined the interaction between environmental uncertainty, organisational structure and various aspects of performance. Pennings (1975) carried out an empirical study on a sample of retail brokerage offices, in which aspects of their market environment such as competitiveness, change and munificence, versus organisational arrangements like decision-making templates, power distribution were juxtaposed for possible performance implications. While structural attributes of offices strongly impacted performance, the evidence for "contingency" was less pronounced. Historically, contingency theory had sought to formulate broad generalisations about the formal structures that are typically associated with or best fit the use of different technologies. The perspective originated from Joan Woodward (1958) argued that technologies directly determine differences in such organisational attributes as span of control, centralisation of authority, and the formalisation of rules and procedures. Some important categories of business that can benefit from contingency theory included; technology, suppliers and distributors, consumer interest groups, customers and competitors, government and unions.

#### *Theory of Reasoned Action*

Therefore, in late 1960s, the Theory of Reasoned Action (TRA) was introduced by Martin Fishbein and the theory gradually expanded by Fishbein and Icek Azjen in the decades. In order to get a clearer picture about the behavioural intent, whereby which was seen as the main determinant of attitude, the

TRA will look into a person or a group of population towards that behaviours. Therefore, this person or the group of population will finally influence the attitudes of other person or a group's of population's.

According to TRA, attitudes and norms come from certain attitudes which are influenced by a combination of two factors which are the beliefs pertaining the result of the behaviour, namely likely or unlikely, and the evaluation of the potential outcome, whether the outcome will be a good or bad thing. This attitude can be measured by either reading that novel is likely to be relevant in his life (the result of the behaviour) and either learning something new that could be relevant to his life would be beneficial to him (the evaluation of the outcome). Therefore, norms which were discussed in TRA was mostly influenced by his perception towards his belief of those that surround him. The surrounding people could be the partners, friends, colleagues, peers, parent, neighbours, among others. TRA strongly believed that belief forms are accepted by this individual or group of people. Therefore, this situation will determine how motivated he is to comply with their views.

By focusing on attitudes and norms, TRA provides a framework to identify and measure the underlying reasons for a person's intent to behave a certain way (or not). It is called the Theory of Reasoned Action because of the emphasis on understanding these reasons — not because the beliefs and attitudes are necessarily reasonable or correct.

This TRA Theory supports the relation between trust, price, perceived value and attitude with intention to purchase (Figure 1).

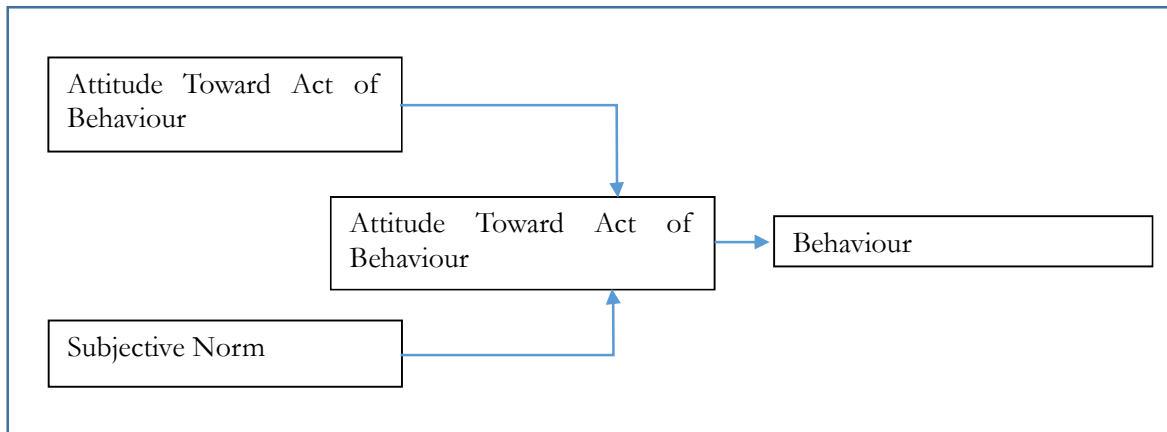


Figure 1.  
Theory of Reasoned Action

#### *Theory of Planned Behavior/ Reasoned Action*

Ajzen and Fishbein (1980) formulated a theory which was known as Theory of Planned Behaviour. This theory explains human behaviour. It is also known as Theory of Reasoned Action which was developed from attitude study. The theory was resulted from an attitude research, which was taken from Expectancy Value Models. Moreover, the theory was formulated after the research tried to make estimation towards the discrepancy between attitude and behaviour. The theory is called as Theory of Planned Behaviour due to the fact that it could predict deliberated behaviour since behaviour can be planned and deliberated.

Intention can occur from three reasons which are their attitude towards a certain action, the subjective norm, and their acceptance of behavioural control. In addition to measuring attitudes towards behaviour, there is also a need to measure people's subjective norms – their beliefs about how people they care about will view the behaviour in question. To predict someone's intention and knowing these beliefs can be as important as knowing the person's attitudes. Finally, perceived behavioural control influences intentions. Perceived

behavioural control refers to people's perceptions of their ability to perform a given behaviour. These predictors lead to intention. As a general rule, the more favourable the attitude and the subjective norm, and the greater the perceived control the stronger should the person's intention to perform the behaviour in question.

The Theory of Planned Behaviour supports the relation between trust, price, perceived value and attitude with ITP.

#### *Complexity Theory*

Complexity theory was developed based on a system theory during 1960, which was illustrated from a research on natural sciences and examined uncertainty and non-linearity (Axelrod, 2000). Strategic management and organisational studies implement complexity theory to understand on how organisations adapt to their environments and cope with uncertainty condition. The theory leads to classify complex situations in technology management, based on two dimensions of complexity, which are object and human-related complexity (see Figure 2).

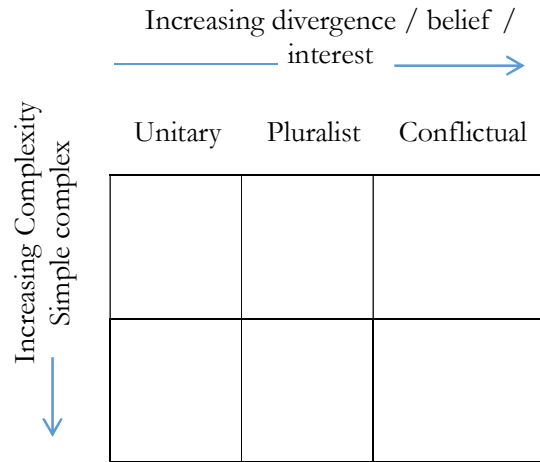


Figure 2.  
Classification of Complex Aystem  
Source: Miyazaki and Kijima (2000)

The matrix is made up of two dimensions which reveal possible “ideal-type” complex situations. The vertical axis relates to the object’s complexity. The point on the continuum depends upon factors consisting of external complexity (or uncertainty) and internal complexity (which is directly related with the uncertainty of price and attitude of buyers). On the other hand, the horizontal axis is concerned with increasing conflict (or divergence) of values, beliefs such as trust and perceived value and interests among those interested in, involved in, or affected by the situations. These people can be in a unitary relation if they share values and interests; in a pluralist relation if their values and interests diverge but they share enough in common. They can be in a conflicting or coercive relation if their beliefs and interests diverge

irreconcilably and power is employed to ensure that some group or groups gets a way at the expense of those it has conflict with. The basic claim is that by analysing complexity involved in technology management in this framework, we may extract crucial dimensions of technology management, and we may position and analyse actual technology management cases on the grid by considering the following dimensions. This Complexity Theory supports the relationship between Technology Management (with dimension of operational capabilities) with Trust.

*Findings and Argument*

The research findings showed that there were many variables which influenced the intention to purchase, such as:

Table 2.  
The Relationship between Trust and Intention to Purchase

No.	Scholars /Year	Dependent Variables	Independent Variables	Result
1.	Hsu <i>et al.</i> (2016) (Taiwan)	ITP	Trust	Close relationship with ITP (Male Taiwanese Customers)
		ITP	Trust	Not Closely related to ITP (Female Japanese Customer)
2.	Hajli <i>et al.</i> (2016) (SNS)	ITP	Trust	Significant



Table 3.  
*The Relationship between Price and Intention to Purchase*

No.	Scholars / Year	Dependent Variables	Independent Variables	Result
1.	Degirmenci <i>et al.</i> (2017) (Germany)	ITP	Price	No Relationship
2.	Calvo –Porral and Levy- Mangin (2017) (Spanish)	ITP	Price	Not Significant (High Perceived Quality)
		ITP	Price	Significant (Low Perceived Quality)

Table 4.  
*The Relationship between Perceived Value and Intention to Purchase*

No.	Scholars / Year	Dependent Variables	Independent Variables	Result
1.	Calvo –Porral and Levy- Mangin (2017) (Spanish)	ITP	Perceived Value	Not Significant (High Perceived Quality)
		ITP		Significant (Low Perceived Quality)
2.	Ghasemaghaei and Hassanein (2016) (U.S)	ITP	Perceived Value Perceived Value	Significant

Table 5.  
*The Relationship between Attitude and Intention to Purchase*

No.	Scholars / Year	Dependent Variables	Independent Variables	Result
1.	Ferreira <i>et al.</i> (2017) (Brazil)	ITP	Attitude	Significant
2.	Degirmenci and H. Breitner (2017) (Germany)	ITP	Attitude	Not Significant
3.	Ting <i>et al.</i> (2016) (Malaysia)	ITP	Attitude	Significant

Table 6.  
The Relationship between Technology Management and Trust

No.	Scholars / Year	Antecedent	Independent Variables	Result
1.	Inman and Nikolova (2017) (Amazon's online)	Technology Management -Operational Capabilities	Trust	Significant
2.	Lee and Turban (2014) (Hong Kong)	Technology Management -Operational Capabilities	Trust	Not Significant
3.	Abu-Shahab (2013) (Jordan)	Technology Management -Operational Capabilities	Trust	Significant

Table 7.  
Research Findings

No	Items	Relationship	Context
1.	Trust to ITP	Contradiction	Taiwan SNS
2.	Price to ITP	Contradiction	Germany Spanish
3.	Perceived to ITP	Contradiction	Spanish U.S
4.	Attitude to ITP	Contradiction	Brazil Germany
6.	Technology management to ITP	Contradiction	Amazon's online Hong Kong Jordan

*Conceptual Framework*

The conceptual framework (Figure 3) shows that trust, price, perceived value and attitude are having a direct relationship to intention to purchase and, technology management as

antecedent to trust; whereby all of the linkages between variables had research contradictions in their relations (gaps).

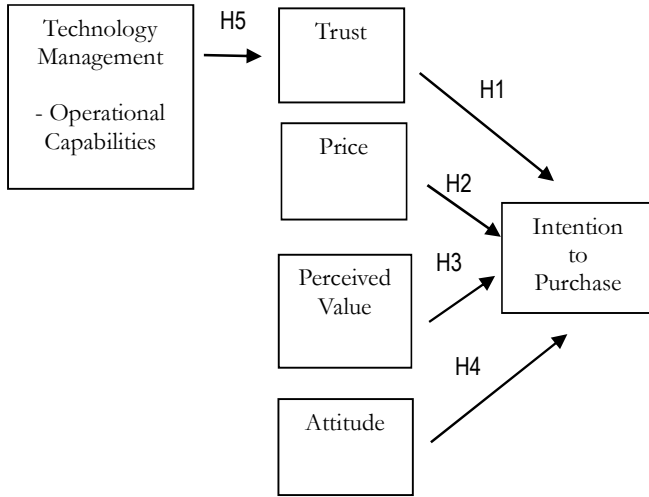


Figure 3.  
Conceptual Framework

### 3. Discussion

These findings were for the four variables (trust, price, perceived value and attitude) which influence ITP, and, technology management as an antecedent to trust. The study showed that there were contradictions in relations between variables and ITP and it was supported by past studies as that there was lack of study of relations between technology management and ITP in the Asian context.

(a) Trust:

As trust is an antecedent variable to ITP, the finding showed different results for different scholars whose results showed that the linkage between trust and ITP had contradiction. The contradiction was shown by the literature whereby trust had close relation with ITP in male Taiwanese customers. Meanwhile, trust did not have a close relation with ITP for female Japanese customers (Hsu et al., 2016). On the other hand, trust had a significant relation with ITP (Hajli et al., 2016).

(b) Price:

The same finding for price was shown by the linkage between price and ITP. The linkage had contradiction, whereby it was reflected by literature, in which price had no relation with

ITP (Degirmenci et al., 2017). Meanwhile price had relation with ITP but was not significant with ITP for high perceived quality, and price also had a significant relation with ITP for low perceived quality (Calvo-Porrall & Levy-Mangin., 2017).

(c) Perceived Value:

The linkage between perceived value and ITP had contradiction, whereby it was reflected by past studies in which perceived value had no significant relation with ITP for high perceived quality. Meanwhile, perceived value had significant relation with ITP for low perceived quality (Calvo-Porrall & Levy-Mangin., 2017). Besides, the variable for perceived value had a significant relation with ITP (Ghasemaghaci & Hassanein., 2016).

(d) Attitude:

The linkage between attitude and ITP had contradiction whereby it was reflected by past studies in which attitude had a significant relation with ITP (Ferreira et al., 2017 and Ting et al., 2016). On the other hand, attitude had no significant relation with ITP (Degirmenci et al., 2017).

(e) Technology Management

The finding on relation between technology management (TM) and trust also showed contradiction where it was reflected by past studies, in which technology management had positive linkage to trust (Inman & Nikolova, 2017 & Abu-Shahab, 2013). Meanwhile, according to Lee and Turban (2014), technology management did not have linkage and showed a non-significant result.

#### 4. Conclusions

From the above discussion, it can be concluded that trust, price, perceived value and attitude are the variables which influence ITP, with additional technology management as an antecedent to trust. All relations among variables had contradiction in their relationship (gaps). Besides, There were few Asian countries which studied in the context of ITP. Therefore, all the research questions were answered and all objectives were achieved. Therefore, those variables in these findings were pertinent for the industry to make strategic decisions.

##### *Recommendation for further research*

Based on conceptual framework, other researchers can do literature review on relation between technology management with both dynamic and operational capabilities. Future research also should focus on linkages between technology management with ITP, price, perceived value and attitude.

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