CONCEPTUAL DESIGN MODEL OF INTERACTIVE TELEVISION ADVERTISING: TOWARDS INFLUENCING IMPULSE PURCHASE TENDENCY

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Abstrak

Kajian sebelum ini menunjukkan bahawa pentingnya pembangunan penciptaan kandungan dalam pengiklanan televisyen interaktif (iTV) yang akan memberi peluang kepada para pengiklan untuk meningkatkan keberkesanan dan interaktiviti pengiklanan iTV. Pembelian secara impulsif adalah salah satu faktor penting yang mempengaruhi pengguna untuk membeli produk. Kajian lepas menunjukkan bahawa tingkah laku pembelian secara impulsif telah dikaji dalam medium lain seperti laman web, televisyen tradisional, dan kedai jualan. Walau bagaimanapun, kajian-kajian tersebut tidak khusus kepada mereka bentuk model untuk meningkatkan kecenderungan pembelian secara impulsif untuk pengiklanan iTV. Oleh itu, kajian ini memberi tumpuan kepada pembangunan model reka bentuk konseptual pengiklanan iTV yang dianggap mampu mempengaruhi kecenderungan pembelian secara impulsif. Model itu dinamakan sebagai iTVAdIP. Empat (4) objektif khusus telah dibentuk: (i) untuk mengenal pasti komponen pembelian secara impulsif berkaitan dengan pengiklanan iTV, (ii) untuk membangunkan model reka bentuk konseptual dan alat pematuhan iTVAdIP yang menerapkan elemen kecenderungan pembelian secara impulsif, (iii) untuk mengesahkan model reka bentuk konseptual yang dicadangkan, dan (iv) untuk mengukur persepsi pengaruh model reka bentuk konseptual terhadap kecenderungan pembelian secara impulsif. Kajian ini menggunakan kaedah penyelidikan sains reka bentuk. Model reka bentuk konseptual telah disahkan melalui kajian pakar. Kemudian, satu instrumen telah dibangunkan untuk mengukur persepsi pengaruh model reka bentuk konseptual. Lapan dimensi telah diperolehi daripada pelbagai kajian yang berkaitan untuk membentuk instrument iaitu persepsi mudah digunakan, persepsi kebergunaan, kejelasan, kefleksibelan, kebolehlihatan, keterterapan, kepuasan, dan motivasi. Seramai 37 orang pereka pengiklanan berpotensi terlibat di dalam kajian ini. Keputusan menunjukkan bahawa semua dimensi mempunyai hubungan yang signifikan dengan faktor keseluruhan persepsi pengaruh, dan min skor keseluruhan persepsi pengaruh adalah tinggi. Oleh itu, secara kesimpulannya model reka bentuk konseptual iTVAdIP dengan elemen yang dicadangkan dilihat mampu mempengaruhi kecenderungan pembelian secara impulsif. Model reka bentuk konseptual iTVAdIP bersama dengan alat pematuhan merupakan sumbangan utama kajian ini. Kedua-duanya boleh digunakan sebagai garis panduan reka bentuk pembelian secara impulsif kepada pereka pengiklanan terutamanya pereka novis.

Kata kunci: Pengiklanan televisyen interaktif (iTV), Pembelian secara impulsif, Model reka bentuk konseptual, Persepsi pengaruh

Abstract

Previous research indicates the importance of content creation development in interactive television (iTV) advertising, which could bring the opportunities for advertisers to increase the effectiveness and interactivity of the iTV advertising. Impulse purchase is one of the important factors that influence consumers to purchase product. Previous studies revealed that impulse purchase behavior has been studied in different medium such as website, traditional television, and retail store. However, those studies are not dedicated to design models to increase impulse purchase tendency on iTV advertising. Hence, this study focuses on the development of a Conceptual Design Model of Interactive Television Advertising that could influence impulse purchase tendency. The model is shortnamed as iTVAdIP. Four (4) specific objectives were formulated: (i) to identify relevant impulse purchase components for iTV advertising, (ii) to develop a conceptual design model and a conformity tool of the iTVAdIP that embed impulse purchase tendency elements, (iii) to validate the proposed conceptual design model, and (iv) to measure the perceived influence of the conceptual design model elements on impulse purchase tendency. This study followed design science research methodology. The conceptual design model was validated through expert review. Then, an instrument was developed to measure the perceived influence of the conceptual design model. Eight dimensions were elicited from various relevant studies to form the instrument which are perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction and motivation. A total of 37 potential advertising designers participated in this study. The results show that all dimensions are significantly correlated to the overall perceived influence, and the mean score of the overall perceived influence is high. Therefore, it is concluded that the iTVAdIP conceptual design model with its proposed elements is perceived as able to influence impulse purchase tendency. The iTVAdIP conceptual design model together with the conformity tool are the main contributions of this study. Both can be adopted as impulse purchase design guidelines for the advertising designers particularly the novice ones.

Keywords: Interactive television (iTV) advertising, Impulse purchase, Conceptual design model, Perceived influence

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Azizah Che Omar
Universiti Utara Malaysia
30 January 2016

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List of Abbreviations

TV	Televisyen
iTV	Interactive Televisyen
iTVAdIP	Interactive Televisyen Advertising Towards Influencing Impulse Purchase Tendency
IP	Impulse Purchase
IPTV	Internet Protocol Television
TC	Television Commerce
IBT	Impulse Buying Tendency
ADSL	Asymmetric Digital Subscriber Line
FTTC	Fiber To The Curb
HFC	Hybrid Fiber Coaxial
CPE	Customer Premises Equipment
CA	Comparative Analysis

List of Publications

The following are a few publications related to this that have been published in journals and proceedings:

JOURNALS

1. **Azizah, C.O**., Norshuhada, S., Siti Mahfuzah, S., & Mohd Adib, A.M. (2015). Conceptual Design Model of Interactive Television Advertising: Experts Review on Impulse Purchase Tendency. *International Journal of Conceptions on Management and Social Sciences, 3*(2), 40-45.

2. **Azizah, C.O**., Norshuhada, S., & Siti Mahfuzah, S. (2015). Conceptual Design Model of Interactive Television Advertising Towards Impulse Purchase. *ARPN Journal of Engineering and Applied Sciences*, *10*(3), 1427-1437.

3. **Azizah, C.O**., Norshuhada, S., & Siti Mahfuzah, S. (2014). Conceptualising Impulse Purchase Elements for iTV Advertising. *International Journal of Innovation, Management and Technology, 6*(1), 1-7.

4. **Azizah, C.O**., Norshuhada, S., & Siti Mahfuzah, S. (2014). Impulse Purchase in iTV Advertising: a Conceptual Model of Gap Analysis. *International Journal of Computer Application, 91*(11), 20-26.

5. **Azizah, C.O**., Norshuhada, S., & Siti Mahfuzah, S. (2014). Document Analysis Framework for Modelling iTV Advertising Towards Impulse Purchase. MAGNT Research Report. *BRIS Journal of Adv. In S & T*, *2*(5), 184-198.

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1. **Azizah, C.O**., Siti Mahfuzah, S., & Norshuhada, S. (2015). Advertising Theories in Impulse Purchase Elements for iTV Advertisement. *5th International Conference on Computing and Informatics (ICOCI 2015)*, 763-771, August 11-13, 2015, Istanbul, Turkey.

2. **Azizah, C.O**., Norshuhada, S., Siti Mahfuzah, S. & Mohd Adib, A.M. (2015). Conceptual Design Model of Interactive Television Advertising: Experts Review on Impulse Purchase Tendency. *International Conference on Engineering, Management and Social Sciences (ICEMS May 2015),* 40-45, May 8-9, 2015, London, United Kingdom.

3. **Azizah, C.O**., Norshuhada, S., & Siti Mahfuzah, S. (2015). Conceptualising Impulse Purchase Elements for iTV Advertising. *4th International Conference on Economics Business and Marketing Management (CEBMM)*, 1-7, December 4-5, 2014. Bandar Seri Bagawan, Brunei.

4. **Azizah, C.O**., Norshuhada, S., & Siti Mahfuzah, S. (2014). Conceptual Design Model of Interactive Television Advertising Towards Impulse Purchase. *Advanced on Information Technology International Conference (ADVCIT 2014)*, 159-168, December 16-18, 2014, Bandung, Indonesia.

5. **Azizah, C.O**., Norshuhada, S., & Siti Mahfuzah, S. (2014). An Impulse Purchase Conformity Tool for Interactive Television Advertising. *Knowledge Management International Conference (KMICE),* 291-296, August 12-15, Langkawi, Malaysia.

6. **Azizah, C.O**.,Norshuhada, S., Siti Mahfuzah, S., Ariffin, A.M., Sabrina, M.R. (2013).Identification of Research Gap: T-Commerce Impulse Purchase for iTV advertising. *International Conference on Informatics and Creative Multimedia 2013 (ICICM'13),* 119-122, September 3-6, Kuala Lumpur, Malaysia.

7. Siti Mahfuzah, S., Sabrina, M.R., Ariffin, A.M., **Azizah, C.O**., (2013).Diffusion of iTV advertising in Malaysia: the industry players' perspectives. *International Conference on Informatics and Creative Multimedia 2013 (ICICM'13),* 99-103, September 3-6, 2013. Kuala Lumpur, Malaysia.

Awards and Recognitions

SILVER

1. **SILVER** Medal, (iCompEx 2015), Politeknik Sultan Abdul Halim. (Conformity Tool of Interactive Television Advertising: Towards Influence Impulse Purchase Tendency) Politeknik Sultan Abdul Halim,
   Jitra (24 – 26 March 2015)

BRONZE

1. **BRONZE** Medal, Malaysia Technology Expo (MTE2014), Malaysian Association of Research Scientist. (Conformity Tool of iTVAdIP)
   PWTC,KL (20-22 February 2014)

CHAPTER ONE
INTRODUCTION

1.1 Overview

This introductory chapter provides some background of the study which deliberates on issues that lead to the motivation aspects of the study, specifications of the problem, preliminary investigation, extraction of research gaps, and formulation of research problem and research objective. It also discusses the scope and limitations of the study, contribution of study, theoretical and research framework, as well as operational definitions of terms used throughout the study.

1.2 Background of Study

Traditional television (TV) advertising is less efficient and a revised interactive advertising model is required to commercialize the content on TV (IAB, 2011). The traditional TV advertising uses push model, where advertisers send information to passive and non-interactive viewers (Vennou et al., 2009). On the contrary, interactive television (iTV) advertising is based on the original pull model, where the consumers have active access to the contents and active interact with the services. In addition, the consumers are able to purchase or receive the information requested for specific goods via remote control (Wang et al., 2011; Kelly et al., 1997).

On top of that, iTV advertising allows consumers to have two-way communication by sending or requesting additional information back to the advertiser or programmer (IAB, 2011). It also could convert the medium of TV from a passive

involvement to an active involvement in order to encourage consumers to do purchasing and having interaction with the TV screen (Kingsford, 2003). Other than that, iTV also provides new opportunities for advertisers to increase the effectiveness of TV advertising messages (Giotis & Lekakos, 2009).

Additionally, iTV advertising provides audiences with new sales channels and gives higher return to the advertisers (Television Advertising Survey, 2011). It is the most suitable method in promoting services and products since it provides a medium with ease of use, more efficient, high visibility, and could give viewers more enjoyment to watch. According to Television Advertising Survey (2011), more than half of the revenue in US comes from TV advertising which amounted to $41.1 billion, from the total of $79.5 billion. The consumers have been discovered to purchase products and services because they view the products and services on TV (Deloitte, 2011). However, advertising and marketing people have to know how to attract and influence customers to purchase the product on TV.

There are different types of interactive advertising to attract viewer's attention and provide with specific information. According to NDS Business Consulting (2000), interactive advertising can be categorized into response, jump, tag, incentive, targeted, viewer response, and impulse purchase. Impulse purchase is an unplanned purchase or purchasing without pre-intention and it happed when consumers exposed to the stimulus such as product promotion, product quality and etc. (Badgaiyan & Verma, 2014; Liao et al., 2009; Piron, 1991). By understanding the consumer behavior regarding impulse purchase it will easily influence and attract consumers the purchase the advertised product impulsively.

Previously, the marketing team realized the importance of impulse purchase phenomenon in traditional commerce, which allowed the marketers to attract consumers in many ways such as store position products, store promotion, product packaging in an enticing way to increase impulse purchase, and getting consumers to be impulsive (Kacen et al., 2012; Chang et al., 2011; Dholakia, 2000). Through the years, impulse purchase has also been made easier by innovations, such as telemarketing, debit cards, and credit cards (Nor et al., 2014). Previoulsy, rapid developments in information technology have substantially changed the landscape of consumer behavior. The retailing availability for the Internet has brought about an increase impulse purchase (Shen & Khalifa, 2012; Madhavaram & Laverie, 2004). Consequently, impulse purchase accounts for a large volume of product sold every year (Xiao & Nicholson, 2013; Hausman, 2000) contributing to iTV advertising.

iTV advertising has increased the ease to make purchases and accessibility to products and services. Additionally, iTV advertising eliminates the constraints in terms of space and time that are always experienced by shoppers in the context of traditional commerce (Eroglu et al., 2001). Goods and services are purchased easily on TV using a remote control instead of a telephone, PC, or PDA (Yu et al., 2005). In fact, in the Europe and USA Digisoft (2004) found that the success of iTV advertising adoption was excellent. In detail, 46% of consumers are happy and interested in services provided by iTV advertising. Therefore, this study expects that the implementation of iTV advertising in Malaysia could positively affect the nationwide marketing and advertising landscape.

1.3 Motivation of Study

A number of phenomena have triggered the acceleration of this study. Accordingly, this section summarizes those phenomena which motivate the study to be conducted.

1.3.1 Current State of Television Subscriptions in Malaysia

The Malaysian advertising landscape is progressively shifting its traditional media forms to the emergent new media advertising (MCMC, 2009). With household broadband penetration at an explosive growth the Internet Protocol Television (IPTV) subscription increased advertising (MCMC, 2011) as depicted from Table 1.1, the potentials for interactive advertising in Malaysia has yet to be fully realized while there are tremendous opportunities for growth. As forecasted in Bernama (2008), the growth for this would be expected to derive from digital advertising and the enormous potential in TV and creative production.

Table 1.1

The number of IPTV subscription in Malaysia

Year	QTR	Number of subscriptions ('000)			Penetration rate per 100 household
		Household	Non-household	Total	
2011	1	2,930	10	2,940	44.2
	2	2,961	10	2,971	44.6
	3	2,996	10	3,006	45.0
	4	3,039	11	3.050	45.5
2012	1	3,104	10	3,114	46.4
	2	3,183	13	3,196	47.4
	3	3,308	14	3,322	49.2
	4	3,399	16	3,415	49.2
2013	1	3,570	17	3,587	51.9
	2	3,637	19	3,656	52.3
	3	3,693	20	3,712	53.7
	4	3,841	24	3,865	55.7
2014	1	3,841	24	3,899	55.4
	2	4,114	25	4,139	58.9
	3	4,313	24	4,337	61.6
	4	4,408	25	4,433	62.7

1.3.2 Government Supports and Initiatives

As reported in Communication and Multimedia Industry in Malaysia (MCMC, 2011), "the advertising industry in Malaysia is analyzed in terms of its contribution to industry revenue and its effect on the development of networked content". This study is also driven by the national policy objective for the (MCMC, 2011), specifically in; a) establishing Malaysia as a main global centre and hub for communications, multimedia information and content services, b) nurturing local information resources and cultural demonstration that facilitates the national and global identity, c) promoting a high level of consumers' confidence in service distribution from the industry, and d) creating a strong applications environment for end consumers. With networked content being defined as all text, audio, audio-text, still pictures, moving pictures, and software that is accessible over publicly accessible electronic networks, this benchmark reflects on the importance of content development of the advertising campaign.

Similarly, the objectives of the policy are also in line with the vision of the National Transformation Agenda with the introduction of the Digital Transformation Program (i.e., Digital Malaysia). The initiative was launched to begin the transformation into a digital economy with stresses on productivity, creativity and innovation (The Sun Daily, 2011). Similarly, studies by Cauberghe & Pelsmacker (2006) and IAB (2011) exhibit positive inclination towards the emphasis on content creation of interactive advertising.

1.3.3 Summary of Research Motivation

With such huge potentials in creative content applications, high demands in creative content markets, and supports from the government, there is a possibility of utilizing creative contents for digital content in interactive advertising. In addition, it has to be realized that the components and elements in the interactive advertising play an important roles in efforts to make the iTV advertising useful for consumers. Hence, the reasons for this should be further addressed.

1.4 Problem Statement

iTV provides richer entertainment, information and able to have two ways communication between the consumers and television. iTV allows consumers to take part and actively participate in television programming. Consumers can use remote control to interact with the television and also able to do purchasing directly through television. Hence, it allows various new opportunities for advertiser to market more effectively (Giotis & Lekakos, 2009) and at the same time eliminates the constraints in terms of space and time that are usually experienced by consumers in a traditional commerce context (Park & Lennon, 2006).

There has been an obvious necessity to examine the factors that influence consumers to purchase product on television shopping program, however research effort on this is minimal (Boyland et al. 2012; Wicks et al. 2009; Lee, 2008; Sadia, 2007; Park & Lenon, 2006). One such factors, the impulse purchase behavior has been studied for different domains such as traditional retail store (Beatty & Ferrell, 1998), website (Liu et al, 2013; Fan et al, 2012; Koo & Ju, 2010; Kwek et. al, 2010; Eroglu, Machleit, & Davis, 2001), and traditional TV (Boyland et al. 2012; Wicks et al.

2009; Lee, 2008; Sadia, 2007; Park & Lenon, 2006). However, those studies are not dedicated to design models to increase impulse purchase tendency on iTV advertising (Siti Mahfuzah et al, 2013).

For example, there are a number of studies which relate to such design model of impulse purchase on website advertising as listed in Table 1.2. However, the components by them are more on how website advertising might influence consumers towards impulse purchase tendency but not on television advertising.

Table 1.2

Example of Framework and Design Models of Impulse Purchase on Website Advertising

No.	Researcher	Description of Models/Frameworks
1.	Liu et al, (2013)	Conceptual Framework of Website Attributes in Online Purchase
2.	Fan et al, (2012)	Conceptual Framework of Website Brand Equity
3.	Bono, (2012)	Model of Website Aesthetics within Online Environment
4.	Adelaar et al, (2003)	Conceptual Model of Media Format on Behavioral Intention
5.	Koo & Ju, (2010)	Conceptual Framework Effect of Atmospherics on Online Shopping

Moreover, the design models of impulse purchase on traditional television advertising as depicted in Table 1.3 show more on components of impulse purchase on traditional television advertising does not have interactive ability compared to iTV advertising. Additionally, the models also do not provide specific design elements to increase impulse purchase tendency on iTV advertising**.**

Table 1.3

Example of Framework and Design Models of Impulse Purchase on Traditional Television Advertising

No.	Researcher	Descriptions of Models/Frameworks
1.	Sadia (2007)	Conceptual Model for Effect TV Display on Impulse Purchase
2.	Lee (2008)	Model of Impulse Buying Tendency Toward Television shopping
3.	Boyland et al, (2012)	Impulse purchase techniques used in television advertisement
4.	Wicks et al, (2009)	Model on dual-modality disclaimers, emotional appeals, and production techniques in food advertising airing during programs
5.	Batada et al, (2008)	Framewok in understanding of commercials' impulse purchase intent among urban, minority children in the USA

In relation to this, the design models for iTV advertising as depicted in Table 1.4 do not include consumer behaviour regarding impulse purchase. The studies are also not dedicated to design models to increase impulse purchase tendency on iTV advertising.

Table 1.4

Example of Framework and Design Models of Impulse Purchase on iTV Advertising

No.	Researcher	Description of Models/Frameworks
1.	Ghisi et. al, (2009)	Conceptual Model of T-Commerce
2.	Erdogan, (2004)	An On-Demand Advertising Model for ITV.
3.	Jae Hoon et. al, (2008)	A New Content-Related Advertising Model For Interactive Television
4.	Thawani et al, (2004)	Context Aware Personalized Ad Insertion in an Interactive TV Environment
5.	Almeida et al, (2013)	Intreractive trend in the TV advertising lanscape.

Besides, research on the design of iTV advertising towards influencing impulse purchase tendency for effective marketing strategies is still lacking (Brown et al, 2006). Therefore, such a gap ought to be investigated which could contribute to the fields of business and interactive advertising. The clearer gap as shown in Figure 1.1.

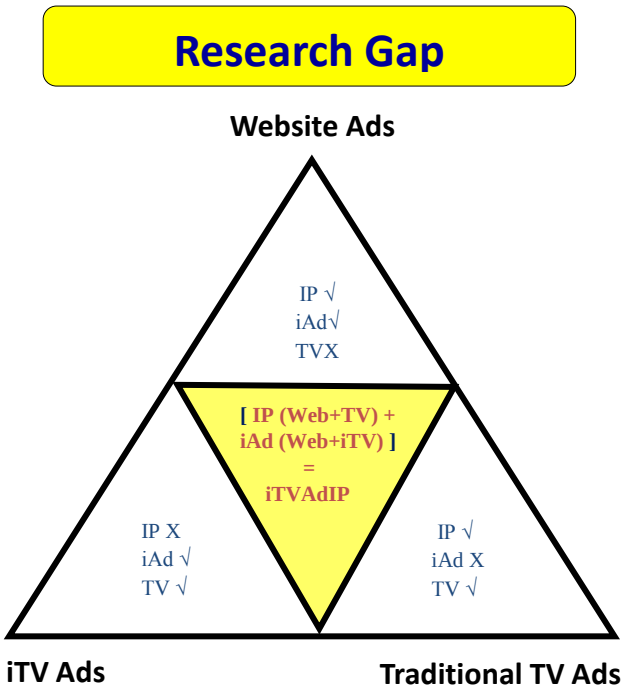


Figure 1.1: Clearer Gap For This Study

Note. IP = Impulse Purchase TV = Television
iAd = Interactive Advertising Ads = Advertising
iTVAdIP = Interactive Television Advertising Towards Influencing Impulse Purchase Tendency

Figure 1.1 shows that in website advertising design model consist of impulse purchase and interactive advertising elements but it not focus on TV. For traditional TV advertising design model consist of impulse purchase elements but it does not have interactive element. Meanwhile in iTV advertising design model, even though it consists of interactive advertising elements but it does not have impulse purchase elements. Therefore, this study focus on development of a conceptual design model of iTV advertisements which embed elements that are perceived could influence impulse purchase tendency.

1.5 Preliminary Investigation

A preliminary investigation was conducted to develop research focus and to confirm the research problem. The analyses of this preliminary study further strengthen the needs of this study.

a) Method

The main objectives of this preliminary study are (i) to gather the information regarding the availability of iTV advertising, and (ii) to identify any specific design or strategies in developing iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. Therefore, a series of interviews were conducted by involving six respondents as shown in Figure 1.2.

They are the Deputy Chief Director of Communications and Multimedia Content Forum of Malaysia (CMCF), Deputy Chief Director from Film Censorship Board of Malaysia (LPF), Advertiser from Leo Burnett Company, Manager of Client Service from AC Nielsen Company, Assistant Vice President from Asian Broadcasting Network (ABN) and Head of Interactive Media from Broadcaster Astro.

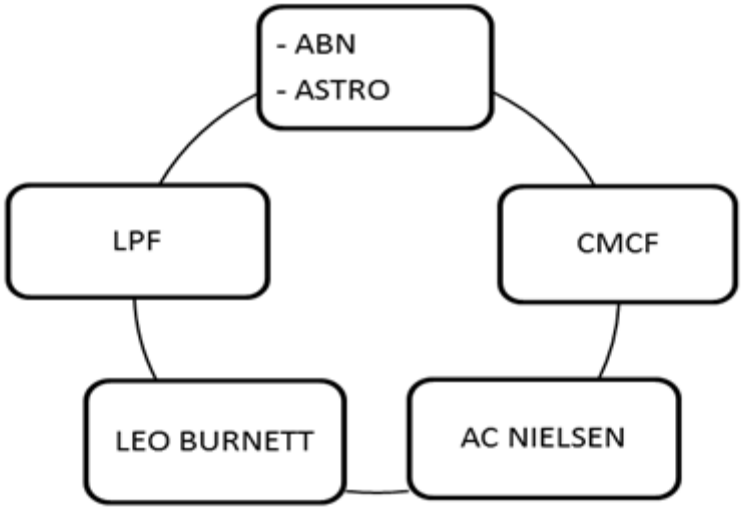


Figure 1.2. The organizations involved in the interview

Before the interview, the interview questions were developed, following the phases as depicted in Figure 1.3.

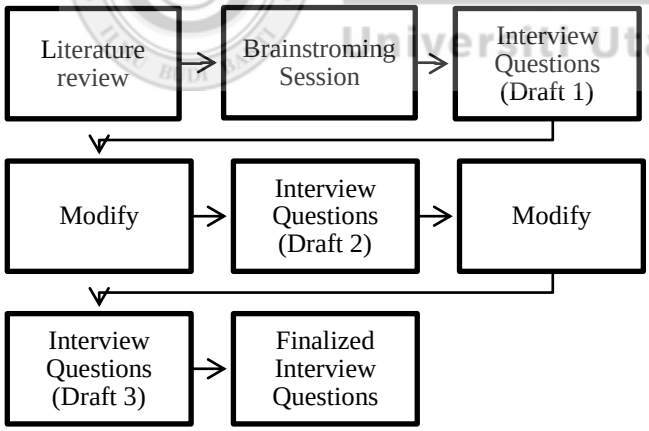


Figure 1.3. Design of the preliminary interview questions

In conjunction, the finalized interview questions which consist of 9 questions as listed in Table 1.5 were asked in a semi-structured format.

Table 1.5

List of Interview Questions

No.	Items
Q1	In your opinion, are Malaysian viewers aware of iTV?
Q2	In your opinion, are Malaysian viewers exposed to iTV?
Q3	In your opinion, are Malaysian viewers aware of iTV advertising?
Q4	In your opinion, are Malaysian viewers exposed to iTV advertising?
Q5	To your knowledge, is iTV advertising available through Malaysian TV?
Q6	To your knowledge, do practitioners in Malaysia follow any guideline or workflow process in iTV advertising?
Q7	In your opinion, are impulse purchase elements included in the iTV advertising?
Q8	Do practitioners in Malaysia have any specific design guides or strategies in developing iTV advertising towards influencing impulse purchase tendency?
Q9	Do you have any recommendation for a standard advertising workflow developing iTV advertising towards influencing impulse purchase tendency?

The questions were addressed to investigate the following conditions: (1) whether Malaysian viewers are aware of iTV, (2) whether the Malaysian viewers are exposed to iTV, (3) whether the Malaysian viewers are aware of iTV advertising, (4) whether the Malaysian viewers are exposed to iTV advertising; (5) whether iTV advertising is available through Malaysian TV, (6) whether practitioners in Malaysia follow any guideline or workflow process for iTV advertising, (7) whether impulse purchase elements are included in the iTV advertising, (8) whether practitioners in Malaysia have any specific design guides or strategies in the development of iTV advertising towards influencing impulse purchase tendency, and (9) whether they have any recommendation for a standard advertising workflow for iTV advertising towards influencing impulse purchase tendency. In the end, the interviews managed to gather results as listed in Table 1.6.

b) Analysis of findings

Table 1.6

Respondents' Opinion on the Availability and the Needs of iTV advertising towards influencing impulse purchase tendency

Q	Respondent 1 (Self Regulator Agency- CMCF)	Respondent 2 (Broadcaster- ASTRO)	Respondent 3 (Broadcaster- ABN)	Respondent 4 (Advertising Agency- Leo Burnet)	Respondent 5 (Government Organization- LPF)	Respondent 6 (Market Research Agency- AC Nielsen)
1	√	√	√	√	√	√
2	√	√	√	√	√	√
3	√	√	√	√	√	√
4	√	√	x	√	√	x
5	x	x	x	x	x	x
6	x	x	x	x	x	x
7	x	x	x	x	x	x
8	x	x	x	x	x	x
9	√	√	√	√	√	√

Note.

Description of symbols	
√	Yes
x	No

Referring to Table 1.6, all respondents agreed that Malaysian viewers have been exposed to iTV and iTV advertising (Q1)(Q2)(Q3). However, it can also be noticed that the majority of the respondents found that, there is lack of direction from practioners in Malaysia to venture into iTV advertising (Q5)(Q6)(Q7). In addition, the respondents also imply that readiness among local consumers is still dimmed and requires a lot of initiatives. Moreover, Deputy Chief Director from Film Censorship Board of Malaysia (LPF), informed that there is no standard guideline or model regarding the development of iTV advertising (Q8).

Based on the data from the interview, most of the respondents also suggested that it is good for the researcher to start first in doing research regarding this matter. As a result, the proposed of conceptual design model of iTV advertising towards influencing impulse purchase tendency is needed as a new platform for advertisers and marketers in promoting their products and at the same time bring consumers to a new way of purchasing through television.

In addition, the conceptual design model of iTV advertising that are perceived could influence impulse purchase tendency is needed in order to have relative advantage to all parties and help practitioners, marketers and advertisers to understand more on consumer behavior regarding impulse purchase in order to create good marketing strategies in increasing economy growth for nation.

1.5.1 Research Gap and Research Questions

Based on the research problem and preliminary study as discussed in the previous section, the following research gaps are extracted:

i) Conceptual design model of iTV advertising towards influencing impulse purchase tendency is required particularly in Malaysia.

ii) Currently, conceptual design model of iTV advertising does not include impulse purchase elements as part of the consumer behaviour.

iii) Design elements and guidelines that should be considered when developing the iTV advertisements which embed elements that are perceived could influence impulse purchase tendency are not clearly identified in the existing models.

Therefore, this leads to the following research questions:

i) How to identify relevant impulse purchase components for iTV advertising?

ii) How to develop a conceptual design model of the iTV advertising that could influence impulse purchase tendency?

iii) How to validate the proposed design model?

iv) Could the proposed design model influence impulse purchase tendency?

1.6 Proposed Solution

In filling the research gaps, this study proposes a conceptual design model of iTV advertising that embeds elements that are perceived as could influence impulse purchase tendency.

1.7 Research Objective

The main objective of this study is to propose a conceptual design model of interactive television advertising that could influence impulse purchase tendency (iTVAdIP). In order to achieve the main objective, the following specific objectives are also formed:

i) To identify relevant impulse purchase components for iTV advertising.

ii) To develop a conceptual design model and a conformity tool of the iTVAdIP that embed impulse purchase tendency elements.

iii) To validate the proposed conceptual design model.

iv) To measure the perceived influence of the conceptual design model elements on impulse purchase tendency.

1.8 Research Scope

This study focused on constructing a conceptual design model of iTVAdIP within such limitations:

i) The domain area for this research is in Malaysia environment. Respondents involved and places of study are located in Malaysia except the expert consultation from various countries.

ii) This study concerns on evaluating the perceived influence of the proposed model rather than the effectiveness of advertising.

iii) The evaluation of the model only involved potential advertising designers rather than potential consumers, since the model is intended for designer.

iv) This study focused on the most popular product bought in Malaysia regarding clothes.

1.9 Contribution of the Study

This study makes a number of contributions to the knowledge and practice. The contributions can be summarized as in the following subsections.

1.9.1 Conceptual Design Model of iTVAdIP

This study proposes a conceptual design model of iTV advertising with impulse purchase tendency elements which is called iTVAdIP. The advertising designers would get benefits from this model, in which they can refer to develop an iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. The model provides comprehensive guidelines which consist of 3 main components which are impulse purchase elements (which consists of strategy, general tactics and media specific tactics), layer of technology (which consists of

physical, interaction and style of presentation), and development process (which consists of pre-production, production and post-production phases).

1.9.2 Comparative Analysis of Existing Models

In finding out the common components and theoretical foundation related to the study, three comparative analyses were conducted. These analyses compared and explored the impulse purchase models from different medium of advertising, particularly in website, traditional TV and iTV advertising. These models are proposed by several researchers in identifying the important elements of impulse purchase that can attract consumers to purchase the advertised product. These should provide significant analysis to other researchers and will further provide research basis for future studies.

1.9.3 iTVAdIP Conformity Tool

This study developed a tool which is called the iTVAdIP Conformity Tool. It is produced based on the elements of the conceptual design model of iTVAdIP. The main purpose of the prototype is to evaluate the percentages of impulse purchase tendency on advertising design. Besides, it is also as a guide for advertising designers to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. The prototype receives recognition and awards from national and international competitions.

1.9.4 Instrument for Evaluating the Influence of the Conceptual Design Model of iTVAdIP

The instrument for evaluating the conceptual design model of iTVAdIP was developed. In the instrument, eight evaluation dimensions were proposed to evaluate the overall perceived influence namely; perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction, and motivation. These dimensions were collected from previous literatures which consider the criteria of good development in conceptual design model. The instrument was found highly reliable in the pilot study with Cronbach's Alpha for each dimension is greater than 0.7. The instrument can also be used by future research on evaluation of other design model.

1.10 Research and Theoretical Framework

The research framework covered in this study followed five phases which include problem awareness, suggestion, development, evaluation and conclusion. In the first phases, preliminary investigation, elicitation from literature and comparative analysis are conducted in identifying the research problem and scope. Besides, theories and concepts were also analyzed in the area of advertising, psychology, conceptual design model and persuasion.

In the suggestion phase, based on comparatives analysis, expert consultation, the reviewed theories and concepts were used as the basis in determining the common components for constructing the conceptual design model. In the development phases, the proposed conceptual design model of iTVAdIP and conformity tool of iTVAdIP were developed by combining all related components as previously

suggested. Then, it was evaluated through expert review and survey. Finally, in the conclusion stage the results were analyzed. Figure 1.4 illustrates the research and theoretical framework.

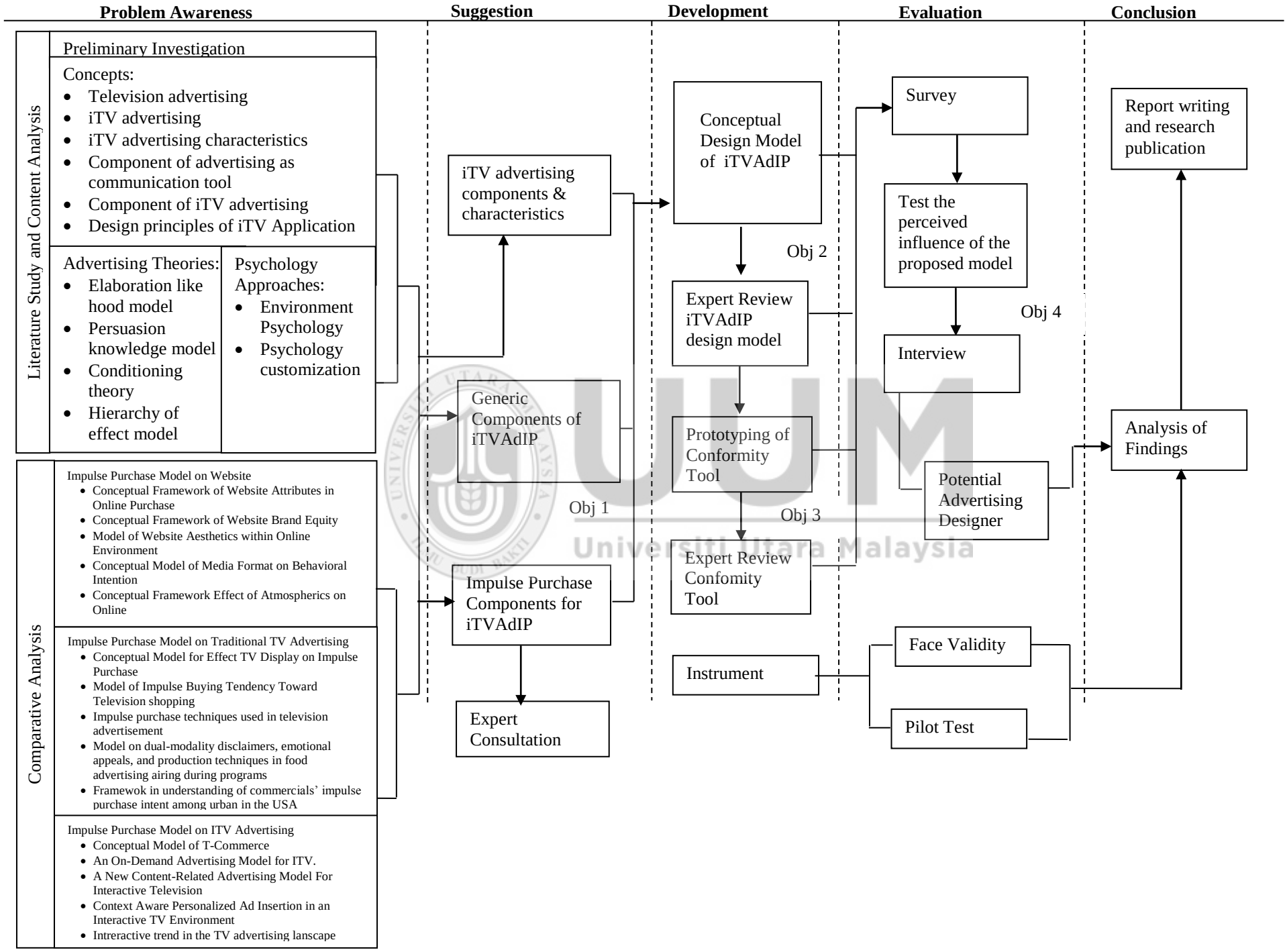


Figure 1.4. Research and Theoretical Framework

1.11 Operational Definition and Terminologies

This section describes the terminologies related to this study which lead to the operational terminologies that are used commonly throughout this thesis.

Advertising

Advertising refers to form of marketing communication used to inspire, influence, or manipulate viewers, audiences, listeners, or readers to take some action. However interactive advertising has been chosen for the context of this study.

Interactive Television (iTV)

iTV can be defined as a television viewing experience that enables consumers to send or request information back to the programmer and advertiser. It provides richer entertainment, information and is able to have two ways communication between the viewer and television. iTV allows viewers to take part and actively participate in television programming.

Interactive Television (iTV) Advertising

iTV advertising refers to television viewers taking part and actively participate in television programming. Viewers can use remote control to interact with the television and allow them to purchase a product while viewing the advertising.

Advertising Designers

A person who develops an advertisement for iTV display.

Impulse Purchase (IP)

Impulse purchase refers to an unplanned purchase or a suddenly and immediately purchase with no pre-shopping intentions either to buy the certain product category to fulfil a specific buying task. It happened when consumers are exposed to a stimulus such as product promotion, product quality and etc.

In addition, this study also associates the impulse purchase tendency with persuasiveness. Simply because, in order to make consumers buy impulsively, persuasive elements play significant parts in influence the consumers to buy the product.

In the context of this study, impulse purchase through iTV advertising has been chosen.

Impulse Purchase Tendency

Impulse purchase tendency refers to the ability of the advertised product to persuade consumers to purchase.

Design Model

Design model is a set of propositions which expresses the relationship between components or concept. In this study a design model is defined as a combination of components and processes that makes up a model to design a system.

Influence

Influence refers to the capability of the proposed model to be applied by advertising designers in producing iTV advertisements which embed elements that are perceived could influence impulse purchase tendency.

Comparative Analysis

Comparative analysis refers to several existing models from previous studies being analyzed and compared.

1.12 Thesis Structure

This thesis consists of seven chapters. The whole contents of each chapter are described as follows:

Chapter 1: Introduction – As an introductory, chapter 1 provides some background of the study; elaboration of issues that underline the foundation of the study; motivation of study; and the research problem. In addition, the result of preliminary investigation are also discussed which then guide to the formulation of research gap, research question, research objective; research scope, contribution, and also discuss on operational definition that are used in this study.

Chapter 2: Literature Review – Before designing the conceptual model, it requires to review in-depth on the concepts and theories that relate to this study. It is important to make sure the conceptual design model is corresponding to the elements needed and complying with the entire research objective. Thus, this chapter reviews on concepts and theories underlying this study, as well as the comparative analysis from previous study to get the component involve in proposing design model.

Chapter 3: Research Methodology – This chapter elaborates the process involves in this study from the beginning to the end to achieve all the research objectives. The process was based on design science approach which consists of five phases. The detail discussion for each phase is also discussed in this chapter.

Chapter 4: Conceptual Design Model of iTVAdIP – This chapter discusses the process involve in constructing the conceptual design model of iTVAdIP. It involves content analysis, comparative analysis and expert consultation. In addition, it also discusses the relationship of theory that mapped with the model.

Chapter 5: Expert Review on iTVAdIP Design Model and Conformity Tool – This chapter discusses on how to validate the conceptual design model with expert review. The result from expert review also described in this chapter. In addition, this chapter also covers the prototype development of conformity tool to evaluate the percentages of impulse purchase tendency on advertising design. The conformity tool also went through the expert review process.

Chapter 6: Analysis of Perceived Influence – This chapter elaborates how the survey was done; describe the evaluation of proposed model; the instrument used for evaluation and the result of structured interview also presented.

Chapter 7: Conclusion – Finally this chapter discusses on the findings of this study by answering all the research questions and objectives; implication of proposed model as well as the recommendations for future research of the study.

CHAPTER TWO
LITERATURE REVIEW

2.1 Overview

This chapter provides a systematic review of the literature for the purpose of looking for concepts, theories and approaches related to the study. An extensive review on comparative analysis of existing models, understanding several advertising theories and psychology approaches are reported here. The extensive review is necessary in order to produce a complete conceptual design model of iTVAdIP.

2.2 Television Advertising

One of the purposes of television is to provide the opportunity for advertising (IAB, 2011). In addition, most of the countries show that advertising on television is an effective way to market the product and bring effective strategies for marketing (IAB, 2011). According to Advertising Forecast, (2011) the advertising on television grow by 6.0% globally in 2011 and generate $169 billion. Over the following five years the industry will grow at an average rate of 7.5% to total $243 billion by 2016 as shown in Figure 2.1.

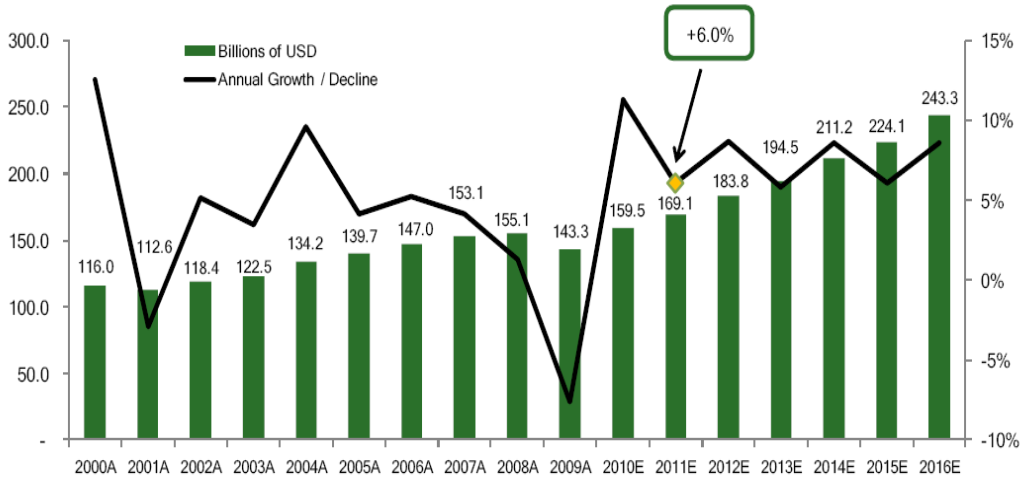


Figure 2.1. Total Television Forecast, Advertising Forecast (2011)

According to Nielsen, (2011), the number of television household has shown the largest ownership as shown in Figure 2.2. It shows that TV has success to attract the biggest possible audience and, as a consequence, to be appealing to advertisers.

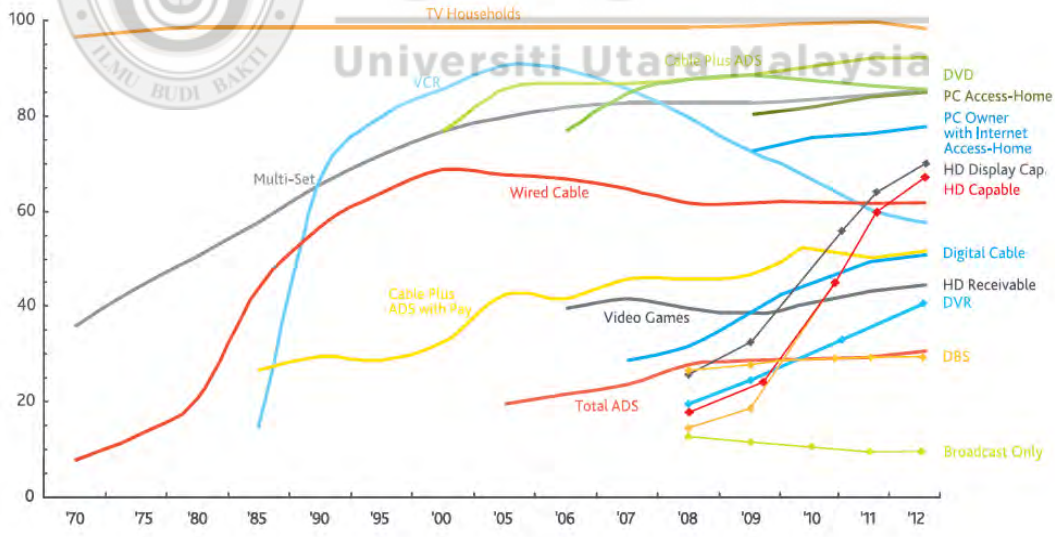


Figure 2.2. Growth of Television Ownership (Nielsen, 2011)

Television advertising is an important medium for marketers around the world and it brings new opportunity for advertiser to reach more consumers. However, traditional television advertising is less effective in promoting product as it has limited interaction with the viewers and traditional television advertising has failed to expand the market (Erdogan, 2004). Therefore, a comprehensive study on iTV advertising is much needed in order to make the television advertising more effective.

2.3 Interactive Television (TV)

According to IAB (2011), iTV can be defined as a television viewing experience that enable consumers to send or request information back to the programmer and advertiser. The applications created provide richer entertainment, information and enable two ways communication between the viewer and television. In addition, iTV allows viewers to take part and actively participate in television programming. Viewers can use remote control to interact with the television and this makes television more enjoyable (Jensen, 2005; Kim & Sawhney, 2002).

According to Pequeno, Gomes, Andrade, de Souza, & de Castro, (2010), 56% of TV viewers use the internet for video entertainment, 79% of TV viewers want to have interaction with television programs, 73% of TV viewers prefer two-way interaction with TV advertising, and 58% of TV viewers need to request free samples during advertising.

As for as iTV is concerned it enables viewers to take immediate action when they see an advertising including request more information, request a coupon, request a sample, and ask for local retail locations (Kim & Sawhney, 2002). Figure 2.3 shows the conceptual diagrams of interactive television.

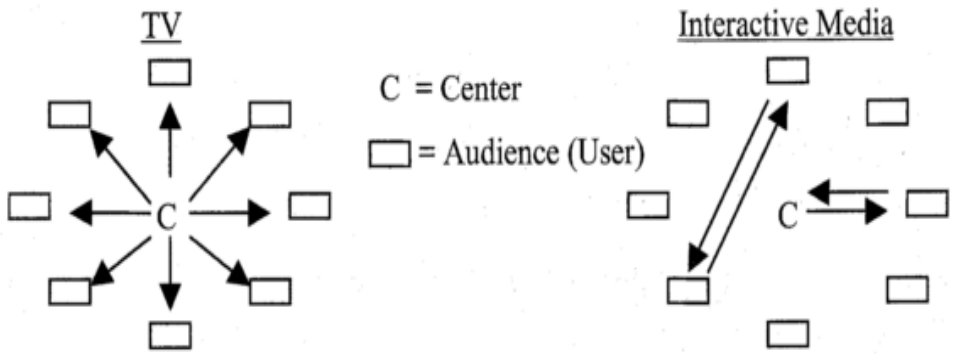


Figure 2.3. Conceptual diagrams of Interactive Television (Kim & Sawhney, 2002)

The conceptual diagram of Interactive Television shows the different between traditional television advertising which is has one way communication compare to interactive television advertising which is has two ways interaction. Therefore, the next section will describe the features of iTV.

2.3.1 The functions of iTV

The iTV can be devided into three categories which are entertainment, communication and computing. Home shopping could be categorized under entertainment. It is because consumers could enjoy to purchase the advertised product while watching the television. Figure 2.4 shows the detail of iTV functions.

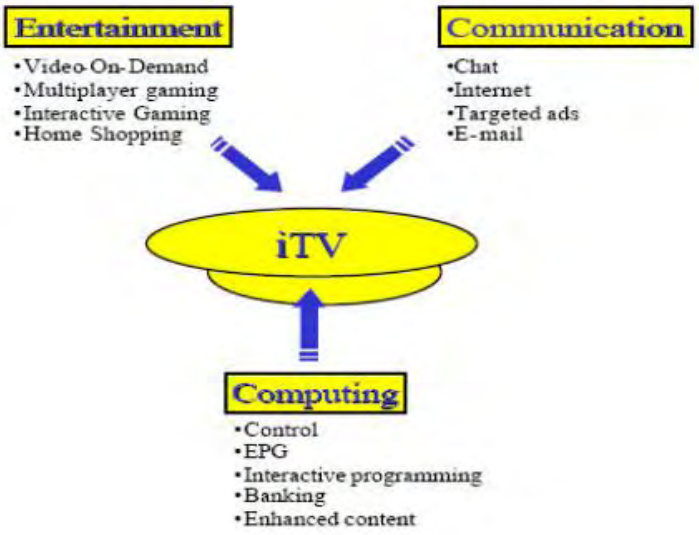


Figure 2.4. Functions of iTV

In addition, interactive television also has many features as shown details in Table 2.1.

Table 2.1

Features of Interactive Television

iTV Features	**Functions**
Electronic Program Guide (EPG)	• One screen program guides. • Aid navigation for the channels, identify content. • Set of program listings (organized by time, channel, category, genre, topic, actors).
Enhanced TV, Content on demand	• Any type of content (text, graphics, video) • Overlaid on regularly displayed video content • Access interactivity • Either synchronized with the program stream or available on demand
Personalized TV	• Stand-alone PVR device or digital set-top box • Content cached on disk • Pause, rewind, fast-forward • Programmed recording
Internet @ TV	• Transfering www-activities from PC to TV • Off line and online experiments • Advantages for position in TV market • Interaction with TV programs • Most common form: event chat • Combination of transmissional, consultational, conversational and registrational services • Combination of TV`s market acceptance and web`s anarchic multimedia content

Table 2.1 continued

T-commerce	• Television commerce: e-commerce transferred to the medium of TV. • T-commerce monetizes creative content by supporting sales during the content • T-commerce allows the viewer to purchase products and services that he or she views on the television screen • As viewers transact for TV content they become consumers • T-commerce includes shopping and banking • The new generation of interactive services will allow access to the internet for iTV. • Service provider offer access to the internet • Service provider will be forced to differentiate their service offerings
Video On Demand	• Also called "true video-on-demand" or "movies-on-demand" • Reception of content according to individual orders • Delivered directly • Go to the information source
Games and Betting	• iTV games have become the surprise hit in iTV platforms around the world • Play-along interactive games • Pay-per-play games • Downloadable games • Multi-player network games • Betting-services allow viewers to place bets while watching the particular event

2.3.2 iTV System Structure

The iTV system is constructed as a sophisticated video network in which computer, television and telephone technologies are combined. It consists of three main technical sections: 1) the consumers control section, 2) the network section, and 3) the central control section (Kim & Sawhney, 2002). Although the structure of each section TV is different in its technical detail, the fundamental design scheme is quite consistent. Figure 2.5 represents the overall technical structure of the iTV system.

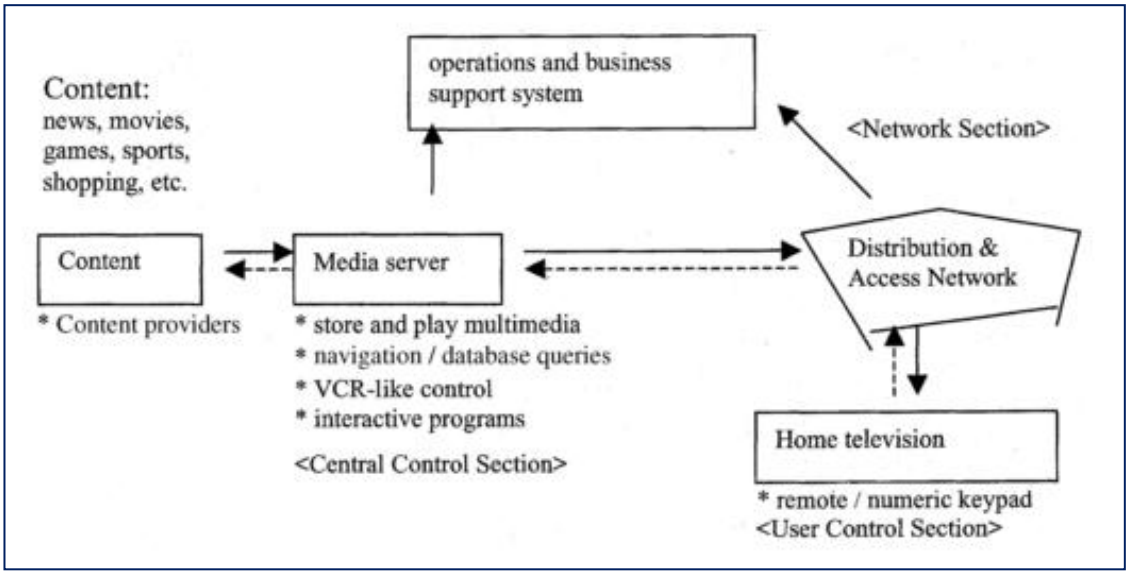


Figure 2.5. Process of iTV System Structure (Kim & Sawhney, 2002)

First, the **user control section** functions as an interface between the user and the system. ITV's customer premises equipment (CPE) consists of a terminal (the television set), a signal converter (the set-top box), and an interface device (numeric keypad/remote control). The TV set works as a display unit for programs and features such as menus. The set- top box receives and decodes incoming signals, applications, programs, and data, and transfers outgoing signals, on-demand requests/multiple, choice responses to the central computer. The set-top box functions as a video decoder, analog channel tuner, audio control, network interface, basic navigation and service selection mechanism, timer and security encryption device. In effect, it is a computer which enables the consumers to communicate with the system and where possible with other consumers. The numeric keypad/ remote control is a navigation tool for locating, browsing, and retrieving information stored in the central computer (Kim & Sawhney, 2002).

The **network section** consists of transmission technologies such as copper wire, coaxial cable and optical fiber. The system operators employ different network architectures and transport technologies such as hybrid fiber coaxial (HFC), fiber-to-the-curb (FTTC) and Asymmetric Digital Subscriber Line (ADSL) depending upon their strategic considerations and service plans. HFC employs optical fiber as a high-speed, broad bandwidth backbone trunk line and coaxial cable or copper wire for the last mile, while FTTC extends optical fiber closer to the curbside of the consumers. ADSL, on the other hand, uses the existing copper wire by increasing its bandwidth via digital conversion devices at both ends of the network the central switch and home terminal (Kim & Sawhney, 2002).

The **central control section** contains a data storage system, media/video server and switching equipment to handle data storage, continuous data streams, real-time switching and communication. It performs various system control functions such as video signal compression and storage, distribution control and signal switching, performance check and error detection, and billing. In other words, the central section controls the whole network in terms of management, communication protocols, and switching mechanisms so that the system and subscribers can interact (e.g. interactive programs and services, and video-on-demand) and subscribers can establish point-to-point connections among themselves (e.g. telephony) (Kim & Sawhney, 2002).

The whole system is configured asymmetrically with an information producing and distributing center and information receiving periphery. The system operator plays the role of gatekeeper rather than that of gateway. Communication activities in the iTV system are limited to a simple on-demand interface and the information generated by the consumers is in effect requests or responses. User engagement with the system is minimal and not particularly meaningful. Thus the iTV system basically operates as an instant query-response/request-delivery conduit offering mechanical interactions over the system. It is in short a hierarchical (Kim & Sawhney, 2002). With the above explanation, the process of iTV system structure could be understood well.

On top of that, since this study focuses on designing of interactive television for advertising, design principle and user interface should be part of important issues in designing interactive television for advertising. It is discussed at length in the following section.

2.3.3 Design Principles for iTV Applications

As suggested by Chorianopoulos (2008), there are seven user interface principles for iTV applications. Although this study does not cater all the design principles into the development of the proposed model, but certain principles is important to adopt in the conceptual design model of iTVAdIP. Table 2.2 lists all the principles.

Table 2.2

User Interface Principles for iTV Applications

Principle Name	**Principle Description**
Interactive features	• Empower the viewer with features borrowed from TV production
Navigation	• Instead of information seeking, support relaxed exploration
Content delivery schedule	• Release the content from the fixed broadcast schedule and augment it with out-of-band content delivery
Group viewing	• Consider social viewing that may take place locally, or remotely
Multiple levels of attention	• Users do not have to be attentive for the application to proceed.
TV grammar and aesthetics Enhance	• Enhance the core and familiar TV elements (characters, stories) with programmable behaviors (objects, actions)
Infotainment	• Provide interactive entertainment elements, which might be further augmented with on-demand information elements

Since this study focuses on viewers as the main subject in developing advertising for iTV. Therefore, iTV design guideline should be part of important issues in designing advertising for iTV. Collazos et al., (2009) eloborated the design guideline for iTV as displayed in Table 2.3.

Table 2.3

iTV Design Guideline from Usability Perspective

Category	**Design Guidelines**
Interaction	• Interactivity should be explicitly considered when the TV program is conceived • Users should have increased control over their viewing experiences • Maximize agency • Allow viewers to customize their viewing experiences
Interface	• Simplicity • Interfaces should have a consistent theme • Enhancements should not compete with the main content • Effective screen structure • Pay attention to existing standards
Navigation	• Orient the viewer • Teach viewers how to interact • Minimize clicking/distance from primary screen • Always offer an "exit" option • Reinforce engagement through immediate and consistent feedback • Use appropriate cultural mental models and metaphors

Table 2.3 continued

Usability	• Visibility of the system status • Match between the system and the real world • User control and freedom • Consistency and standards • Error prevention • Recognition rather than recall • Flexibility and efficiency of use • Aesthetic and minimalist design • Help users to recover from errors • Help and documentation • Navigation • Structure of information • Physical constraints • Extraordinary users

With regards to the design issues, this study extracts the applicable guidelines with intention to adapt it in the proposed model. Thus, the following section will describe on implication of design principles for Interactive Television Applications.

2.3.4 Implication of Design Principles for iTV Applications to this Study

Understanding component of advertising as a communication tools and the design principle for iTV really implicates this study. In developing the conceptual design model of iTVAdIP, the style of interface design and design components for iTV advertising plays important role to ensure that the design model mapped with all features that is necessary to cater for iTV advertising. Thus, underlying principles of interface design by Collazos et al., (2009) and design guideline for iTV by Chorianopoulos (2008) are used as references with intention to adapt in the proposed design model.

2.4 iTV Advertising

The advertising industry is moving forwards for development country in marketing strategies. The creativity and interactivity in advertising need to examine in order to

help advertiser to promote the product effectively. The iTV advertising involved two ways promotional messages transmitted for communication channels that involve consumers actively interact with product (Jensen, 2005). The changes and development in advertising technology allow consumer to have more control of what they want to see, interact with, or purchase.

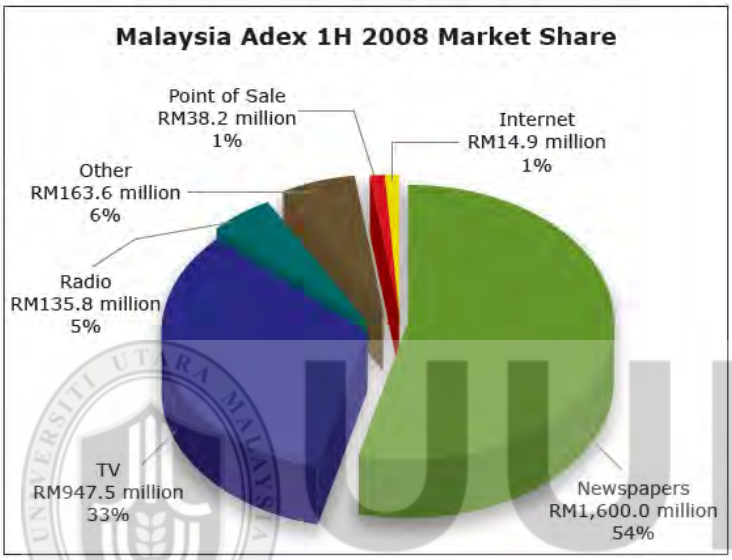


Figure 2.6. Statistic Market share in Malaysia (Nielsen Media Research Services, 2011)

Malaysian advertising markets hold much opportunity in the changing traditional advertising to iTV advertising. There is a rapidly growing Television Advertising as shown in Figure 2.6, where marketers need to take stock of this avenue and seek ways to engage targeted audience (Nielsen, 2011).The others media selections for advertising are radio, newspaper direct mail, magazines, outdoor, Internet and the much effective way for a advertising is broadcast television. Advertising on television can be appealing in many ways. The next section will describe more about type of interactive advertising.

2.4.1 Type of Interactive Advertising

There are many types of interactive advertising that can be used to attract the viewer's interest and generate responses. Different types can be selectively used for advertisers to increase the effectiveness of advertising. (NDS Business Consulting, 2000) lists the type of interactive advertising as depicted in Table 2.4.

Table 2.4

Types of Interactive Advertising

Types	**Description**
Response	• Order a brochure or sales call
Jump	• Go to a specific interactive site such as a product catalog
Tag	• Mark a specific interactive site for later access
Incentive	• Display a different message to different viewers depending on the viewer profile: e.g. the postal code stored in the conditional access information
Targeted	• Users do not have to be attentive for the application to proceed.
Impulse purchase	• Allow viewer to purchase the advertised product impulsively while viewing the advertising.
Viewer response	• Collect viewer responses and register them in a counter. Reward the viewer for watching a specified number of related ads
Quiz	• Reward the viewer for providing the correct answer to a question relating to an ad

Each type of interactive advertising is designed to elicit a particular type of reaction. Based on the type of interactive advertising, impulse purchase is chosen as the focus of this research. It is because impulse purchase is also one of the important elements on consumer behavior to be understood by advertising designers to attract and influence consumers to purchase the advertised product impulsively. This research was examined how the interactive advertising on television can influence consumers to purchase the product impulsively. The next section will explain more on iTV advertising structure.

2.4.2 iTV Advertising Structure

Figure 2.7 shows the simple architecture of iTV advertising (Scholten, 1996). It shows the main components of iTV architecture that consists of six components which are advertising agency, content distributor, content provider, internet, iTV, and viewer. In relation to this, it shows how these components relate to each other. It begins with advertising agency provide the advertising to give to content distributor before it can be view by viewer in iTV.

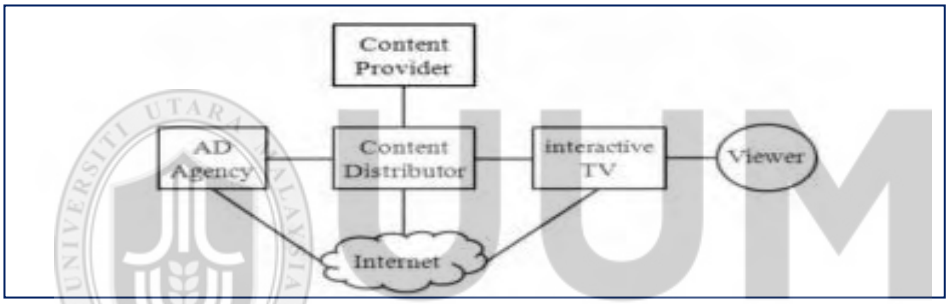


Figure 2.7. Architecture of the networked advertising system for iTV(Scholten,1996)

However, Figure 2.8 shows the overall iTV Advertising Architecture works in detail. Lekakos et al., (2001), proposed the overall of iTV advertising architecture which supports services supporting the booking, scheduling, monitoring and evaluation of interactive advertisings.

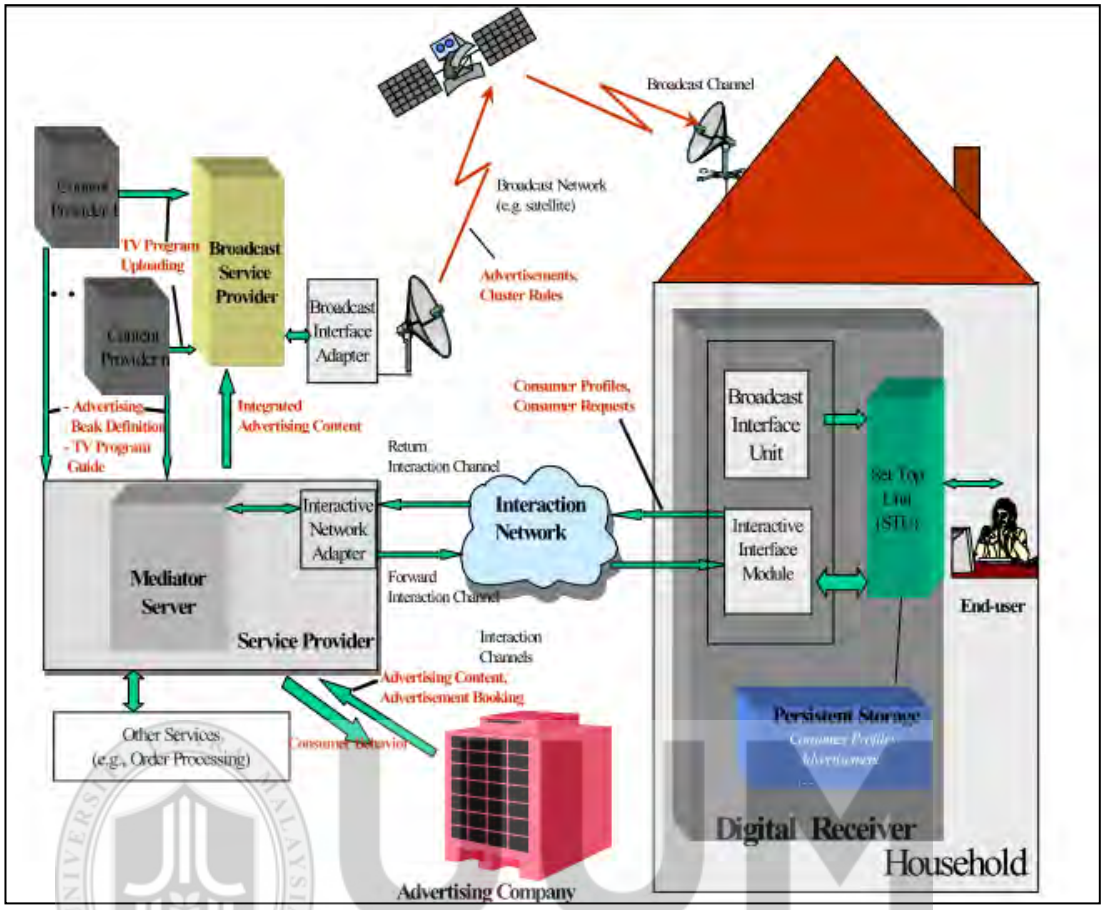


Figure 2.8. The overall iTV Advertising Architecture (Lekakos et al., 2001)

The personalization process goes through five steps as follows:

i) The process is initiated with a request by the advertising company to present an advertising for a product or service to a very specific target group during a certain time period. The target group is identified by certain characteristics or rules that may lead to very fine-grained targeting, even to individual persons. For example, an advertising company may select to present a commercial to those viewers who previously interacted with a related advertising.

ii) The advertising company, using services of the System Mediation Server books the required advertising air-time, providing as input the target group characteristics, the required time zone and the time period, and loads the advertising content, both regular and interactive, to the Mediation Server.

iii) The Mediation Server sends to each viewer's STB, at regular intervals, all the advertising content that is scheduled to appear during a certain time period, e.g. all the commercials that will appear during a certain week. The advertising content is broadcast through a dedicated channel and is stored locally by each STB. This possibility is provided by the set-top-boxes that have enough hard-disk space to store as much as 4 to 5 hours of video stream.

iv) The Mediation Server also transmits information as to which target group is associated to each personalized commercial. This information is transmitted before the advertising break in vector form and is also stored at the STB either as a whole or selectively.

As overall, the above process implies that the set-top-box component monitors the viewer's behavior and other characteristics, which are sent back and aggregated in the Mediation Server. Based on this information and upon requests from the advertising companies, the Mediation Server can then allocate viewers to specific target groups, upon which targeting is performed.

2.4.3 Structure of User Interface for iTV Advertising

There are many design principles and guidelines for television and the web, which are the basis platforms of iTV. New potential platforms such as 3G mobile devices and Sony PSP are growing in the market, bringing new sets of design issues. However, the vast majority of iTV applications are designed for TV screens or computer monitors (Collazos, Rusu, Arciniegas, & Roncagliolo, 2009). Its convergent design will be essential for successful iTV programming in the future. Designs created for common purpose that are effective for cross-platform or in television rarely translate to a compelling or functional experience on the web (Collazos et al., 2009).

Figure 2.9 illustrates the basic structure of user interface in iTV which is the Java user interface is composed of GUI and broadcasting content. The GUI includes graphics and user input as so called look and feel. Graphics means the visual presentation of widgets. Remote control, keyboard or virtual keyboard is needed for user input. Broadcasting content consists of video, audio, subtitles, teletext, and data (Collazos et al. 2009). In a nutshell, Java user interface creates a visual presentation of the information by manipulating GUI widgets and video/audio. Java user interface that we built is based on presentation APIs as well as fundamental Java APIs which are specified in the DVB Java Platform. Presentation APIs include Graphical User Interface (GUI) API and Streamed Media API.

Besides understanding the basic structure of user interface in iTV, it is important to know how general process of advertising involved and it will be elaborate in the following section.

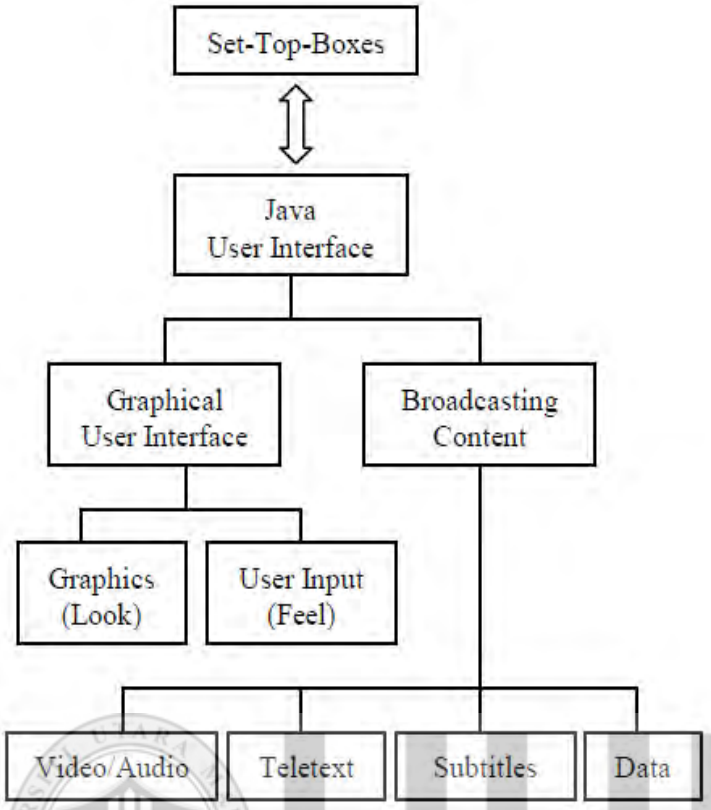


Figure 2.9. Basic structure of the user interface in iTV (Collazos et al., 2009)

2.5 Advertising Structure

Previous study have proven that many different methods have been used in implementing advertising as a communication tool such as advertising on website, social media, newspapers and the most popular is advertising through television (Scholten, 1996). Television is one of the platforms for advertising that contains element for communication process to generate the feedback form receiver. The main aim of the advertising is to persuade audience to take some action.

In addition, the advertising should be designed in the sense of able to (i) to catch the audience to the subject matter, (ii) demonstrate the creative idea clearly, (iii) provide audience with certain qualities in the minds of consumers.

According to Scholten (1996) suggest that advertising consists of six basic components of communication design as depicted in Figure 2.10 and Figure 2.11 the component are described below.

i) **Sender:** the sender component contains of commercial Non-Profit Individual Formal vs Informal.

ii) **Message:** the message contains of Verbal vs. Nonverbal, 1-sided vs. 2-sided, Factual vs. Emotional. Message also contains sub component including symbols, pictures, words, and images.

iii) **Channel (medium):** the channel contain of Paid vs. Unpaid, which consist of Print, Broadcast, Electronic including Personal vs. Impersonal.

iv) **Receiver (consumer):** focusing on consumer (Individuals, Target Audience, Intermediary Audience, and Unintended Audience).

v) **Responds:** decodes Mediated by Involvement, Mood, Experience, and Personal Character.

vi) **Feedback:** Pre-tests to ensure message will be received, post-tests to ensure message was received

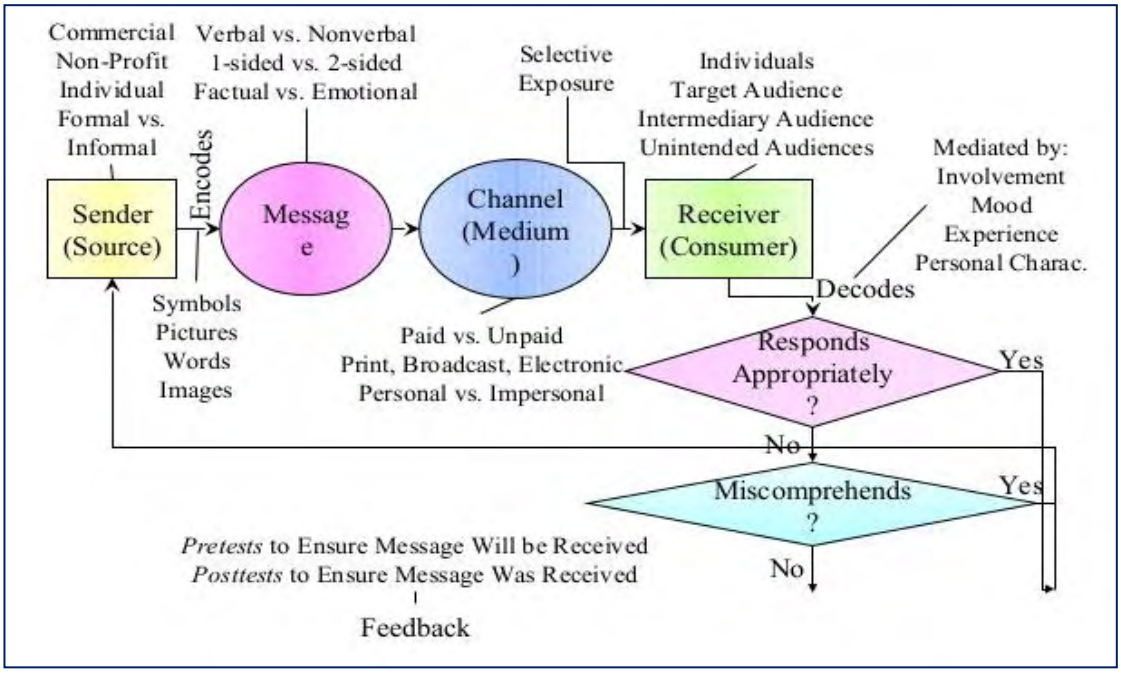


Figure 2.10. A Comprehensive advertising process

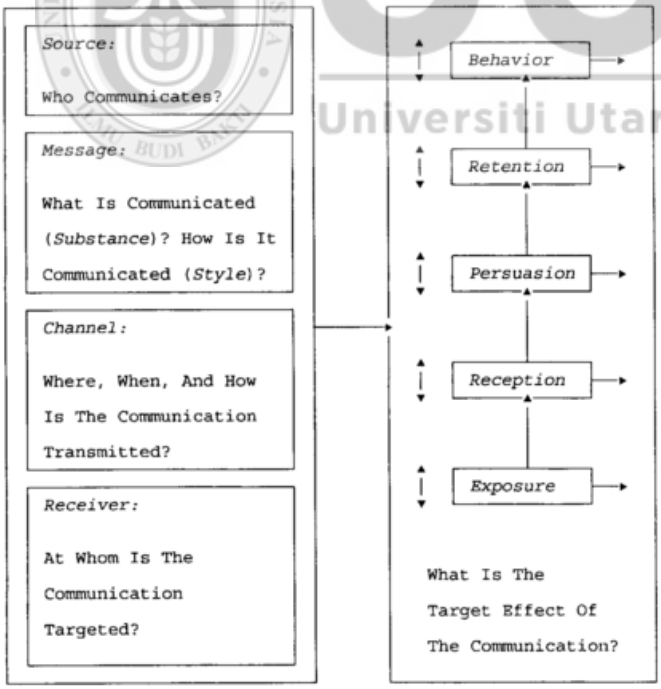


Figure 2.11. The Process of advertising (Scholten, 1996)

2.6 How Advertising Work

Vakratsas & Ambler (1999) find little evidence to support the existence of an advertising hierarchy in order to understand the response process and the manner in which advertising works, there are three critical intermediate effects between advertising and purchase as depicted in Figure 2.12. These include cognition the "thinking" dimension of a person's response, affect the "feeling" dimension, and experience- which is a feedback dimension based on the outcomes of product purchasing and usage. Individual responses to advertising are mediated or filtered by factors such as motivation and ability to process information, which can radically alter or change the individual's response to advertising (Yoo et al, 2004).

It is suggest that the effects of advertising should be evaluated using three dimensions, with some intermediate variables being more important than others, depending on factors such as the product category, stage of the product life-cycle, target audience, competition, and impact of other marketing mix components (Vakratsas & Ambler, 1999).

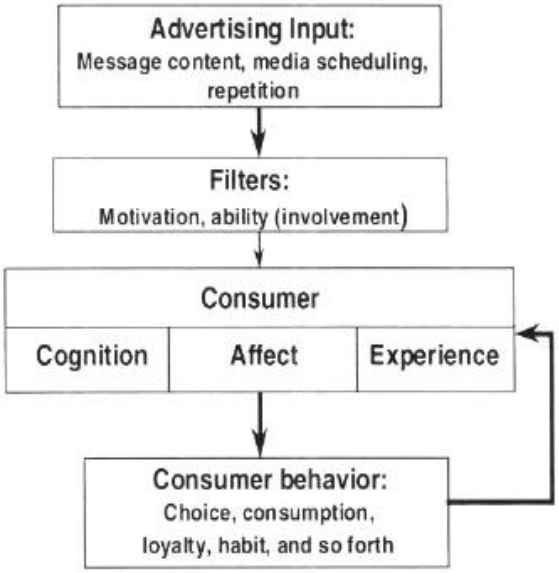


Figure 2.12. A Framework for How Adverising Works (Vakratas & Ambler, 1999)

In order to understand briefly on how advertising works and function. Figure 2.13 shows some of the development of advertising work or function together with creative strategy in each type of advertising function. Some of the advertising function is for information, persuasion, entertainment, education ad social inspiration (Wijaya, 2012), and this study toward more on persuasion and entertainment.

FUNCTION →	Information	Persuasion	Entertainment	Education	Social Inspiration
Consumer Insights	"What's new?" "Any product that I need?"	"Which one is the best for me?" "Any product that understands me?"	"Ads are so boring"	"I hate ads! Just cheating, selling, no caring"	"Ads only hypnotize me to waste my money!"
Focus on	Functional Benefits	Functional, Emotional & Symbolic Benefits	Emotional & Symbolic Benefits	Functional & Social Benefit	Symbolic, Emotional & Social Benefit
Creative Strategy	Informational, Announcement	Head on, life style, comparative ads	Humor, dramatic, musicals	"How-to" ads, advertorials	Brand Social Responsibility

Figure 2.13. Development of the Advertising Function (Wijaya, 2012)

2.7 Persuasion strategies and techniques in advertising

There is persuasion strategies and techniques that could be applied in advertising which consist of claims, consequences, celebrities, pathos, logos, and ethos that briefly describe below.

i) Claims

Claims are supposed to function as information sources of the quality of the products. However, especially in the supplement industry the trustworthiness of the information to the consumers is questioned. The discussion arises as it is not clear if the consumers understand the meaning of disclaimers, i.e. a warning of that the claim has not been evaluated (Edin, 2012; Mason & Scammon, 2000). Thus, consumers face difficulties in determining the trustworthiness of different claims and its scientific base (Silverglade, 1994).

ii) Consequences

Consequences represent the reasons why an attribute is important to someone and why it is positively or negatively valued (Edin, 2012; Reynolds, Gengler & Howard, 1995). The importance of consequences and their attractiveness or unattractiveness is derived from their perceived ability to satisfy personal values. Consequently, consequences are meaningful as they help individuals to reach values central to the self (Edin, 2012; Reynolds et al., 1995).

iii) Celebrities

Celebrities are used in advertising to persuade consumers through credibility (Edin, 2012; Monahan, 1995). The influencing power of a well-known endorser lays first of all in the celebrity's ability to attract attention. Furthermore, the general view is that celebrities possess likeable and attractive qualities (Atkin & Block, 1983). The aim is that through endorsement, the positive meaning connected to the celebrity will transfer to the product and subsequently, to the buying consumer (Amos, Holmes & Strutton, 2008). However, even though consumers seem to have a positive view of celebrities, their credibility and thus effectiveness in advertising have been questioned (Edin, 2012; Atkin & Block, 1983; Freiden, 1984).

iv) Pathos

An appeal to emotion. An advertising using pathos will attempt to evoke an emotional response in the consumer. Sometimes, it is a positive emotion such as happiness, for example an image of people enjoying themselves while drinking Pepsi. In other times, advertisers will use negative emotions such as pain, for instance a person having back problems after buying the "wrong" mattress. Pathos can also include emotions such as fear and guilt, for example images of a starving child persuade you to send money (Bolatito, 2012).

v) Logos

An appeal to logic or reason. An advertising using logos will give you the evidence and statistics you need to fully understand what the product does. The logos of an advertising will be the "straight facts" about the product (Bolatito, 2012).

vi) Ethos

An appeal to credibility or character. An advertising using ethos will try to convince you that the company is more reliable, honest, and credible. Therefore, you should buy its product. Ethos often involves statistics from reliable experts. In knowing how the different strategies appear, a natural question follows of why an individual employs a certain strategy.

Therefore, strategy that is employed depends on the amount of resources that the message recipient is willing and able to put into the processing (Bolatito, 2012; Forgas, 1995). The advertising message, (e.g. complexity and inclusion of pictures), the individual's personal characteristics, (e.g. message involvement and expertise), and the situation in which the message is received, (e.g. editorial and advertising context), constitute the determinants of the allocation of resources. Moreover, the mood of the message receivers has also proven to play an influencing role in the adoption of processing (Bolatito, 2012; Forgas, 1995).

All of the persuasive strategies can be as a guideline to develop a conceptual design model of iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. In addition, the persuasion advertising theories also important as a guideline to develop a proposed model. It is discussed at length of the following section.

2.8 Persuasion Advertising Theory

Over the past 30 years, persuasion advertising theory has been the most influential theory in advertising, marketing, and consumer behavior. The following theories used persuasion as the underline concept: (i) elaboration likehood model, (ii) persuasion knowledge model, (iii) hierarchy of effects model, and (iv) conditioning theory. These persuasive advertising are discussed in the next sub-sections.

2.8.1 Elaboration Likehood Model

According to Petty, Cacioppo, & Schumann (2013) described elaboration likelihood model (ELM) as a model of persuasion that proposes two distinct routes to persuasion; the central route and the peripheral route, which refer to attitude changes that occur through different levels of evaluative processing. Central route such as attitudes is formed through an extensive and full effort process that scrutinizes a message for the quality of its arguments. In contrast, the peripheral route refers to the attitude formation that is based on non-argument cues, such as mood and source attractiveness.

The model posits that when people have both the motivation and the ability to process the information presented in a persuasive communication, it means that when the likelihood of message elaboration is high, then people will take the central route. In contrast, when the likelihood of message elaboration is low, they have lack of motivation or ability to process the information, and people tend to take the peripheral route to persuasion as shown in Figure 2.14.

In addition, the strength of this theory is that the route taken has a number of important implications. It will determine which components of a persuasive communication will be the most effective, either central cues (message quality) or peripheral cues (mood, expertise, source attractiveness). This helps in explaining the rather counterintuitive finding that the quality of the message may have little effect on the persuasion in some situations, such as when motivation or ability to process the arguments is low, but other seemingly comparatively trivial variables (liking for background music in advertising) may have strong effects.

In a nutshell, this theory could explain how the classic inputs into persuasion (source, message, recipient, context) could have different impacts, depending on the particular route to persuasion (Petty & Krosnick, 1995) and this theory has been widely used to understand how persuasive advertising work (Petty et al., 2013; Liu et al., 2012; Haugtvedt & Kasmer, 2008; Petty & Wegener, 1998; Sternthal, Dholakia, & Leavitt, 1978; Zanna, Kiesler, & Pilkonis, 1970).

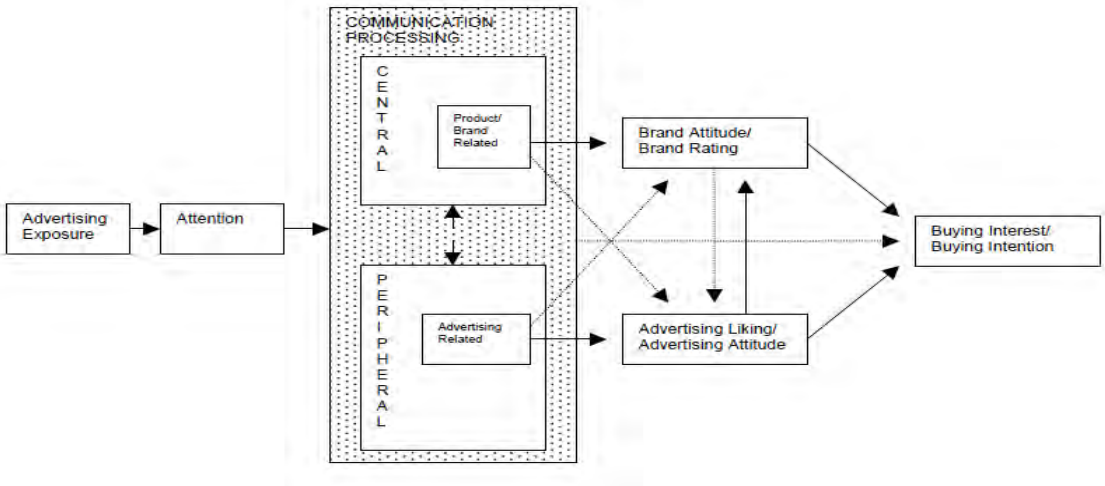


Figure 2.14. Conceptual Model of Advertising Response Model (ARM)

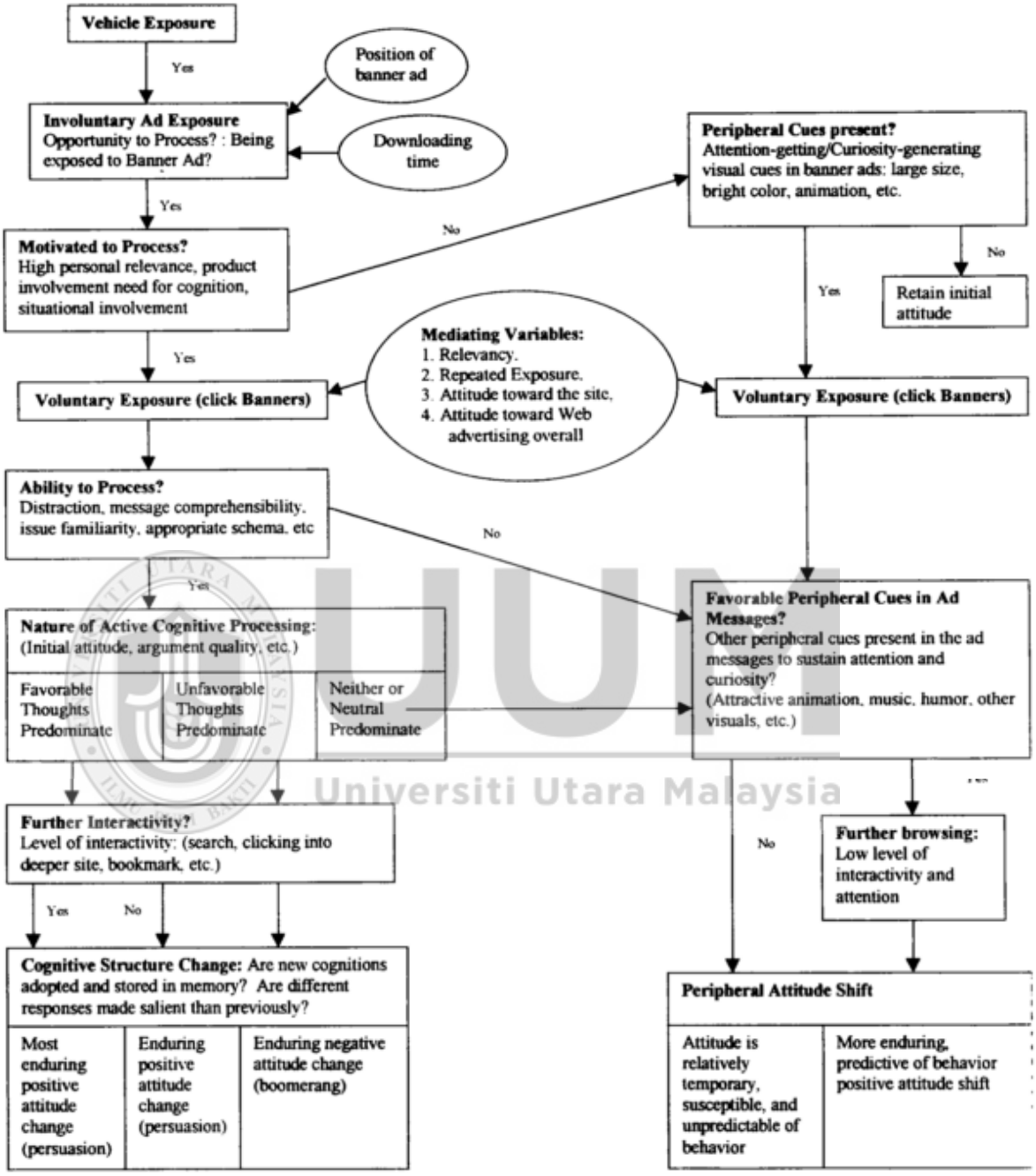


Figure 2.15. Elaboration Likehood Model

2.8.2 Persuasion knowledge model

Persuasion knowledge model (PKM) explains how knowledge of marketers' persuasion tactics affects consumers' responses to such tactics (Bolatito, 2012; Friestad & Wright, 1994). It decomposes the persuasion process into two primary elements; the target and the agent. The target refers to the intended recipient of the persuasion attempt (the consumer), whereas the agent represents whomever the target identifies as the creator of the persuasion attempt (the marketer).The persuasion attempt encompasses not only the message of the agent, which itself is influenced by the agent's knowledge of the topic, target, and the effectiveness and applicability of different persuasion tactics, but it is also influenced by the target's perception of the agent's persuasion strategy (Liu et al., 2012; Campbell & Kirmani, 2008).

In short, PKM emphasized on how consumers develop and use knowledge of persuasion to cope with marketers' claims. The model focuses more on the interaction between the marketer (agent) and the consumer (target). Figure 2.16 provides a depiction of the PKM model and its components. The model sets up a symmetrical relationship between agents (e.g. marketers) and targets (e.g. consumers). With respect to a persuasion episode (e.g. an advertising for a service), each party is depicted as having knowledge of the other party, knowledge of the topic (e.g. the service), and knowledge of persuasion.

With these different forms of knowledge in place, the persuasion episode occurs in the interaction between the agent's persuasion attempt and the target's persuasion coping behavior (Bolatito, 2012; Liu et al., 2012).

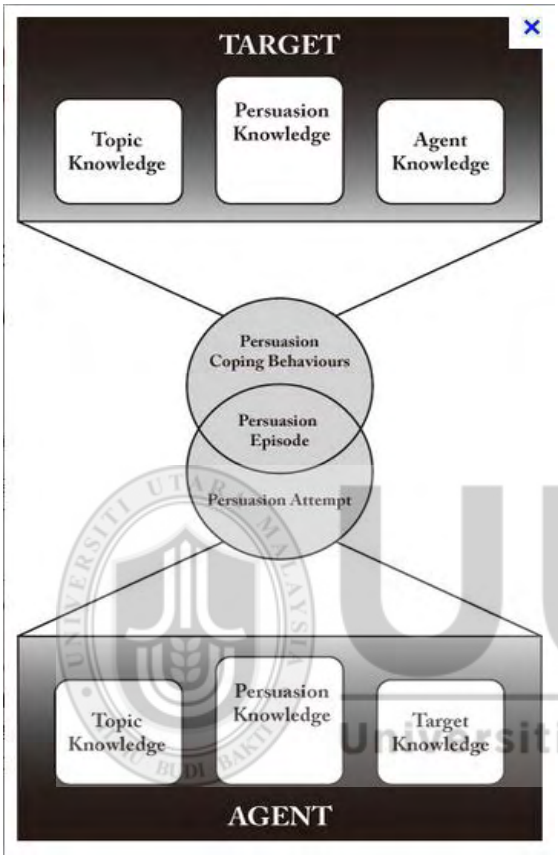


Figure 2.16. Persuasion Knowledge Model

2.8.3 Hierarchy of effect model

According to Egan, (2007), the hierarchy model is an appropriate framework for any of these forms of communication and advertising (Sinh, 2004; Barry 2002; Belch & Belch, 2009). They are useful to promotional planners from several perspectives. They describe the series of steps potential purchasers must be taken through to move them from unawareness of a product or service to readiness to purchase it (Belch &

Belch, 2009). Then, potential buyers may be at different stages in the hierarchy and made the advertisers face different sets of communication problems.

Moreover, some hierarchy of effect models have been developed and used by researchers from both academician, as well as marketing communication practitioners in a bid to measure the communication effect of an advertising to the consumers' behaviour. These models are also used as a preparation basis of marketing communication strategy. Figure 2.17 shows some of the hierarchy of effects models.

Figure 2.17. Hierarchy of effects models (Egan, 2007)

Model DAGMAR has been suggested by Colley (1961), which incorporated elements of awareness, comprehension, conviction and purchase as stages of the influence of advertising message on consumers' behaviour. Awareness is the stage where advertising can raise audience awareness on advertising message (similar to attention and interest in AIDA). Comprehension is the stage where consumer audience understands the core message of an advertising, and then conviction is the

stage where audience believes the genuineness of the message that is delivered through advertising (similar to desire in AIDA, since a strong conviction can raise a desire to purchase), and purchase is where the consumer audience follows up his belief in the advertising message through an act of purchase (this stage is similar to action in AIDA). The model has been created by Lavidge & Steiner (1961) and Wells et al. (1965), which also has the same function with AIDA and DAGMAR as depicted in Figure 2.17.

In conclusion based on hierarchy of effect model, it can be conclude that all of the model focus on the different steps that customers must pass in the process towards buying a product when being exposed to advertising. They must be passed in a linear way with one step completed before the moving on the next one.

2.8.4 Conditioning Theory

Conditioning theory is also called stimulus response theory that plays a huge part in the concept of persuasion. Some stimulus trigger the consumers' need or want, and this in turn create the drive to response (Saari, Ravaja, Laarni, Turpeinen, & Kallinen, 2004). In other word, it is more about leading someone into taking certain actions of their own, rather than giving direct commands. For example in advertising, this is often done by creating commercials that make people laugh, using a sexual undertone, inserting uplifting images and/or music and others, and then ending the commercial with a brand/product logo.

For that reason, conditioning theory is more applicable to the simple, basic purchase consumers make every day, and the reinforcement advertising plays its most important role along with superior product performance and good service. Persuasion occurs when the change in belief, attitude, or behavioural intention is caused by promotional communication such as advertising and personal selling. Hence, it is important for the advertiser to establish a connection to the consumer to bring back certain emotions when you see their logo in your local store.

The hope is that by repeating the message several times, it will cause the consumer to be more likely to purchase the product because he/she already connects it with a good emotion and a positive experience (Saari et al., 2004).

2.8.5 Implication of Persuasive Advertising Theories to this Study

The theories discussed in this section were referred for better understanding on how advertising work. Developing the proposed model of iTVAdIP requires this study to embed persuasive advertising theories during the development process. ELM, PKM, hierarchy of effects models, and conditioning theory are the four established advertising theories that act as the root of advertising development. Although these four advertising theories have their own hypotheses and principles, not all of the elements are inserted into the development of proposed model. They are selected based on applicability, which particularly relate to proposed model. The detailed connections of advertising theories with the proposed model are discussed in Chapter 4.

2.9 Psychology Approach in iTVAdIP

There are two approaches will be chosen in this study which are environmental psychology and the design of psychology customization that will be describe in the next section.

2.9.1 Environmental Psychology (S-O-R Framework)

Environmental psychology focuses on two major topics which are the emotional impact of physical stimuli and the effect of physical stimuli on a variety of behaviors (Mehrabian & Russell, 1974). In other word, environmental psychologists focus on the environment influence attitude which leads to a behavioral response. It is assume that individuals' feelings and emotions ultimately determine their behavior and it also assume that environments can evoke various feelings which cause certain behaviors. As defined by Mehrabian and Russell (1974), the approach "centers on the use of human emotional responses to environments as intervening variables linking the environment to the variety of behaviors it elicits"

Most of environmental psychologists have been studied to find which element of environment affect behaviour intention (Mehrabian & Russell 1974; Mehrabian 1980; and Russell & Pratt 1980). For example, when translated to an advertising context is the way of advertising presented influence attitude which may lead to purchase intention (Koufaris et al., 2002; Schaupp, Fan & Belanger, 2006).

Previous environmental studies used a number of alternative sets of stimulus categories (Craik, 1970; Ittelson, Rivlin, & Proshansky, 1970). The most common

procedure is to describe an environment in terms of various objects in it and the relations among these objects. For example, another possible set of environment descriptors is the emotional reactions to variables which stimulate the senses, such as those for colour, sound, temperature, and texture (Chang et al., 2011; Crane & Levy, 1962; Schaie, 1961; Bedford, 1961; Middleton, Fay, Kerr, & Amft, 1944).

However, this list of descriptors is also quite long and awkward since most environments simultaneously include stimulation in all the sense modes, as well as along numerous stimulus dimensions within each modality (for instance, a colour may be a certain hue and of a certain brightness). Figure 2.18 shows the Mehrabian Russel Model.

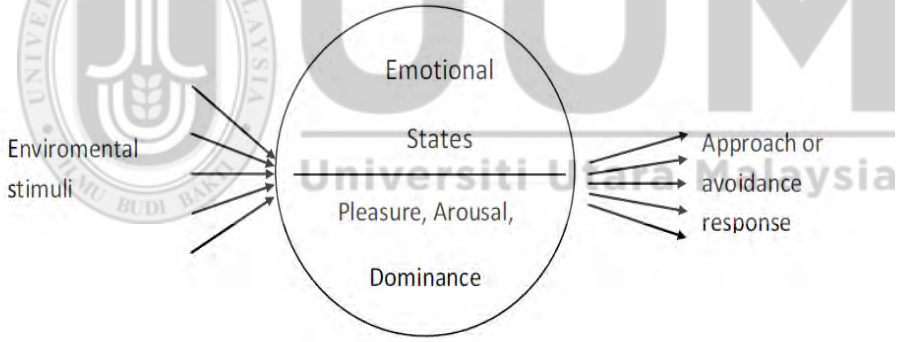


Figure 2.18. The Mehrabian Russel Model

2.9.2 Design of Psychology Customization

Psychological customization provides a way of implementing mind-based technologies in the system design. It can be applied to various areas of HCI, such as persuasive technology (advertising for persuasion, e-commerce persuasion), augmentation systems (augmented and context sensitive financial news), notification systems (alerts that mobilize a suitable amount of attention per task or context of

use), affective computing (emotionally adapted games), collaborative filtering (group-focused information presentation), computer-mediated social interaction systems (collaborative work, social content creation templates), and messaging systems (emotionally adapted mobile multimedia messaging and email).

Psychological customization consists of three layers which are physical, code and content (Saari et. al, 2004; Benkler, 2000). Physical layer includes the physical technological device and the connection channel that is used to transmit communication signals. The code layer consists of the protocols and software that make the physical layer run and the content layer consists of multimodal information. The content layer includes both the substance and the form of multimedia content (Saari, 2001; Billmann, 1998) as depicted in Table 2.5 and Table 2.6. Substance refers to the core message of the information presented to them in a systematic manner to create emotional, cognitive and other psychological effects (Saari et. al, 2004; Saari, 2003; Saari, 2001).

Types of psychological effects are depth of learning, positive emotion, persuasion, presence, social presence and other types of psychological states and effects, as well as consequent behaviour (Saari et. al, 2004; Vecchi; 2001; Egan, 1998; Eysenck, 1994; Hampson et al, 1995). There is considerable evidence in the literature and in our own experimental research that varying the form of information, such as modality, layouts, background colours, text types, emotionality of the message, audio characteristics, the presence of image motion and subliminality creates for instance emotional, cognitive and attentional effects (Saari et. al, 2004; Clore et al

2000; Krosnick, 1992; Lang et al, 1995). Some of these effects are produced in the interaction with individual differences, such as cognitive style, personality, age or pre-existing mood (Ravaja, 2004).

Form implies aesthetic and expressive ways of organizing the substance, such as using different modalities and structures of information (Saari, 2001). Technologies may be considered as mind-based because they systematically take into account the characteristics and individual differences of different segments of users. Figure 2.19 shows the conceptual design of mind-based technologies in producing psychological effects (Saari, 2001).

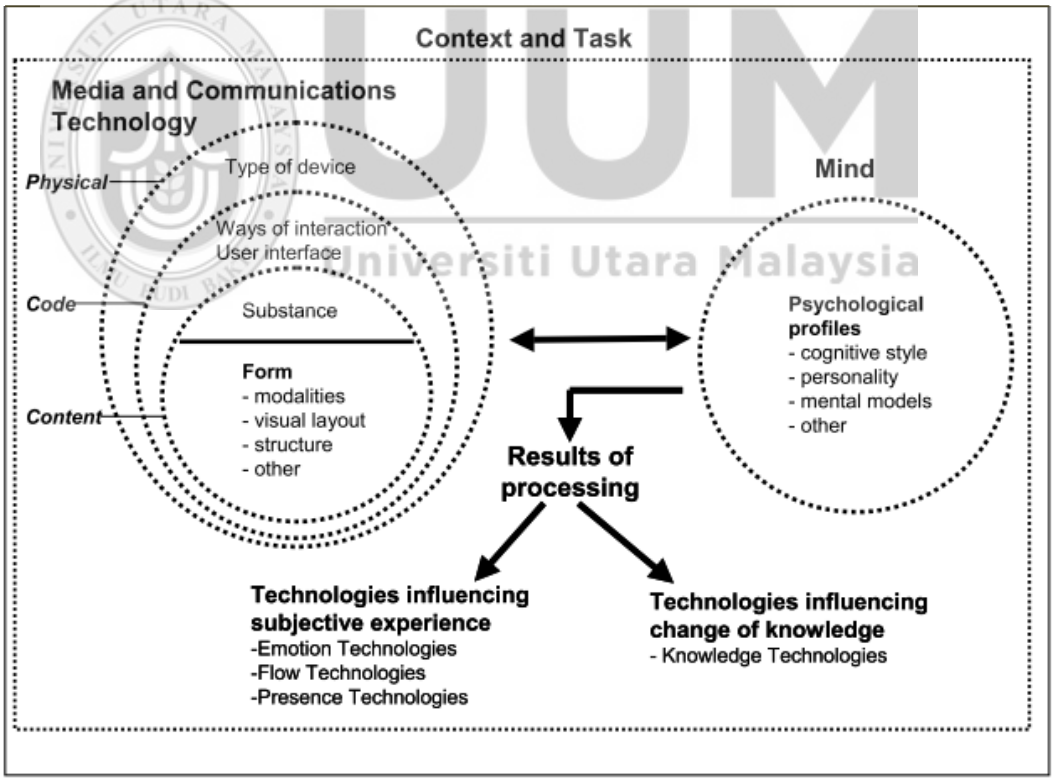


Figure 2.19. Conceptual design of Mind Based Technologies in producing psychological effects (Saari, 2001)

Table 2.5

Key Factors influencing Psychology Effects

Layer of technology	Key factors
Physical	**Hardware** - large or small vs. human scale - mobile or immobile - close or far from body (intimate-personal-social distance)
Code	**Interaction** - degree of user vs. system control and proactivity through user interface
	Visual-functional aspects - way of presenting controls in an interface visually and functionally
Content	**Substance** - the essence of the event described - type of substance (factual/imaginary, genre, other) - narrative techniques used by authors
	Form 1. Modalities - text, video, audio, graphics, animation, etc. 2. Visual layout - ways of presenting various shapes, colours, font types, groupings and other relationships or expressive properties of visual representations - ways of integrating modalities into the user interface 3. Structure - ways of presenting modalities, visual layout and other elements of form and their relationships over time - linear and/or non-linear structure (sequential vs parallel; narrative techniques, hypertextuality)

Table 2.6

Example of Persuasive Advertising with psychological customization

Layer of Technology	Adaptations of Advertising Banners
1. Physical *-multimedia PC or mobile device*	-The advertisement substance and form may be matched to the technology used by lifestyle segments or other means of segmentation (hip ads for mobile phones etc.) -Mobile device: user changeable covers in colors and shapes that facilitate emotion
2. Code *-Windows-type user interface -Mouse, pen, speech,*	-The user interface elements (background color, forms, shapes, directions of navigation buttons etc.) may be varied in real-time per page per user in which a certain advertisement is located to create various emotions and ease of perceptual processing -audio channel may be used to create emotional effects (using audio input/output sound, varying pitch, tone, background music, audio effects etc.).
3. Content A. Substance *- Fixed multimedia content*	-The editorial content may be matched with the ad -The content of the ad may be matched to the users based on various factors (interests, use history, demography, personality etc.) -Adding subliminal extra content to create emotion
B. Form Modality *-Multimedia*	-Modality may be matched to cognitive style or pre-existing mood of the enable easier processing. -Background music, audio effects or ringing tones may be used as a separate modality to facilitate desired emotions and moods. -Animated text can be used to create more efficient processing of text facilitate some emotional effects.
Visual presentation	-Emotionally evaluated and positioned layout designs and templates for ads (colors, shapes and textures) may be utilized per type of user segment
Structure *-temporal, other*	-Offering emotionally evaluated and positioned narrative templates for creating emotionally engaging stories.

In order to understand more on psychology meaning, Figure 2.20 show the detail on how advertising psychology work.

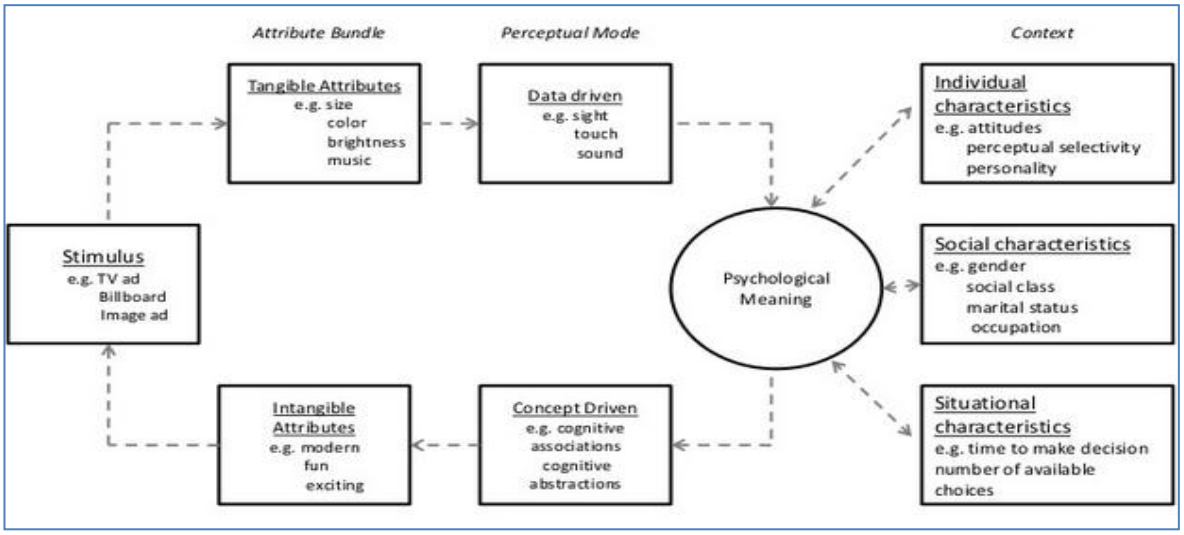


Figure 2.20. The framework of Advertising Psychology

2.9.3 Implications of Psychology Approaches to the Study

The concept in psychology customization design involves physical, content and code in the development process psychology effect. Hence, it really implicates to this study particularly in understanding how advertising act as a persuasive communication. The factor influence psychology effect in psychology customization helps to find the element of advertising content in producing impulse purchase advertising. This is in line with the first objective of this study which is to investigate the suitable impulse purchase component to be incorporated in the conceptual design model of iTVAdIP. Other than that, environment psychology also important in order to find the environment factor that contributes to impulse purchase in iTV advertising. As a conclusion, without adapting the psychology customization and environment psychology approaches iTVAdIP were not usable.

2.10 Impulse Purchase

Several researchers have proposed variety of definitions of impulse buying (e.g., Rook 1987; Rook and Hoch 1985; Weinberg & Gottwald 1982). Rook (1987), defined it as an unplanned purchase which occurs when a consumer experiences positive affect when exposed to a stimulus. Piron (1991) conducted a review of these definitions and come out with thirteen dimensions which were common across from various definitions of impulse buying proposed by different researchers.

Piron (1991) integrated these dimensions and proposed a new comprehensive definition of impulse buying, which is as follows.

> *"Impulse buying is a purchase that is unplanned, the result of an exposure to a stimulus, and decided on-the-spot. After the purchase, the customer experiences emotional and/or cognitive reactions" (Piron, 1991)*

Impulse purchase comes from many characteristics. The first characteristic is as an unplanned purchase, where consumer decides to purchase the object on the spur of the moment, not in response to a previously recognized problem or an intention that was formed prior to being in the shopping environment (Piron, 1991). The second characteristic of impulse purchase is the exposure to the stimulus, which is considered as the catalyst which predicts impulse purchase by the consumer (Dholakia, 2000).

The third characteristic of impulse purchase is the *immediate* nature of the behavior. The consumer makes a decision on the spot without any evaluation of the consequences of making such a purchase (Piron 1991). Finally, the consumer experiences *emotional and/or cognitive reactions*, which can include for future consequences. There are four type of impulse purchase can be describe in the next section.

2.10.1 Type of Impulse Purchase

By taking out the types of impulse purchase, it is classified into four categories namely pure, reminder, suggestion, and planned impulse buying as outlined and described in Table 2.7 (Stern, 1962; Piron, 1991; Nesbitt, 1959).

Table 2.7

Types of Impulse Purchase

Types	Description
Pure impulse purchase	• Occurs when consumers purchase products impulsively as defined above.
Reminder impulse purchase	• Occurs when the consumer is reminded of the need to buy a product when he or she sees it. The consumer may remember about running out of that product or may recall an advertising about the item of interest, which sparks the impulse purchase.
Suggestion impulse purchase	• Occurs when a consumer sees a product and visualizes a need for it.
Planned impulse buying	• Occurs when consumers do not plan for their purchases, but search for and take advantage of promotions in the market. The common link across these different types of impulse purchase is that the purchase is a result of an exposure to the stimulus.

A few researchers have studied impulse purchase behavior for different requirement such as traditional retail store (Beatty & Ferrell, 1998), online shopping (Eroglu, Machleit & Davis 2001), website (Liu et al, 2013; Fan et al, 2012; Koo & Ju, 2010; Kwek et. al, 2010; Eroglu, Machleit, & Davis, 2001; LaRose, 2001) and Promotional

TV Program (Park & Lenon, 2006). However, this research focus will be on impulse purchase behavior on iTV advertising context.

2.10.2 Conceptual Design Model of Impulse Purchase

In proposing a conceptual design model of iTVAdIP, analysis on conceptual design model of impulse purchase is important. It should identify common components, and elements, as well as theory and approach that are adapted in the conceptual design model.

In response to that, this study analyzes impulse purchase model from different medium of advertising which are from website advertising, traditional television environment and iTV advertising. There are five design models of impulse purchase on website: (i) Conceptual Framework of Website Attributes in Online Purchase (Liu et al, 2013), (ii) Conceptual Framework of Website Brand Equity (Fan, Tian, & Xiao, 2012), (iii) Model of Website Aesthetics within Online Environment, (Bono, 2012), (iv) Conceptual Model of Media Format on Behavioral Intention (Adelaar et al, 2003)**,** and (vi) Conceptual Framework Effect of Atmospherics on Online Shopping (Koo & Ju, 2010)**.** The detail of the model described detail as below:

2.10.2.1 Conceptual Framework of Website Attributes in Online Purchase

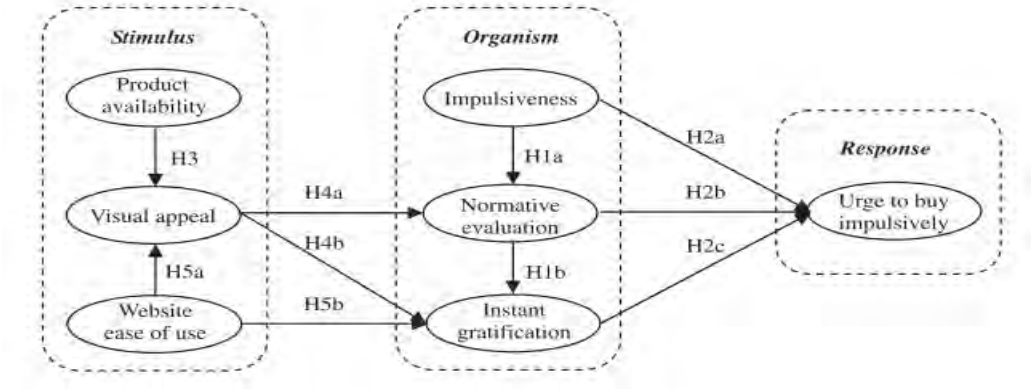


Figure 2.21. Conceptual Framework of Website Attributes in Online Purchase

Liu et al, (2013) proposed a conceptual framework of Website Attributes in Online Purchase as depicted in Figure 2.21. This model investigates on how impulse purchase component on website which consists of (products availability, website ease of use and visual appeal) affect personality traits (instant gratification, normative evaluation and impulsiveness) to urge the impulse purchase online. Meanwhile, visual appeal element such as text, font, and graphic of multimedia elements incorporated in this framework. However, the provided elements are not dedicated to design models to increase impulse purchase on iTV advertising. Besides, it adhere the persuasive theory and environmental psychology approach which are stimulus, organism, response (S–O–R) to interpret impulse purchase element. In short, the persuasive theory and environment psychology approach can be considered in designing the conceptual design model of iTVAdIP.

2.10.2.2 Conceptual Framework of Website Brand Equity

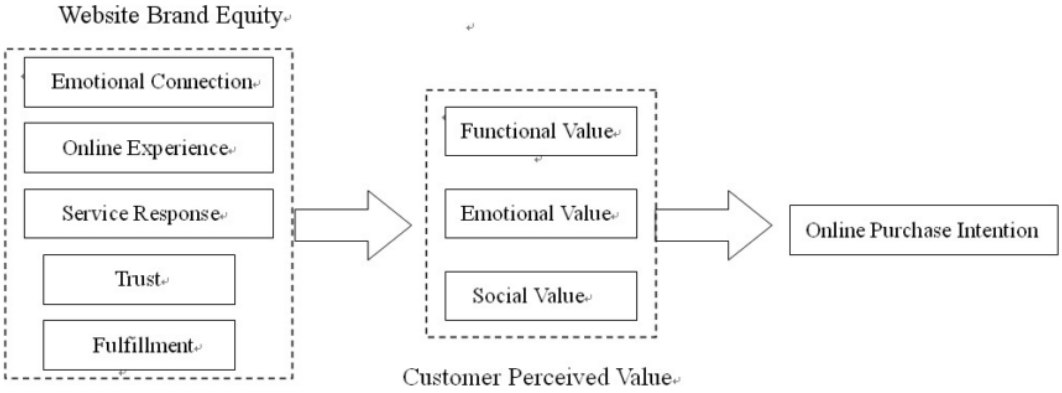


Figure 2.22. Conceptual Framework of Website Brand Equity (Fan et al., 2012)

The model proposed by Fan et al, (2012), comprises of five elements toward purchase intention which are emotional connection, online experience, service response, trust and fulfillment as depicted in Figure 2.22. The model focuses on how website brand equity affect customer perceived value toward online purchase intention. The model adapts environmental psychology of the Stimulus–Organism–Response (S–O–R) paradigm and brand equity theory development. In short, the environment psychology approach can be considered in designing the conceptual design model of iTVAdIP.

However, this model do not provided specific design for iTV advertising. Moreover, the provided elements illustrate more on how brand equity might influence customer purchase intention on website but not on television. In addition, the target user is for online consumer on website and not appropriate for television viewer. Besides, the model poorly discuss on interactive component illustrated in the model.

2.10.2.3 Model of Website Aesthetics within Online Environment

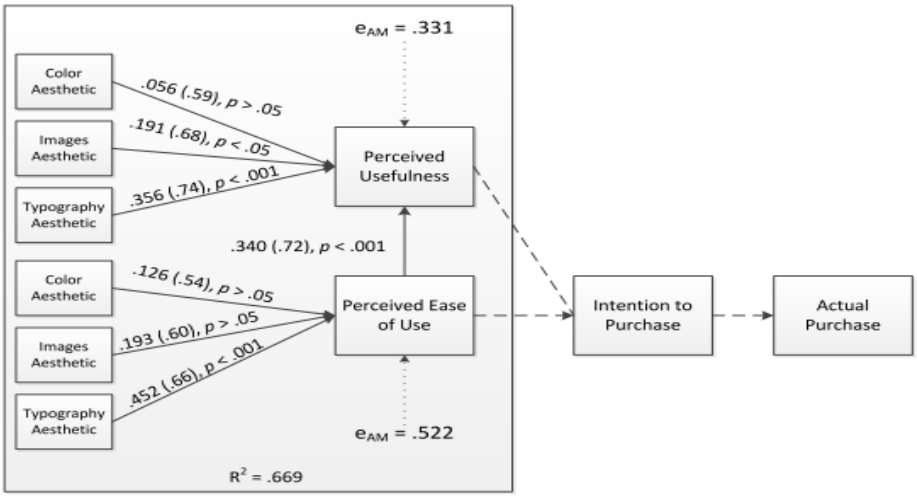


Figure 2.23. Model of Website Aesthetics within Online Environment

Bono (2012) described a model for developing of Website Aesthetics within online environment. This model consists of four components which are website aesthetics, PE and PU, Intention to purchase and actual purchase as depicted in Figure 2.23. In line with that, this model stress on the impact of Web site aesthetics that enable online retailers to design Web sites that engage consumers, leading to additional purchases. The model identify the effects of Web site color (CA), images (IA), and typography (TA) aesthetics on Perceived Easy of Use and Perceived Usefulness for individuals among those exhibiting a higher than average impulse buying tendency (IBT). Theory of reasoned action also adapted in this model. This study believes that, this model is appropriate to be adapted in designing iTVAdIP.

2.10.2.4 Conceptual Model of Media Format on Behavioral Intention

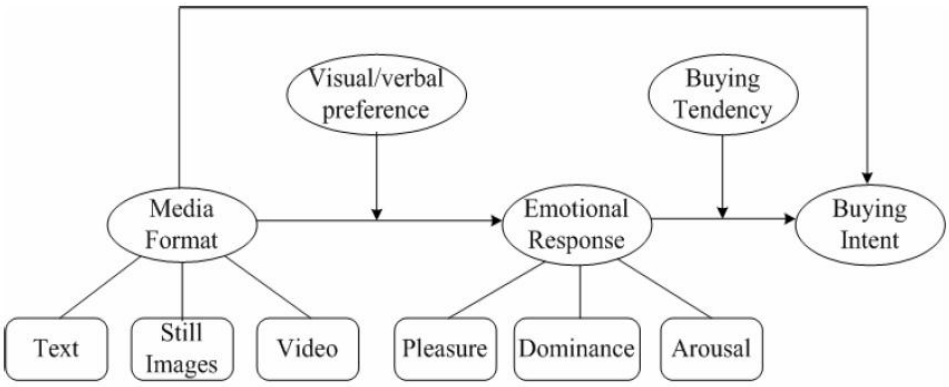


Figure 2.24. Conceptual Model of Media Format on Behavioral Intention

Conceptual Model of Media Format on Behavioral Intention was the design model that focuses on how media format might influence impulse buying in website (Adelaar et al, 2003). As depicted in Figure 2.24, the conceptual model consists of three components which are media format, emotional response and buying intent. Also, the adapted theories are hierarchy of effect model, elaboration likelihood model, recursive model, and business model. These theories will be used in designing iTVAdIP. However, the provided elements in the model do not cater the iTV viewers as part of the user and the provided elements discuss more on how media format might influence impulse buying in website not on television.

2.10.2.5 Conceptual Framework Effect of Atmospherics on Online Shopping

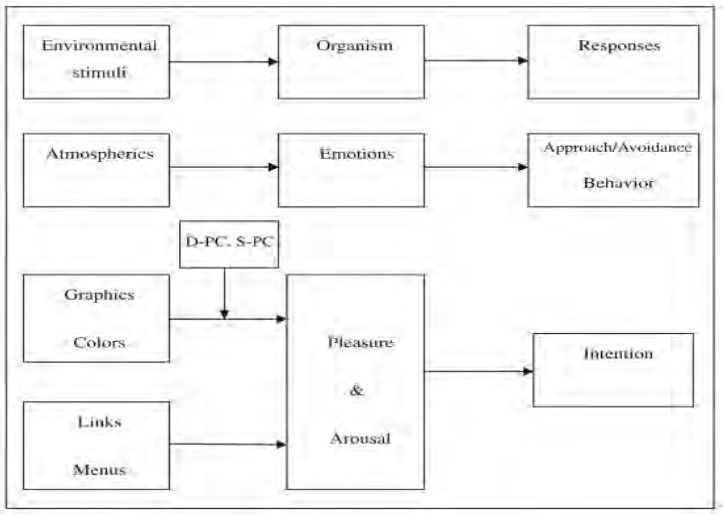


Figure 2.25. Conceptual Framework Effect of Atmospherics on Online Shopping

As seen in Figure 2.25, the Conceptual Framework Effect of Atmospheric on Online Shopping, (Koo & Ju, 2010) comprises of three components which are atmospherics, emotions and approach or avoidance behavior. In particular, the adapted theories are elaboration likehood model, conditioning theory and environmental psychology that operationalized in a stimulus–organism–response (S–O–R) framework. This model adapts environmental psychology that suggests that the stimuli as antecedents affect the consumers' emotional states (organism), whose response may result in their retail behaviors (responses). To sum up, these points that the iTV viewer were not their target user. However the model poorly discuss on characteristics interactive platform as illustrated in the model and lack of clarification in terms of each of the multimedia features to point the iTV viewer as part of the user. Summary of comparative model can be seen in Table 2.8 in the next section.

2.10.2.6 Summary of Comparative Analysis on Conceptual Design Model of Impulse Purchase on Website

Summary of comparative analysis on conceptual design model of impulse purchase on website are describe as shown in Table 2.8.

Table 2.8

Summary of Comparative Analysis on Conceptual Design Model of Impulse Purchase on website

No.	Sources	Description	Limitations
1.	Conceptual Framework of Website Attributes in Online Purchase (Liu et al, 2013)	• This model comprises of three components; website cues, personality traits, and impulse purchase. • It adheres to the environmental psychology of Stimulus–Organism–Response framework to interpret impulse purchase. • The adapted theories hierarchy of effect model and persuasion knowledge model. • This model investigates how the website cues (products availability, website ease of use and visual appeal) affect personality traits (instant gratification, normative evaluation and impulsiveness) to urge the impulse purchase online.	• The provided elements discuss more on how website cues might affect impulse purchase behavior on website but not on television. • The target user is online consumer on website and not appropriate for television user. • This model only provides components to be considered during designing website advertising, but not the specific components to develop iTV advertising.
2.	Conceptual Framework of Website Brand Equity (Fan et al, 2012)	• This model consists of three components; website brand equity, customer perceived value, and online purchase intention. • The model adapts theory of the Stimulus–Organism–Response paradigm and brand equity theory development. • Theory of persuasion knowledge model and hierarchy of effect model are adapted in the model. • The model focuses on how website brand equity influences customer to be impulsively.	• The provided elements illustrate more on how brand equity might influence customer purchase intention on website but not on television. • This model only provides components to be considered during designing website advertising, but not the specific component to develop iTV advertising. •

Table 2.8 continued

3.	Model of Website Aesthetics within Online Environment (Bono, 2012)	• This model consists of four components; website aesthetics, perceived ease of use and perceived usefulness, intention to purchase and actual purchase. • This model stress on the impact of Web site aesthetics that enable online retailers to design Web sites that engage consumers, leading to additional purchases. • This model identifies the effects of website aesthetics which contains web site color, images and typography on impulse buying tendency.	• The provided elements discuss more on how website aesthetic might influence user toward impulse purchase on website but not on television. • The target user is participant from social media outlet but not television user. • Some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model.
4.	Conceptual Framework Effect of Atmospherics on Online Shopping (Koo & Ju, 2010)	• This model consists of three components; atmospherics, emotions and approach or avoidance behavior. • The adapted approach is environmental psychology that operationalized in a Stimulus–Organism–Response framework. • The elaboration likehood model and conditioning theory are adapted in the model. • This model adapts environmental psychology that suggests the stimuli have antecedents affect on consumers' emotional states (organism), whose response may result in impulse purchase behaviors (responses).	• The provided elements discuss more on how environmental psychology of the website might influence user toward impulse purchase on website but not on television. • Some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model.
5.	Conceptual Model of Media Format on Behavioral Intention (Adelaar et al, 2003)	• This model consists of three components; media format, emotional response and buying intent. • The adapted theory is environmental psychology, elaboration likelihood model, conditioning theory, recursive model,and business model. • The model stress on how media format might influence impulse buying in website.	• The provided elements do not cater the iTV viewers as part of the user. • The provided elements discuss more on how media format might influence impulse buying in website not on television. • This model does not provide clear procedure in developing iTV advertising.

2.10.3 Comparative Analysis on Conceptual Design Model of Impulse Purchase on Traditional Television Shopping

This study also analyzes impulse purchase models on traditional television advertising which are : (i) Conceptual Model for Effect TV Display on Impulse Purchase (Sadia, 2007), (ii) Model of Impulse Buying Tendency Toward Television shopping (Lee, 2008) and (iii) Impulse purchase techniques used in television advertisement (Boyland et al, 2012), (iv) Model on dual-modality disclaimers, em otional appeals, and production techniques in food advertising airing during programs (Wicks et al, 2009), and (v) Framewok in understanding of commercials' impulse purchase intent among urban in the USA (Batada et al, 2008). The detail of the models was described below:

2.10.3.1 Conceptual Model of Effect TV Display on Impulse Purchase

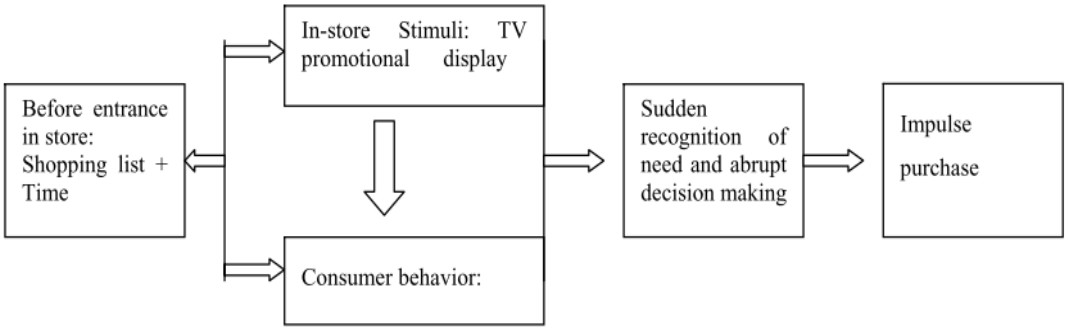


Figure 2.26. Conceptual Model of Effect TV Display on Impulse Purchase (Sadia, 2007)

Conceptual model of Effect TV Display on Impulse Purchase focuses on how promotional TV display influence male and female's behaviors for impulse shopping (Sadia, 2007). The adapted theory in the model is theory of affective and cognitive psychology processes, theory of planned behavior, and theory of consumer behavior. Besides, this model (see Figure 2.26) applies psychological approach that can be used as a guideline in developing conceptual design model of iTVAdIP. Even though the model highlights television viewer as the main user but it is not focus on iTV advertising. However, the provided elements illustrate more on how promotional TV display influence impulse purchase behavior but do not specific on iTV advertising.

2.10.3.2 Model of Impulse Buying Tendency Toward Television shopping

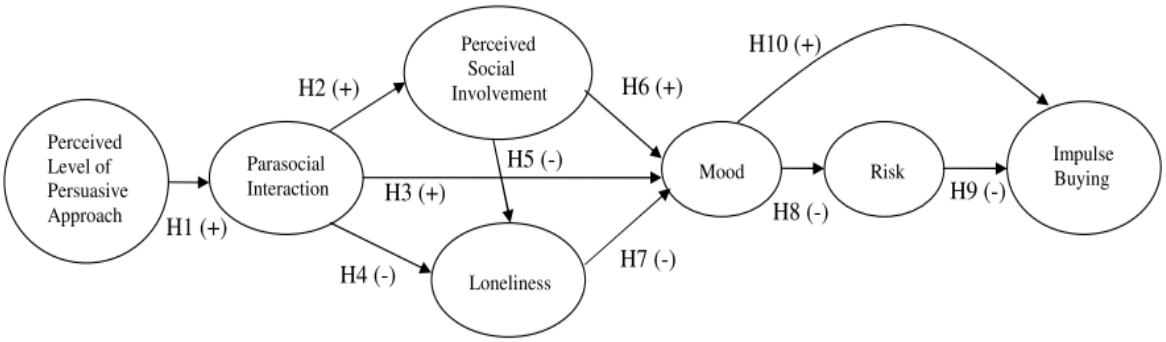


Figure 2.27. Model of Impulse Buying Tendency Toward Television Shopping

Conceptual model of Impulse Buying Tendency Toward Television (see Figure 2.27) focuses on how to investigate the effects of persuasive strategies on perceived parasocial interactions between the host and viewers in the television home shopping environment (Lee, 2008). It examines the effects of perceived parasocial interactions, perceived social involvement, and perceived loneliness on mood, and mood's consequent influence on perceived risk toward impulse buying tendency. In addition, persuasion knowledge model was adapted as a guideline to develop the iTVAdIP design model. Eventhough, the model highlights television viewer as the main user but it is not focus on iTV advertising user. However, the provided elements illustrate more on how persuasive strategies TV display influence impulse purchase behavior but do not cater iTV advertising element.

2.10.3.3 Impulse Purchase Techniques Used in Television Advertisement

Boyland et al. (2009) investigated on impulse purchase techniques on traditional television advertisement. It focuses on how traditional television advertising might influence consumer to purchase the product. The impulse purchase elements describes in this study consists of are price, premium offer free gift, promotion, fun, enjoyment, satisfaction, brand equity, taglines, and celebrities' endorsement. Evethough this study focus on impulse purchase elements but the provided impulse purchase elements just focus on traditional television advertising besides iTV.

In addition, this model only provides components to be considered during designing television traditional advertising, but not the specific component to develop iTV advertising. Besides that, some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model.

2.10.3.4 Model on dual-modality disclaimers, emotional appeals, and production techniques in food advertising airing during programs

This model focuses on how traditional television advertising can influence consumers to purchase the product (Wicks et al. 2009). The provided of impulse purchase elements consists of elements of humour, fun, happiness, story problem & solution. Eventhough, the provided elements discuss more traditional advertising might affect impulse purchase tendency towards consumer but this study not focus on impulse purchase elements for iTV advertising.

In addition, although this model provides components to be considered during designing television advertising but it is not very comprehensive to provide guideline to the advertising designer to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency.

2.10.3.5 Framewok in understanding of commercial impulse purchase intent among urban in the USA

This framework focuses on understanding of commercial impulse purchase intent among urban in the USA (Batada et al., 2008). This model consists of the impulse purchase elements which are product distribution, brand, logo, and slogan.

The provided elements discuss more traditional advertising might affect impulse purchase tendency. However, the provided elements illustrate more on how traditional television advertising influence customer purchase intention on televison but not on iTV advertising. In addition, this model only provides components to be considered during designing traditional advertising affect impulse purchase, but not the specific component to develop iTV advertising. Besides that, some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model.

2.10.3.6 Summary of Comparative Analysis on Conceptual Design Model of Impulse Purchase on Traditional TV Advertising

Summary of comparative analysis on conceptual design model of impulse purchase on traditional TV advertising are describe as shown in Table 2.9.

Table 2.9

Comparative Analysis on Conceptual Design Model of Impulse Purchase on Television Shopping

No	Sources	Description of model	Limitation
1.	Conceptual Model for Effect TV Display on Impulse Purchase (Sadia, 2007)	• It focuses on how promotional TV display influence male and female's behaviors for impulse shopping. • The adapted theory is theory of affective and cognitive psychology processes, theory of planned behavior, and theory of consumer behavior and persuasion knowledge model.	• It includes television viewers as part of the user but not focus on iTV user. • Although this model provides components to be considered during designing television advertising but it is not very comprehensive to provide guideline to the advertising designer to develop iTV advertising. • Lack of clarification in terms of each of the multimedia features to point the iTV viewer as part of the user.
2.	Model of Impulse Buying Tendency Toward Television shopping (Lee, 2008)	• This model focuses on effects of perceived parasocial interactions, perceived social involvement, and perceived loneliness on mood, and mood's consequent influence on perceived risk toward impulse buying tendency. • This study focuses on middle age and older female television home shoppers. • Persuasive theory had been adapted as a guideline to develop the model.	• The provided elements discuss on how persuasive strategies might influence user toward impulse purchase on traditional advertising but not interactive advertising. • It includes television viewers as part of the consumers but not iTV consumers. • Although this model provides components to be considered during designing television advertising but it is not very comprehensive to provide guideline to the advertising designer to develop iTV advertising.

Table 2.9 continued

3.	Impulse purchase techniques used in television advertisement (Boyland et al, 2012)	• This study focus on impulse techniques on traditional television advertisement. • It consists of impulse purchase elements on television which are price, premium offer free gift, promotion, fun, enjoyment, satisfaction, brand equity, taglines, and celebrities' endorsement.	• The provided elements discuss more on how television traditional advertising affect impulse purchase behavior on television but not on iTV. • This model only provides components to be considered during designing television traditional advertising, but not the specific component to develop iTV advertising.
4.	Model on dual-modality disclaimers, emotional appeals, and production techniques in food advertising airing during programs (Wicks et al, 2009)	• This model focuses on how traditional television advertising can influence consumers to purchase the product. • The model consists of elements of humour, fun, happiness, story problem & solution.	• The provided elements discuss more traditional advertising affect impulse purchase might influence user toward impulse purchase on website but not on television. • This model only provides components to be considered during designing traditional advertising affect impulse purchase, but not the specific component to develop iTV advertising.
5.	Framewok in understanding of commercials' impulse purchase intent among urban in the USA (Batada et al, 2008)	• This framework focus on understanding of commercials' impulse purchase intent among urban in the USA. • This model consists of the impulse purchase elements which are product distribution, brand, logo, and slogan.	• The provided elements illustrate more on how traditional television advertising influence customer purchase intention on televison but not on television. • Some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model.

2.10.4 Comparative Analysis on model for iTV advertising

This study also analyzes impulse purchase models on iTV advertising which are : (i) Conceptual Model of T-Commerce (Ghisi et. al, 2009), (ii) An On-Demand Advertising Model for ITV (Erdorgan, 2004) (iii) A New Content-Related Advertising Model For Interactive Television (JaeHoon et. al, 2008) , (iv) Context Aware Personalized Ad Insertion in an Interactive TV Environment (Thawani et al, 2004) and (v) Intreractive trend in the TV advertising lanscape (Almeida et al, 2013). The detail of the models were described below:

2.10.4.1 Conceptual Model of T-Commerce

Ghisi (2009) discovered on conceptual model of television commerce (t-commerce) as depicted in Figure 2.28. The model consists of three main components which are, (i) Presentation, (ii) Form of payment and (iii) Content Associatively. For presentation components consists of sales channel, program related, interactive advertising and other initiatives. Meanwhile for content associatively, it consists of contextualized and independent. There are variety payment model alternatives that can be used during the purchase process in the form of payment which are Credit Card, Direct Debit and Other Forms. Even though this model suits on the concept of iTV but the model does not include consumer behavior regarding impulse purchase. Besides that, the provided elements in the model do not have specific design on development of iTV advertising toward Impulse Purchase.

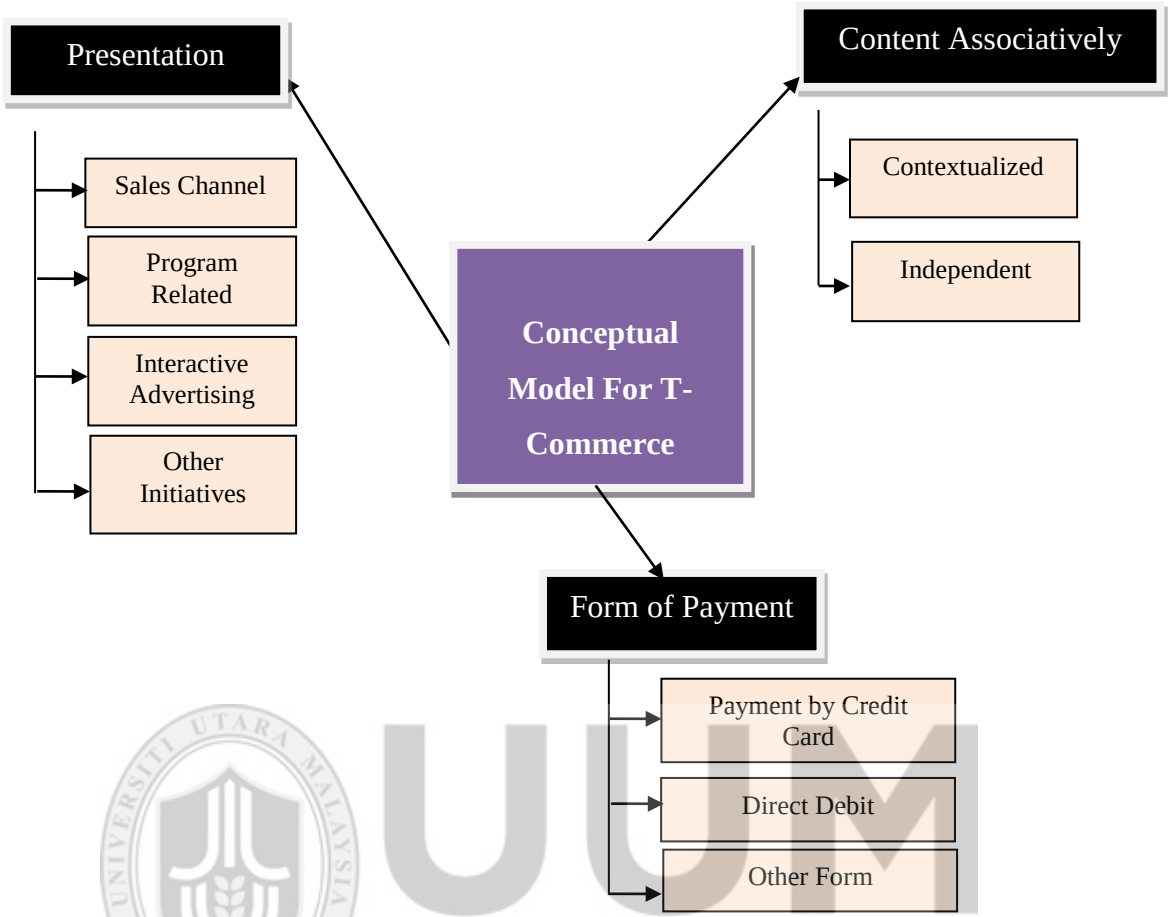


Figure 2.28. Conceptual Model for T-Commerce (Ghisi et al. 2009)

2.10.4.2 An On-Demand Advertising Model for iTV

Erdogan (2004) proposed an on demand advertising model for iTV. This model consists of interactive elements such as bookmarking the product, notification, exploring product vault, and product information. In addition, this study demonstrate how product information could be integrated into programming content and how product information could be indexed for more user friendly, personalized and effective advertising. Besides that, this study enables consumers to navigate through remote control and number of keys.

However, the components are not dedicated to increase impulse purchase on iTV advertising. In addition, the model does not clearly define the impulse purchase elements to be embedded in the iTV advertising design. This model also does not provide clear procedure in developing iTV advertising.

2.10.4.3 A New Content-Related Advertising Model for Interactive Television

The model proposed by JaeHoon et al. (2008), investigates the efficiency of systems, the level of user satisfaction and the behavior through an experiment, a survey and an interview. This research provides a number of clues that can improve user experience with interactive advertising using interfaces and related content. Besides that, this study focus on new advertising model that uses interactivity and the internet connectivity of television is proposed. In addition, the model provides elements that can improve user experience with interactive advertising using interfaces and related content.

However the provided elements do not emphasis much on impulse purchase elements. In addition, this study is not dedicated to design model to increase impulse purchase on iTV advertising. Moever, the provided elements in the model do not have specific design on development of iTV advertising. Besides that, some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model.

2.10.4.4 Context Aware Personalized Ad Insertion in an Interactive TV

Thawani (2012) proposed architecture for context aware real time selection and insertion of advertisements into the live broadcast stream by taking into consideration the user's current and past contextual information. This study involves development of intelligent iTV applications such as user identification, intent tracking, personalized ad insertion etc. This model also consists of XML based MPEG 7 DDL along with TV Anytime Metadata Specification are used as a representation format for metadata to represent and describe components of the system.

However the provided elements in this study do not emphasis much on impulse purchase elements. Movever, some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model. In addition, this model does not include theory of advertising and consumer behavior and the provided elements in the model do not have specific design on development of iTV advertising.

2.10.4.5 Interactive trend in the TV advertising landscape

The study proposed by Almeida et al. (2013) is on interactive trend in TV advertising landscape , the new television ecosystem features and its impact in the TV advertising market. It proposes a taxonomy regarding the advertising models in this new TV ecosystem (centred on the TV-set and on the secondary screen).

The model also describes the emerging interactive advertising models centred whether on television or supported by additional equipment (tablets and smartphones as secondary screens), however the component provided do not emphasize on impulse purchase elements. In addition, this study also not dedicated to design model to increase impulse purchase on iTV advertising. Besides that, some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model.

2.10.4.6 Summary the Comparative Analysis on iTV

In addition, Figure 2.10 summarizes the comparative analysis that focus on iTV studies.

Table 2.10

Comparative Analysis on iTV studies

No.	Sources	Description of model	Limitation
1.	Conceptual model of t-commerce (Ghisi, 2009)	• This model consists of three elements; presentation, form of payment and content associatively.	• The model describe the component of t-commerce however the model does not have component of impulse purchase. • The provided elements in the model do not have specific design on development of iTV advertising toward Impulse Purchase.
2.	An On-Demand Advertising Model for Interactive Television (Erdogan, 2004)	• The model consists of interactive elements such as bookmarking the product, notification, exploring product vault, and product information. • The research prototype demonstrate how product information could be integrated into programming content and how product information could be indexed for more user friendly, personalized and effective advertising. • The research prototype uses remote control and navigation through number of keys.	• These studies are not focus on dedicated to design models to increase impulse purchase on iTV advertising. • Poorly discuss on characteristics interactivity platform of iTV advertising. • The model does not clearly define the impulse purchase elements to be embedded in the iTV advertising design component. • This model does not provide clear procedure in developing iTV advertising.
3.	A New Content-Related Advertising Model For Interactive Television (JaeHoon et. al, 2008)	• This model suggest interactive advertising model that uses a TV program. • The study investigates the efficiency of systems, the level of user satisfaction and the behavior through an experiment, a survey and an interview. • This research provides a number of clues that can improve user experience with interactive advertising using interfaces and related content.	• The model provides elements that can improve user experience with interactive advertising using interfaces and related content. • However the provided elements do not emphasis much on impulse purchase elements. • This study also is not dedicated to design model to increase impulse purchase on iTV advertising. • The provided elements in the

Table 2.10 continued

		• By categorizing the ads provided in the experiment, the most popular type of interactive advertising was determined. • In this paper, a new advertising model that uses interactivity and the internet connectivity of television is proposed.	model do not have specific design on development of iTV advertising. • This model does not include theory of advertising and consumer behavior. • Some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model.
4.	Context Aware Personalized Ad Insertion in an ITV Environment (Thawani et al. 2004)	• This model proposed architecture for context aware real time selection and insertion of advertisements into the live broadcast stream by taking into consideration the user's current and past contextual information. • The project also involves development of intelligent iTV applications such as user identification, intent tracking, personalized ad insertion etc. • This model consists of XML based MPEG 7 DDL along with TV Anytime Metadata Specification are used as a representation format for metadata to represent and describe components of the system.	• The model focus more on the architecture for context aware insertion of advertisement into the live broadcast stream. • However the provided elements do not emphasis much on impulse purchase elements. • Some design elements and guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model. • The provided elements in the model do not have specific design on development of iTV advertising.
5.	Intreractive trend in the TV advertising lanscape (Almeida et al. 2013)	• This research focus on the trends in the iTV advertising landscape, the new television ecosystem features and its impact in the TV advertising market. • The research emerging interactive advertising models centered whether on television or supported by additional equipment (tablets and smartphones as secondary screens). • It propose a taxonomy regarding the advertising models in this new TV ecosystem (centred on the TV-set and on the secondary screen).	• The model describes the emerging interactive advertising models centred whether on television or supported by additional equipment (tablets and smartphones as secondary screens), however the component provided do not emphasize on impulse purchase elements. • This study also not dedicated to design model to increase impulse purchase on iTV advertising. • Some design guidelines that should be considered when developing the iTV advertising towards influencing impulse purchase tendency are not clearly identified in this model. • This model does not include theory of advertising and consumer behavior.

2.10.4.7 Implications of Comparative Model to the Study

The previous literatures suggest that the development of conceptual design model of advertising should include environment psychology, advertising theory and and advertising approach as the basic component. It would be unreasonable to ignore these three basic components in an endeavor to create the proposed model. On the top of that, persuasive advertising approaches are really important to attract and persuade viewers in making unplanned purchase.

Moreover, all the reviewed models have come out with certain guidelines to develop the proposed model. However, it was found highly lacking that the conceptual design models or prototypes address the impulse purchase design on iTV. In addition, the iTV models do not have impulse purchase elements. So this study focus on development of conceptual design model of iTV advertising which embed impulse purchase elements that could help advertising designer to develop iTV advertising that could attract and influence consumer to purchase the advertised product impulsively.

Hence, it ought to be noted that this is the research gap that should be the focal point of this study. In accordance, the next section discusses on evaluation of the proposed model to this study.

2.11 Influence of the Design Model

Generally, the conceptual model or conceptual design models pay critical attention to the functions to ensure their worthiness. In addition, they are designed and implemented to accomplish specific objectives. One of the objectives of conceptual design model is to help and guide advertising designers to develop an application smoothly. In this study, the aspects are grouped into concerns relating to how applicable is the model to be implemented by advertising designers. In other word, how advertising designers can develop an iTV advertisement which embed elements tha are perceived could influence impulse purchase tendency. In addition, this study focus explores on the capability of design model to assist the production of advertisement that can influence consumer to purchase the product impulsively.

2.11.1 Definition of Influence

Influence can be defined as being the capacity to have an effect on the character, development, or behavior of someone or something. In this study, the term influence refers to the ability of the proposed model to be applied and implement in a real situation in developing iTV advertising that can attract and influence consumers to purchase the product. A number of dimensions have been proposed by researchers to evaluate the design models in different fields such as general advertising design, software development, multimedia applications, project management and model design (Veryard, 1985; Platts,1990; Henderson-Sellers, 1995; Lang & Barry, 2001; Riemenschneider et. al. 2002; Yu and Cysneiros, 2002; Ciconte, 2010; Hecksel, 2004; Bonner, 2008; Kerzner, 2014).

In addition, a study by Syamsul and Norshuhada (2014) proposes dimensions of measuring applicability (which is one of the important dimensions in influence) on conceptual model of mobile game environment. The authors propose that with eight essential quality dimensions: (1) visibility, (2) complexity, (3) compatibility, (4) flexibility, (5) clarity, (6) effectivenss, (7) manageability and (8) evolutionary. Table 2.11 displays each dimension along with brief descriptions. The finding provide meaningful way of analyzing the conceptual design model.

Table 2.11

Descriptions on Each Dimension (Syamsul & Norshuhada, 2014)

No.	Dimensions	Descriptions
1.	Visibility	The model is visible to the game developers, so that the developers can judge the relevance and completeness of the game development.
2.	Complexity	Complexity is the degree to which a model is perceived as difficult to use. The more complex the model, the more difficult to use. Learning about the model should be easy, clear and understandable.
3	Compatibility	Compatibility refers to the degree to which a model is perceived as being consistent with the existing values, needs, and past experiences of game developers.
4.	Flexibility	The model provides flexible development process with minimal planning. The model is also adaptive and responsive to changing user needs. The model should be flexible and adaptable for future use.
5.	Clarity	The model as a whole is workable. The phases in the model are easily followed and steps or activities included in the model are easy to apply. The model also provides specific guide upon the development of mGBL.
6.	Effectiveness	The model is perceived as being better than other model. By using the model, it will increase the productivity, effectiveness, and quality of mGBL development.
7.	Manageability	The processes and activities in the model to be capable of being managed or controlled. In general, the model also provides project management.
8.	Evolutionary	The model provides the dynamic process which evolves through continuous feedback (communicate and collaborate) from users.The model is capable to incremental change, to cope with new ideas or technological opportunities.

2.12 Summary

Based on the study of literature, understandings about the advertising elements, impulse purchase, characteristics of iTV, and advertising theories are gained. Figure 2.29 shows the overview of the literatures that are reviewed. Overall, the topics covered in the literature reviews facilitate the process of achieving the objectives of this study. Accordingly, the topics put on view the general understanding of advertising development and gradually immerse into the detailed aspects of strategies and techniques in making advertising. Discussions on design aspects of advertising were also taken into consideration pertinent to proposing a conceptual design model of iTVAdIP. In addition, related theories were also interpreted to provide foundation to the propositions made in this study.

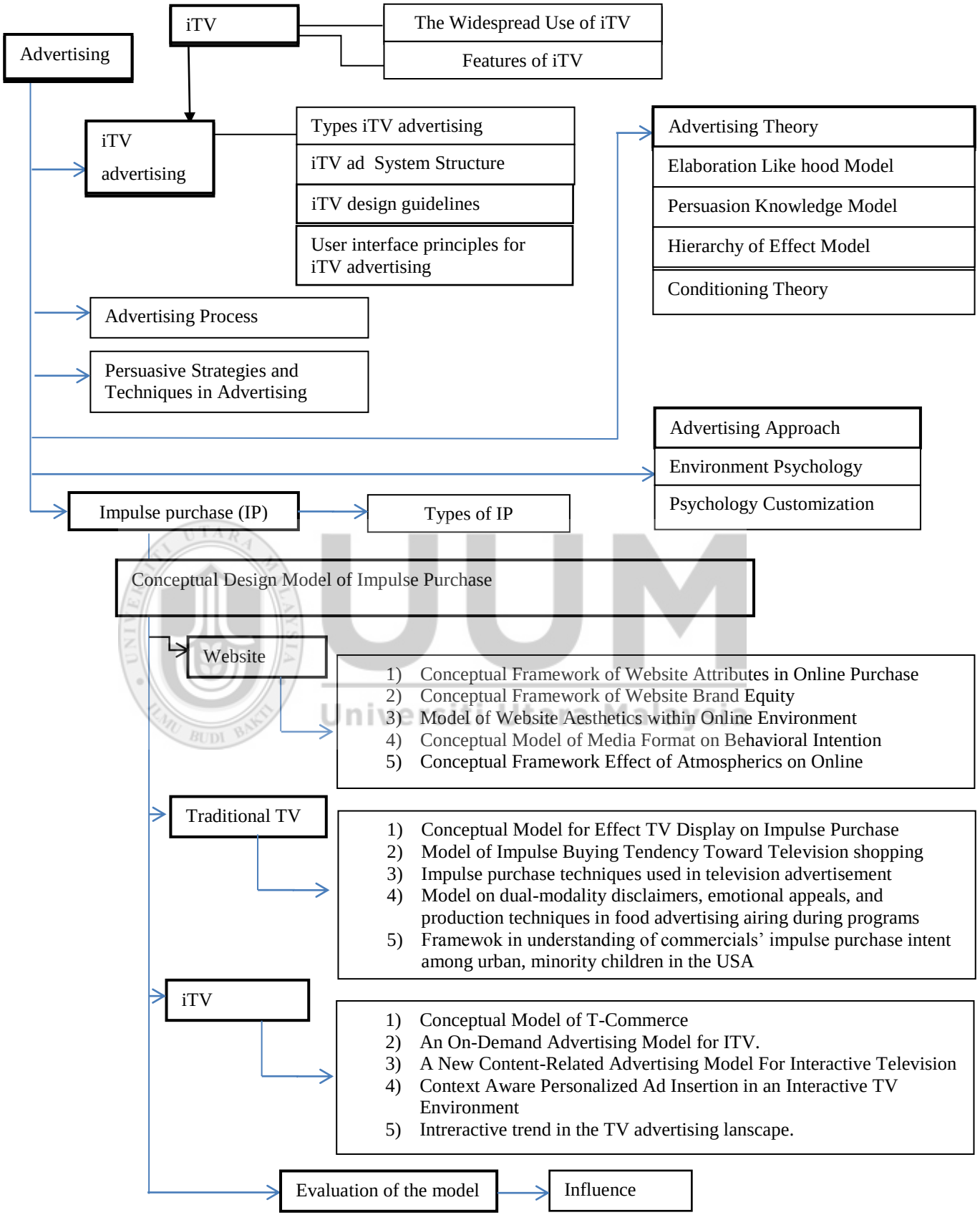


Figure 2.29. Overview of Literature Review

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Overview

This chapter describes the overall research process required to achieve all the objectives stated in Chapter 1. The methodological approaches adopted from the well-known design research approach in information system. Each phase in the methodology is elaborated and the relationship between the outcomes of each phase is also discussed in this chapter.

3.2 Design Research

This study employed the design science approach for achieving all objectives as described in Chapter 1. The selection of this method is seen to be highly compatible with this study, as it caters well to produce the expected outcome of this study. March and Smith (1995) describe design science research as a process which aims to *"produce and apply scientific knowledge of tasks or situations in order to create effective artifacts"* for enhancement of the practice. In addition, design research is also described as *"improvement research"* due to its problem solving and performance improving nature.

Norshuhada and Shahizan (2010) elaborate design research based on Iterative Triangulation Methodology (ITM), where theoretical, developmental and empirical aspects of research are triangulated to achieve the design research objectives. Furthermore, Ariffin (2009) states that the basis of ITM involves the triangulation of

data source, method, theory, and data analysis, in which all the terms are to be considered within the research process, iteratively. In view of the matters discussed above, this study, in fact, reflects the triangulation concepts as explained below.

i) Data source triangulation – data are collected from a different time, space, and people. This increases the possibility of revealing the typical data or identifying potential similar pattern, thus increasing confidence in the findings.

ii) Methodological triangulation – this study uses several research methods which are survey, interview, expert review, laboratory study, and expert consultation. The use of different methods provides more meaningful information.

iii) Theoretical study triangulation – in developing the conceptual design model, this study incorporates various persuasion advertising theories, psychology approaches, existing impulse purchase models, and design guidelines to clarify the same phenomena from different perspective.

iv) Data analysis triangulation – this study uses several of data source (eg. Literature review, expert review, expert consultation, survey, interview, and laboratory study) which lead to the use of different types of data analysis.

Recently, design-based research has become popular as the methodology in multiple fields such as information system (Vaishnavi & Kuechler, 2007; March & Smith, 1995; Purao, 2002), Human Computer Interaction (HCI) (Druin, 2002; Carroll, 2000;), instructional design and technology (Reigeluth, 2008;), and educational research (Barab & Squire, 2004).

In addition, there are many suggestions for the appropriate process in design science research. Peffers et al. (2008) evaluate and review the processes for constructing design science research in information systems; some do present design research processes (March & Smith, 1995; Vaishnavi & Kuechler, 2004; Purao, 2002); some do not proposed a process (Eekels & Roozenburg, 1991; Cole et al., 2005) and some propose research frameworks that do not clearly state a process (Walls, Widmeyer & El Sawy, 1992; Hevner, March & Park, 2004).

Meanwhile, in a prominent work, Hevner et al. (2004) have proposed a set of design research guidelines to assist researchers to understand the requirements for effective design science research. The guidelines can be used based on researchers' creative skills and judgment how to apply the guidelines in their works. Table 3.1 summarizes the guidelines.

Table 3.1

Design Science Guideline (Hevner et al., 2004)

Guidelines	**Descriptions**
Guideline 1: Design as an Artifact	Design-science research must produce a viable artifact in the form of a construct, a model, a method, or an instantiation.
Guideline 2: Problem Relevance	The objective of design-science research is to develop technology-based solutions to important and relevant business problems.
Guideline 3: Design Evaluation	The utility, quality, and efficacy of a design artifact must be rigorously demonstrated via well-executed evaluation methods.
Guideline 4: Research Contributions	Effective design-science research must provide clear and verifiable contributions in the areas of the design artifact, design foundations, and/or design methodologies.
Guideline 5: Research Rigor	Design-science research relies upon the application of rigorous methods in both the construction and evaluation of the design artifact.

Table 3.1 continued

Guideline 6: Design as a Search Process	The search for an effective artifact requires utilizing available means to reach desired ends while satisfying laws in the problem environment.
Guideline 7: Communication of Research	Design-science research must be presented effectively both to technology-oriented as well as management-oriented audiences.

Therefore, as discussed in the previous paragraphs, this study is relevant to be conducted by adopting the design research approach, and what follows is the rationale of selecting the approach.

3.3 Rationale of Using Design Research

Design research seems appropriate for this study, as it caters well for phases and provides research outcomes that are relevant to the expectation. Therefore, the following paragraph lists the rationale of using design science approach:

i. Design science approach provides a systematic process in order to create effective artefacts.
ii. The design research caters for research problem pertaining to artefact design issues.
iii. The context and domain of the study suit the design research.
iv. Each specific guideline in the design research is relevant and practical to be utilized in this study.
v. The expected outcome of this study is a iTVAdIP design model which is a type of design artifacts (model or method).
vi. In making the successful artifacts the use of design science approach is important to be applied.

vii. The design research is a dynamic process that can be included in various relevant specific activities such as evaluation strategy that will be conducted in this study.

viii. In obtaining knowledge and understanding the domain of the problem, design science approach that involves the development and application of the designed artifact is applicable to be adapted.

All the listed reasons overlap with the outcomes of this study, which make the design science approach applicable to be applied in this study.

3.4 Phases in Research Methodology

A prominent design science research methodology (Vaishnavi & Kuechler, 2007) is adopted for accomplishing the research objectives. The methodology is the most accepted approach taken by researchers, where the primary focus is on the finished artefacts such as models, methods, or prototypes (Purao, 2002). The research methodology can be divided into five phases; (i) awareness of problem, (ii) suggestion, (iii) development, (iv) evaluation, and (v) conclusion. Figure 3.1 illustrates the activities that have been conducted in this study.

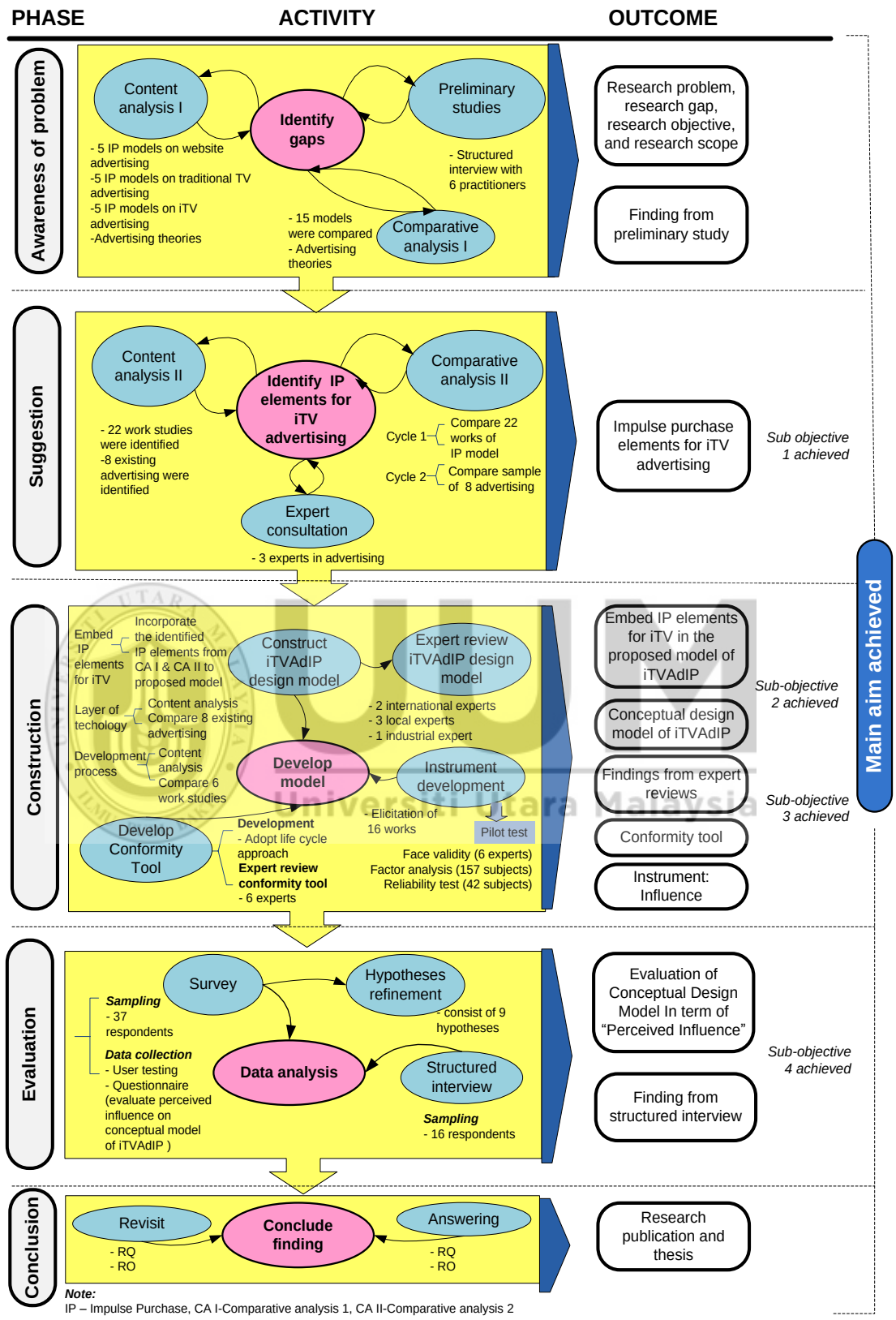


Figure 3.1. Summary of Research Activities

3.4.1 Phase 1 : Awareness of Problem

In this phase, the problem of this research was defined through content analysis and comparative analysis. Apart from that, to establish the research problems, several facts from current articles and actual data were discovered which then lead this study to conduct the preliminary investigation. With the established key issues resulted from content analysis, comparative analysis and preliminary investigation, it then guided to the formulation of research gaps, objectives, and scopes as discussed previously in Chapter 1. Figure 3.2 depicts the sub phase 1 or awareness of problem.

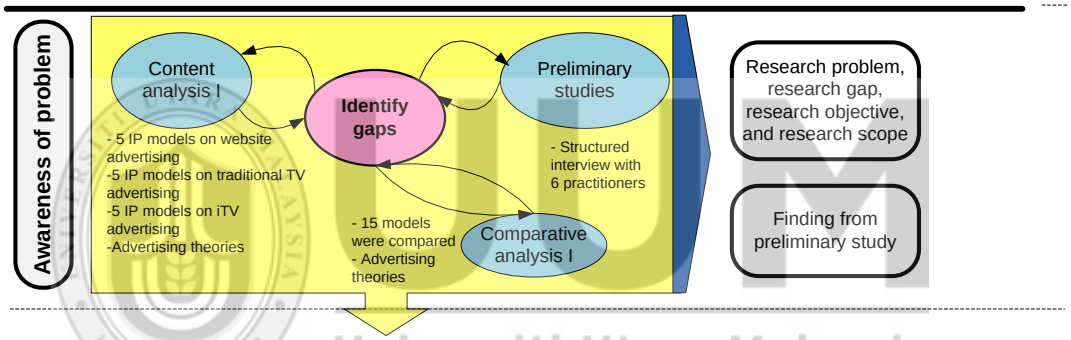


Figure 3.2. *Awareness of Problem*

3.4.1.1 Content Analysis I

Content analysis is a process of extracting knowledge about the proposed study. It was performed in seeking for information and facts from various sources including books, articles in journals and proceedings of international and national conference, and newspapers. The contents were obtained from various forms of sources including text, audio, video and other elements (Preece et. al, 2007; Ariffin, 2009; Syamsul Bahrin, 2011).

In this study the main aim of the content analysis I is to form the research problem, research gap, research objective and scope. At this stage, 15 existing models that focus on impulse purchase from different advertising environments were identified. In addition, the relevant advertising theories were determined in this study. This process then continues to a more systematic stage which is called as comparative analysis I.

3.4.1.2 Comparative Analysis Phase I

In order to strengthen the research gap, the gathered 15 models from content analysis I was compared and analyzed. The models focus on impulse purchase elements from different medium of advertising which are 5 models from website advertising, 5 models from traditional TV advertising and and 5 models from iTV advertising. From the comparative analysis I, it was found that models from website and traditional TV advertising include the impulse purchase elements which can be embedded in the iTV advertising design. In addition, models from website and iTV advertising also consist of interactive advertising elements that can be considered as a guideline to develop a design model for iTV advertising. Furthermore, the advertising theories that apply on website and traditional television advertising also can be used as a guideline in developing iTV advertising towards influencing impulse purchase tendency. The comparative analysis I is further discussed in chapter 2.

3.4.1.3 Preliminary Study

The gathered information from content analysis I and comparative analysis II guided as the basis to do a preliminary study. The preliminary study was conducted to gather practitioners' opinion on the availability of iTV advertising in Malaysia and the needs of it. Semi structured interview method was used and it involved six practitioners. The respondents represented various backgrounds; two from broadcasting companies, one self-regulator agency, one government organization, one advertising agencies and one from market research agency. The findings from the interviews are already discussed in chapter 1 (section 1.5).

3.4.2 Phase 2 : Suggestion

The purpose of suggestion phase is to identify impulse purchase elements that is suitable for iTV advertising. The method used in this phase were content analysis II, comparative analysis II and three expert consultations. All of this method are utilized in accomplishing the first objective. Each of the activities in this phase is illustrated in Figure 3.3.

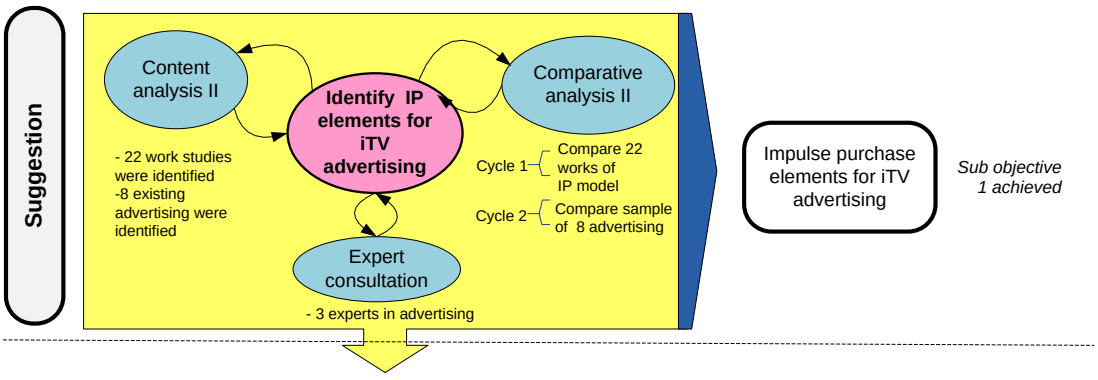


Figure 3.3. Suggestion

3.4.2.1 Content Analysis II

In this study the main aim of the content analysis is to identify the impulse purchase elements for iTV advertising. Therefore, 22 relevant studies that focus on impulse purchase elements were analysed. In addition, 8 samples of existing advertising was included to confirm the identified elements. This process then continues to a more systematic stage which is called as comparative analysis phase II.

3.4.2.2 Comparative Analysis II

This study adopts the technique applied by Ariffin (2009) and Syamsul Bahrin (2011) in identifying the main components and entities from the existing models. Every conceptual design model has different special elements based on the application to be developed (Ariffin, 2009).

The main purpose of this activity was determining the appropriate elements of impulse purchase that suite to the proposed model. At this stage, all components gathered from the comparative analysis that are related to impulse purchase model were compiled and integrated into the iTV advertising model.

It involved two cycles of comparative analysis. For the first cycle of comparative analysis, 22 relevant studies that focus on impulse purchase elements for website, traditional TV, and iTV were included. The second cycle of comparative analysis was made through eight existing advertising from different advertising medium which are website, traditional TV, and iTV. This second cycle is needed to confirm

the impulse purchase elements whether they are compulsory or recommended. The comparative analysis II findings are further discussed in chapter 4.

3.4.2.3 Expert Consultation

As to ensure the relevancies of the identified problems and proposed elements, face to face consultation with experts in related fields were conducted. Discussion with the experts involves brainstorming of idea, approval of concept and reviews on research material. Three experts were referred to at this stage. All experts possess more than five years of teaching or researching experience in persuasive, advertising and marketing fields.

The first expert is a professor. Consultations with this expert were conducted face-to-face during his stay in Malaysia as a visiting professor. The second expert is an associate professor. Her expertise in advertising provides helpful views and comments on the framework of this study and the general concept of the suggested solution. The third expert is a senior lecturer at a local university who specializes in advertising.

Discussions with this expert involved suggestions on the research materials that could help in structuring the proposed solution of the research problems.

3.4.3 Phase 3 : Development

The most challenging part is the development process because it leads to the major contribution of this research which is the conceptual design model of iTVAdIP. The steps to construct are as illustrated in Figure 3.4 and described in the subsequent sections.

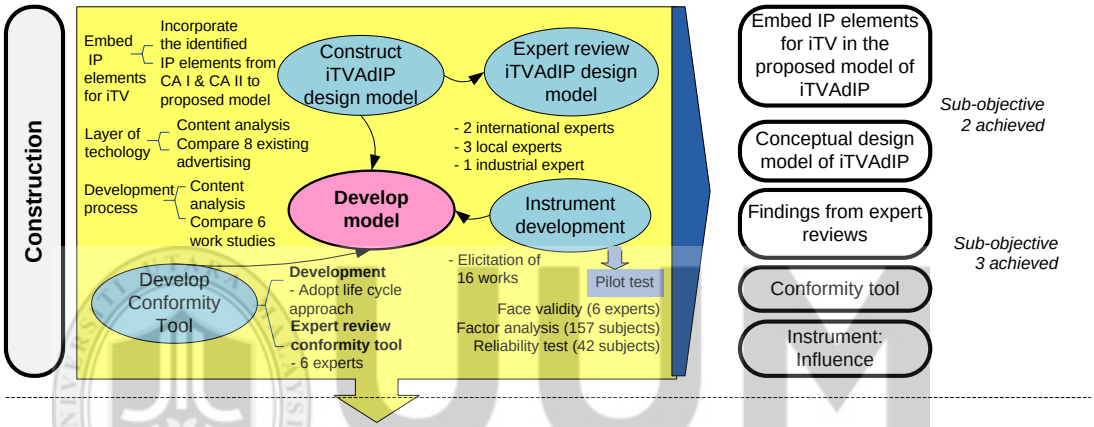


Figure 3.4. Construction

3.4.3.1 Construction of Conceptual Design Model of iTVAdP

With regards to the main aim of this study (see chapter 1), a conceptual design model for iTVAdIP was constructed. Mayhew (1992) defined a conceptual design model as the general conceptual framework through which the functionality is presented. Conceptual design model is also described as a high-level description of how the system is organized and operates (Johnson & Henderson, 2002; Preece, Rogers & Sharp, 2007). In this study, the proposed conceptual design model is an outcome of a series of systematic investigation to the development conceptual design model of iTVAdIP.

The proposed conceptual design model of iTVAdIP consists of three main elements which are impulse purchase elements, layer of technology and development process. At this stage, all impulse purchase components gathered from the comparative analysis I and comparative analysis II were compiled and integrated into the proposed design model of iTVAdIP.

Meanwhile, the methods involved in proposing the layer of technology are content analysis and comparative analysis from eight samples of existing advertising. Futhermore, in determine the elements for the development process also involved content analysis and comparative analysis from six work studies that focus on advertising process. Findings from all the mentioned methods were then incorporated into the conceptual design model of iTVAdIP and it further discussed in chapter 4.

3.4.3.2 Expert Review on Conceptual Design Model of iTVAdIP

Expert review involves reviewing and validating the proposed model and it has been recognized as one of the methods to improve the quality of evaluation. Schneiderman (1992) suggests that having between three to five experts participating in an expert review is adequate to extract valuables feedback. It is supported by Siti Mahfuzah (2012) which manages to engage with six experts to validate the model in her study. For this study, altogether 10 invitations (5 experts for each local and international) were sent out via emails. However, only 6 experts agreed to go through the review process. They were chosen based on any the following criteria: (1) they possess qualifications in advertising, marketing or related areas, and/or (2)

they have been working, studying, researching, or teaching in advertising/marketing area for at least five years.

In conjunction with this, the experts are from different fields of expertise: four in advertising, and two in marketing. The procedure of reviewing process was formed in the following way: (i) prepare the review form by listing selected assessment attributes, (ii) conduct the review, and (iii) analyze the findings. In particular, face-to-face, emailing services, and telephone calls were utilized as the communication medium. The findings from the expert reviews are discussed in detail in chapter 5.

A. Instrument and Procedures for Expert Review

The main instrument used for this review is questionnaire. Throughout the review process, email was used as a medium of communication. First, invitation email was sent to the identified experts. Having agreed to be appointed as an expert reviewer, a consent form and official appointment letter were sent to him/her. After receiving the signed and stamped consent form, the illustration of the proposed model together with the instrument were attached also via email. An ample time and opportunity were given to the experts to review the model and complete the questionnaire. Most of them took two to three weeks to complete all the tasks.

The main instrument used for this review was a questionnaire and the format of the questionnaire is adopted from (Siti Mahfuzah, 2011). It contains six questions asking about the: (1) terminologies used in the conceptual design model, (2) relevancy of proposed elements in each component, (3) connections and flows of the components, (4) how usable is the model to the development of iTVAdIP, (5) how useful is the

model to the implementation of a iTVAdIP and (6) readability of the conceptual design model.

Along with that, few demographic questions were also asked like name and gender. Experts were also encouraged to write their further comments in the provided instrument.

For the first and second questions, a list of terminologies was included and the experts were required to verify its clarity (i.e. is easy to understand or needs some explanation or needs further detail explanations). As for the third question, the impulse purchase elements of the conceptual design model were listed.

In addition, the experts also verified its clarity (i.e. is easy to understand or needs some explanation or needs further detail explanations). For other questions, the experts were required to validate the items by giving "yes" if they agree with the statement and "no" if vice versa.

Lastly, they were expected to give overall comments based on their understanding and perception of the proposed conceptual design model for iTVAdIP. The form for expert review is as attached in Appendix A.

3.4.3.3 Development of iTVAdIP Conformity Tool

Having constructed the conceptual design model, the concepts and functionality of the model need to be validated. Hence, prototyping method was conducted. Prototyping is widely acknowledged by developers for early development testing. Costagliola et al. (2001) reveal that prototyping will help the developers to figure out the requirements to develop the expected end product (in this case the iTVAdIP).

This study developed a prototype for a tool consisting of the elements gathered from the proposed model. The developed tool is named as the iTVAdIP conformity tool. The purpose of the conformity tool is to assist advertising designers to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. In addition, the conformity tool can also show the percentage of impulse purchase tendency elements included in advertising design.

A. The Development Approach

The prototype was developed by adopting the life-cycle approach (Preece et al, 2007). Preece et al. (2007) defines lifecycle models as the models used to represent activities and how they are interconnected. The life-cycle approach includes the following seven steps (Preece et al., 2007); (1) confirm user requirements, (2) system analysis, (3) system design, (4) programming, (5) testing, (6) implementation, and (7) use and evaluation. The development of prototype is further discussed in chapter 5. In addition, the development process was implemented using the JAVA programming tool.

B. Conformity Tool Expert Review

The conformity tool of iTVAdIP was validated by the six experts. The purpose of this expert review was to gain the opinions whether by adopting the proposed model in developing iTV advertisements could influence influence impulse purchase tendency. This study decided that as an assumption, if the iTVAdIP conformity tool can produce the iTV advertising that contain impulse purchase elements, then the model is applicable to the development of iTVAdIP. Further details on the findings of expert review are in chapter 5.

3.4.3.4 Development of Perceived Influence Instrument

In validating the proposed conceptual design model of iTVAdIP, a questionnaire was developed. To develop the instrument, a systematic approach was adapted as suggested by many (Syamsul, 2011; Mahfuzah, 2011; Ariffin, 2009; Creswell, 2003; Sekaran, 1992/2003). Figure 3.5 summarizes the approach used. As shown in Figure 3.5 the design of the instrument begins with the elicitation works to determine the items of the instrument. Then the drafted instrument was piloted for test of validity and reliability before it was used in measuring the influence of the conceptual design model of iTVAdIP.

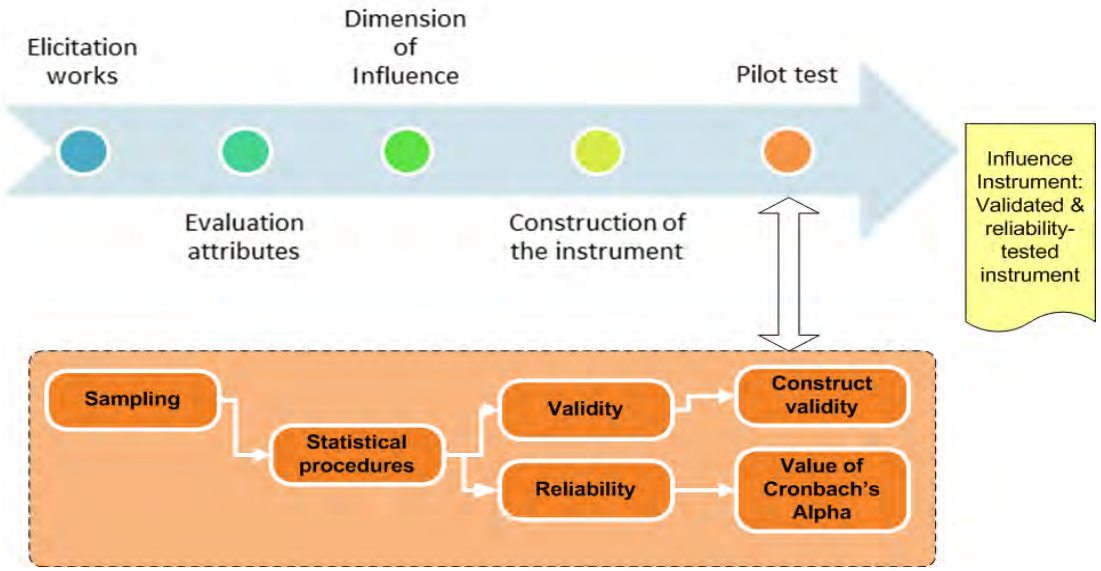


Figure 3.5. Summary of instrument development phases

A. Elicitation Work

In this study, eight attributes, which are perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction, and motivation have been proposed as constructs to measure overall perceived influence. The proposition of the dimensions was elicited from many previous works of various conceptual design model. A total of 16 evaluation works were reviewed particularly on the attributes used in the study. The findings are tabulated and summarized in Table 3.2.

Table 3.2

Perceived Influence Attributes from Various Design Model

No	Dimensions / Authors	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
1.	Social Influence						/											1
2.	Evolutionary						/	/										2
3.	Perceived Ease of Use/ Simplicity/ Perceived ease of Understanding	/	/	/	/	/				/	/	/	/		/			10
4.	Perceived Usefulness/ Usability/ Relative Advantage	/		/	/	/	/			/				/				7
5.	Effectiveness							/					/					2
6.	Process Agility						/											1
7.	Intention to use		/														/	2
8.	Clarity/Readability						/	/	/	/	/	/			/			7
9.	Flexibility		/				/	/	/				/		/		/	7
10.	Result Demonstrability/Ability to produce result									/	/							2
11.	Competence						/		/									2
12.	Relatedness		/				/											2
13.	Visibility/ Comprehensive/ Manageability				/		/	/	/				/	/	/			7
14.	Applicability/ Perceived Semantic Quality/ Information Quality/ System Quality	/	/	/		/		/	/			/					/	8
15.	Complexity/ perceived difficult						/	/						/				3
16.	Behavioral Intention				/													1
17.	Voluntariness/ Evolutionary							/						/				2
18.	User Satisfaction	/	/	/	/	/				/			/				/	7
19.	Motivation /Affective (O)/Attitude					/				/	/	/	/			/	/	7
20.	Commitment						/											1
21.	Job fit/Attitude						/											1
22.	Compatibility							/						/		/		3
23.	Autonomy			/														1

Note. / means attribute is utilized in the source

A - Maes & Poels (2006)
B - Denise et al., (2009)
C - Barclay & Bryson (2009)
D - Davis (1989)
E - Kuan (2013)
F - Bonner (2008)
G – Syamsul & Norshuhada (2014)
H – Veryard (1985)
I - Kitchenham (1998)
J - Garrity & Sanders (1998)
K - Kashif & Samira (2009)
L - Nguyen (2011)
M - Moore & Benbasat (1991)
N - Lang & Barry (2001)
O - Guay et al., (2000)
P- Hecksel (2004)

As displayed in Table 3.1, the names of the attributes overlapped, however, eight dimensions are proposed and some of the dimensions that share similar connotation are stated as a single dimension. For instance, "perceived of understanding/ perceived ease of use/ simplicity" is stated as perceived ease of use. This study decided to select those attributes with total score more than 40% of total literature reviewed. The constructs in measuring overall perceived influence were composed as displayed in Table 3.3.

B. Proposed Operational Definition

Proposed constructs for measuring overall perceived influence of conceptual design model of iTVAdIP are as described Table 3.3.

Table 3.3

Operational Definition on Selected Dimension

Dimensions	Operational Definition
Perceived Ease of Use	• Perceived ease of use is the degree to which a model is perceived as easy to use. The more simple the model, the more easier to use, • The model is clear, understandable, easily to interpret and can be implemented easily.
Perceived Usefulness	• The proposed model is useful for understanding the development of iTV advertising.
Clarity	• The proposed model is organized and structured well. The layer of technology and the development process in the model are easily followed. • The impulse purchase elements included in the model are easy to apply.
Flexibility	• The model is flexible and capable to being managed and controlled. • The model is adaptable for future use.
Visibility	• The proposed model is visible to assist the advertising designers to develop iTV advertising. • The model also provides specific guide upon the development of iTV advertising.

Table 3.3 continued

Applicability	• In general the model provides complete and detail information for iTV advertising development. • All the elements in proposed model are relevant and give a complete representation of the iTV advertising.
Satisfaction	• The model provided adequate information that gives benefit to advertising designers. • The model is effective in providing the information.
Motivation	• The proposed model is good, interesting, informative and valuable. • The proposed model could produce results that will increase the impulse purchase level for iTV advertising.
Overall Perceived Influence	• The proposed model gives a complete representation of iTVAdIP advertisements that are perceived could influence impulse purchase tendency. • The model also provides specific guide for the development of iTV advertisements that are perceived could influence impulse purchase tendency.

In order to assemble relevant items for each construct, various existing questionnaires, which measure the same construct, were gathered from previous studies (see Table 3.4). These items were used for drafting the first version instrument.

C. Drafted Items for the First-draft Instrument

Table 3.4

Items for the First-draft Instrument

Dimension	Questionaire
Perceived ease of use	1. I think the model is clear and understandable. [J] 2. I can easily interpret the model. [D] 3. I find the model is easy to use. [J] 4. Learning the model is easy for me. [J] 5. It will be easy for me to become skillful in the development of iTV advertising when using the model. [J] 6. Using the model makes my job easier. [C]
Perceived usefulness	1. It is useful for me to understand the model. [J] 2. The model is useful for me as advertising designers. [H] 3. I think the model improves my ability in developing iTV advertising. [J] 4. Using the model enables me to do my job. [J]

Table 3.4 continued

Clarity	1.	I think the model is well organized and structured. [I]
	2.	The layer of technology in the model is clear. [C]
	3.	The development process in the model is easy to follow. [C]
	4.	The impulse purchase elements in the model are clearly stated. [F]
Flexibility	1.	The model is flexible with minimal planning. [D]
	2.	The model is adaptable for future use. [D]
	3.	Changing requirements in the model over time is possible. [A]
	4.	The model allows self-monitoring to be followed. [C]
	5.	I think the model is manageable or controllable. [C]
Visibility	1.	The model is visible to me as a developer of iTV advertising. [C]
	2.	The model provides visible guidelines. [C]
	3.	I think the model is readable. [F]
	4.	The model as a whole is workable. [C]
Applicability	1.	The model correctly represents the iTV advertising. [G]
	2.	The model provides complete and detail information regarding iTV advertising development. [G]
	3.	I think the model improves the quality of my work. [E]
	4.	All elements in the model are relevant in representing the iTV advertising. [B]
Satisfaction	1.	The information provided in the model is adequate. [D]
	2.	The model is effective in providing the information [B]
	3.	The model will give benefit for advertising designers r. [G]
	4.	I am satisfied with the model for providing the needed information. [D]
	5.	The model produces output that can be used for future improvement of the iTV advertising. [I]
Motivation	1.	The model is interesting. [H]
	2.	The model is important for me. [H]
	3.	The model is valuable. [H]
	4.	The model is meaningful for me. [H]
	5.	The model provides rich information. [H]
Overall Perceived Influence	1.	The model is adequate and sufficient to assist the advertising designers in developing iTV advertising. [I]
	2.	The model provides specific guide for the development of iTV advertisements thatare perceived could influence impulse purchase tendency. [C]
	3.	The model enables me to obtain accurate information regarding the development of iTV advertisements thatare perceived could influence impulse purchase tendency. [F]
	4.	The model has the ability to increase impulse purchase level for iTV advertising. [I]
	5.	Overall, the model gives a complete representation of the iTV advertisements that are perceived could influence impulse purchase tendency. [D]

Note.

[A] Barclay & Bryson (2009)
[B] Maes and Poels (2006)
[C] Syamsul & Norshuhada (2014)
[D] Kuan (2008)
[E] Magoutas et al., (2010)
[F] Kashif & Samira (2009)
[G] Nguyen (2011)
[H] Bonner (2008)
[I] Kunda (2001)
[J] Davis (1989)

D. Validated through expert review face validity

The version shown in Table 3.4 was then validated through expert review face validity. Face validity is considered as the basic measuring index for content validity. Content validity ensures that the measure includes a sufficient and representative set of items of intended concept (Sekaran & Baugie, 2010).

Schneiderman (1992) suggests that having between three to five experts participating in an expert review is adequate. Accordingly, this study manages to engage with 6 experts in various expertises which are; advertising, marketing and content development. The experts were approached based on face to face consultation. For the review, each expert was provided with the instrument. The experts were briefed about the aspects that they were expected to provide feedback. From the reviews, the experts found some of the items were not good enough and some did not fit well with the intended construct.

Findings from the review led to some modifications to the first drafted instrument. Modifications included repositioning some of the items, rewording some, and discarding some as shown in Table 3.5 and Table 3.6.

Table 3.5

Items For Perceived Influence Before Refinement and After Refinement

	Before Refinement	After Refinement
A.	**Perceived Ease of Use**	**Perceived Ease of Use**
1.	**I think** the model is understandable.	***The model is understandable.
2.	I can easily interpret the model.	I can easily interpret the model.
3.	I find the model is easy to use.	I find the model is easy to use.
4.	**Learning** the model is easy for me.	***The model is easy for me.**
5.	It is easy for me to become skillfull in development of iTV advertising when using the model	It is easy for me to become skillfull in development of iTV advertising when using the model.
6.	**Using** the model makes my job easier.	***The model makes my job easier.**

Table 3.5 continued

B.	**Perceived Usefulness**	**Perceived Usefulness**
1.	It is useful for me to understand the model.	It is useful for me to understand the model.
2.	The model is useful for me as an advertising designers.	The model is useful for me as an advertising designers.
3.	**I think** the model improves my ability in developing iTV advertising.	***The model improves my ability in developing iTV advertising.
4.	**Using** the model enables me to do my job.	***The model enables me to do my job.**
C.	**Clarity**	**Clarity**
1.	**I think** the model is well organized and structured.	*The model is well organized and structured.
2.	The layer of technology in the model is clear.	The layer of technology in the model is clear.
3.	The development process in the model is easy to follow.	The development process in the model is easy to follow.
4.	The impulse purchase elements in the model are clearly stated.	The impulse purchase elements in the model are clearly stated.
D.	**Flexibility**	**Flexibility**
1.	The model is flexible with minimal planning.	The model is flexible with minimal planning.
2.	The model is adaptable for future use.	The model is adaptable for future use.
3.	Changing requirements in the model over time is possible.	Changing requirements in the model over time is possible.
4.	The model allows self-monitoring to be followed.	The model allows self-monitoring to be followed.
5.	**I think** the model is manageable or controllable.	*The model is manageable or controllable.
E.	**Visibility**	**Visibility**
1.	The model is visible to me as a developer of iTV advertising.	The model is visible to me as a developer of iTV advertising.
2.	The model provides visible guidelines.	The model provides visible guidelines.
3.	**I think** the model is readable.	*The model is readable.
4.	The model as a whole is workable.	The model as a whole is workable.
F.	**Applicability**	**Applicability**
1.	The model correctly represents the iTV advertising.	The model correctly represents the iTV advertising.
2.	The model provides complete and detail information regarding iTV advertising development.	The model provides complete and detail information regarding iTV advertising development.
3.	**I think** the model improves the quality of my work.	*The model improves the quality of my work.
4.	All elements in the model are relevant in representing the iTV advertising.	All elements in the model are relevant in representing the iTV advertising.
G.	**Satisfaction**	**Satisfaction**
1.	The information provided in the model is adequate.	The information provided in the model is adequate.

Table 3.5 continued

2.	The model is effective in providing the information.	The model is effective in providing the information.
3.	The model gives benefits to advertising designers.	The model gives benefits to advertising designers.
4.	I am satisfied with the model for providing the needed information.	I am satisfied with the model for providing the needed information.
5.	The model produces output that can be used for future improvement of the iTV advertising.	The model produces output that can be used for future improvement of the iTV advertising.
H.	**Motivation**	**Motivation**
1.	The model is interesting.	The model is interesting.
2.	The model is important for me.	The model is important for me.
3.	The model is valuable.	The model is valuable.
4.	The model is meaningful for me.	The model is meaningful for me.
5.	The model provides rich information.	The model provides rich information.
I.	**Overall Perceived Influence**	**Overall Perceived Influence**
1.	The model is adequate and sufficient to assist the advertising designers in developing iTV advertisemenst.	The model is adequate and sufficient to assist the advertising designers in developing iTV advertisemenst.
2.	The model provides specific guide for the development of iTV advertisements that are perceived could influence impulse purchase tendency.	The model provides specific guide for the development of iTV advertising that are perceived could influence impulse purchase tendency.
3.	The model enables me to obtain accurate information regarding the development of iTV advertisements that are perceived could influence impulse purchase tendency.	The model enables me to obtain accurate information regarding the development of iTV advertisements that are perceived could influence impulse purchase tendency.
4.	The model has ability to increase impulse purchase level for iTV advertising.	The model has ability to increase impulse purchase level for iTV advertising.
5.	Overall, the model gives a complete representation of the iTV advertisements that are perceived could influence impulse purchase tendency.	Overall, the model gives a complete representation of the iTV advertisements that are perceived could influence impulse purchase tendency.

Table 3.6

Comments from Face Validity

No	Before Refinement	After Refinement
1.	The word USING is stated in the sentences.	All words USING were deleted from questionnaire to make the sentence straight forward.
2.	The word I THINK is stated in the sentences.	All words I THINK were deleted from questionnaire to make the sentence straight forward.
3.	The word AND is stated in the sentences.	Word AND was deleted to make sentences more focus and straight forward.

The instrument contains items related to the eight proposed constructs which are perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction and, motivation. The revised questionnaire is as shown in Table 3.7.

E. Revised Items for Perceived Influence of iTVAdIP

Table 3.7

Items for Perceived Influence of iTVAdIP

	Criteria	Strongly Disagree						Strongly Agree
A.	**Perceived Ease of Use**							
1.	*****The model is understandable.	1	2	3	4	5	6	7
2.	I can easily interpret the model.	1	2	3	4	5	6	7
3.	I find the model is easy to use.	1	2	3	4	5	6	7
4.	*****The model is easy for me.	1	2	3	4	5	6	7
5.	It is easy for me to become skillfull in development of iTV advertising when using the model.	1	2	3	4	5	6	7
6.	*The model makes my job easier.	1	2	3	4	5	6	7
B.	**Perceived Usefulness**							
1.	It is useful for me to understand the model.	1	2	3	4	5	6	7
2.	The model is useful for me as an advertising designers.	1	2	3	4	5	6	7
3.	*****The model improves my ability in developing iTV advertising.	1	2	3	4	5	6	7
4.	*****The model enables me to do my job.	1	2	3	4	5	6	7
C.	**Clarity**							
1.	*The model is well organized and structured.	1	2	3	4	5	6	7
2.	The layer of technology in the model is clear.	1	2	3	4	5	6	7
3.	The development process in the model is easy to follow.	1	2	3	4	5	6	7
4.	The impulse purchase elements in the model are clearly stated.	1	2	3	4	5	6	7
D.	**Flexibility**							
1.	The model is flexible with minimal planning.	1	2	3	4	5	6	7
2.	The model is adaptable for future use.	1	2	3	4	5	6	7
3.	Changing requirements in the model over time is possible.	1	2	3	4	5	6	7
4.	The model allows self-monitoring to be followed.	1	2	3	4	5	6	7
5.	*The model is manageable or controllable.	1	2	3	4	5	6	7

Table 3.7 continued

E.	**Visibility**							
1.	The model is visible to me as a developer of iTV advertising.	1	2	3	4	5	6	7
2.	The model provides visible guidelines.	1	2	3	4	5	6	7
3.	*The model is readable.	1	2	3	4	5	6	7
4.	The model as a whole is workable.	1	2	3	4	5	6	7
F.	**Applicability**							
1.	The model correctly represents the iTV advertising.	1	2	3	4	5	6	7
2.	The model provides complete and detail information regarding iTV advertising development.	1	2	3	4	5	6	7
3.	*The model improves the quality of my work.	1	2	3	4	5	6	7
4.	All elements in the model are relevant in representing the iTV advertising.	1	2	3	4	5	6	7
G.	**Satisfaction**							
1.	The information provided in the model is adequate.	1	2	3	4	5	6	7
2.	The model is effective in providing the information.	1	2	3	4	5	6	7
3.	The model gives benefits to advertising designers.	1	2	3	4	5	6	7
4.	I am satisfied with the model for providing the needed information.	1	2	3	4	5	6	7
5.	The model produces output that can be used for future improvement of the iTV advertising.	1	2	3	4	5	6	7
H.	**Motivation**							
1.	The model is interesting.	1	2	3	4	5	6	7
2.	The model is important for me.	1	2	3	4	5	6	7
3.	The model is valuable.	1	2	3	4	5	6	7
4.	The model is meaningful for me.	1	2	3	4	5	6	7
5.	The model provides rich information.	1	2	3	4	5	6	7
I.	**Overall Perceived Influence**							
1.	The model is adequate and sufficient to assist the advertising designers in developing iTV advertisemenst.	1	2	3	4	5	6	7
2.	The model provides specific guide for the development of iTV advertising towards influence impulse purchase tendency.	1	2	3	4	5	6	7
3.	The model enables me to obtain accurate information regarding the development of iTV advertisements that are perceived could influence impulse purchase tendency.	1	2	3	4	5	6	7
4.	The model has ability to increase impulse purchase level for iTV advertising.	1	2	3	4	5	6	7
5.	Overall, the model gives a complete representation of the iTV advertising towards influence impulse purchase tendency.	1	2	3	4	5	6	7

**The items being modified as explained on page 126-128*

F. The Instrument: Perceived Influence Construct

In measuring the perceived influence construct, it contains eight main constructs; perceived ease of use which contains six items, perceived usefulness contains four items, clarity contains four items, flexibility contains five items, visibility contains four items, applicability contains five, satisfaction contains five items, motivation contains five items. The instrument also contains additional five items in measuring the overall perceived influence of the iTVAdIP design model.

This study measures the potential advertising designers' perceptions on the perceived influence of proposed model that could produce the iTV advertisements which embed elements that are perceived could influence the impulse purchase tendency. Hence, scale type measurement is used to quantify these values. Accordingly, each item in the instrument was measured on 7-point Likert scale ranging from strongly disagree (denoted by 1) to strongly agree (denoted by 7). As mentioned earlier, the intsrument is partially used as a measure of outcome; hence, scale sensitivity becomes an important concern (Cummins & Gullone, 2000).

Therefore, 7-point scale is more sensitive than a 5-point scale. When concerns with scale reliability, Cicchetti et al. (1985) reported that using response options beyond 5 or 7- point do not significantly alter the scale reliability. However, difficulties might arise in generating categorical names as the scales expanded (Cummins & Gullone, 2000). Hence, based on all the reasons discussed above, this study has decided to use the 7-point scale. The sample of this evaluation form is presented in Figure 3.6.

Strongly Disagree Strongly Agree

1 2 3 4 5 6 7

Figure 3.6. Sample of Evaluation

In addition, the perceived influence construct are followed with two general questions asking the respondents the following questions.

- Agree that the model can guide advertising designers to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency.

- Agree that the model has the ability to influence impulse purchase tendency for iTV advertising.

All these general questions use nominal scale, in which a respondent is required to provide either 'yes' or 'no' answer. Considering the interest of this study, which is to examine how the proposed design model is helpful in assisting the advertising designers to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. So, these general question is important to know the majority feedback towards the proposed model. The following demographic profiles of respondents which are name and gender were also gathered and assessed towards measuring the perceived influence of the iTVAdIP design model. The demographic questions also use nominal scale as means to gather intended information. Next, the perceived influence instrument was pilot tested to examine its goodness of measures.

G. Testing Goodness of Measures: Pilot Study

A pilot study was conducted to be sure that the instrument does indeed measure the variables it is supposed to (ie.., construct validity), and that it also measures them consistently (i.e., reliability) (Sekaran & Bougie, 2010).

For the purpose of the pilot study, the questionnaire was used to measure the perceived influence of the conceptual design model from survey among intended sample group of potential advertising designers. Convenience sampling was used, in which 157 samples were obtained among potential advertising designers in advertising undergraduate courses. The number of respondents who completed the pilot study is enough to attain a reliable result in statistical tests as suggested by Sekaran (1992). Hence, reliability and validity test of the measurement was carried out on the next section.

i) Factor Analysis (Validity)

In investigating the construct validity of the measure, factor analysis test was conducted. The main aim in running factor analysis test was to verify the dimensions of the measure that have been operationally defined, as well as indicating which of the items are most suitable for each dimension (Sekaran & Bougie, 2010). The test was run by utilizing Principal Components Analysis extraction method with Varimax rotation (Hair et al, 2006).

Three test indicators used for accepting each item Kaiser-Meyer-Olkin measure of sampling adequacy (KMO test), Bartlett test of sphericity and factor loading. The first two indicators demonstrate the testing assumptions before proceeding with the

factor analysis test. The KMO test is a helpful measure of whether the data is sufficient for a factor analysis. A statistically significant Bartlett's test of sphericity indicates that it is worth continuing with the factor analysis as there is relationship to investigate. The last indicator, a factor loading, is used to represent the correlation between the measuring item and its intended factor. In determining a significance level, Hair et al. (2006) suggest the practical significance of the loadings rather than the conservative statistical significance test.

As rules of thumb, Hair et al. (2006) suggest that the following conditions must be met to accept the measures:

i. Rule 1: KMO test $\geq .50$

ii. Rule 2: In Bartlett's test of sphericity, the significant value of $p < .05$

iii. Rule 3: Although factor loadings of $\pm .30$ to $\pm .40$ are minimally acceptable, values greater than $\pm .50$ are general considered essential for practical signifance.

It can be noticed that all the values for KMO test satisfy the first rule ($p \geq .50$). The Barlett's test of sphericity also gave the significance level of .00 ($p < .05$) for all dimensions. These values indicate that the second rule was met and the data is ready for factor analysis test. Table 3.8 displays the factor loadings for all dimensions from the factor analysis test.

Table 3.8

Factor Loadings For Each Item in Questionnaire

	Items	Loadings
A.	**Perceived Ease of Use**	
1.	The model is understandable.	.754
2.	I can easily interpret the model.	.689
3.	I find the model is easy to use.	.739
4.	The model is easy for me.	.722
5.	It is easy for me to become skillfull in development of iTV advertising when using the model.	.621
6.	The model makes my job easier.	.755
B.	**Perceived Usefulness**	
1.	It is useful for me to understand the model.	.661
2.	The model is useful for me as an advertising designers.	.641
3.	The model improves my ability in developing iTV advertising.	.659
4.	The model enables me to do my job.	.796
C.	**Clarity**	
1.	The model is well organized and structured.	.539
2.	The layer of technology in the model is clear.	.693
3.	The development process in the model is easy to follow.	.652
4.	The impulse purchase elements in the model are clearly stated.	.647
D.	**Flexibility**	
1.	The model is flexible with minimal planning.	.527
2.	The model is adaptable for future use.	.679
3.	Changing requirements in the model over time is possible.	.511
4.	The model allows self-monitoring to be followed.	.561
5.	The model is manageable or controllable.	
E.	**Visibility**	
1.	The model is visible to me as a developer of iTV advertising.	.626
2.	The model provides visible guidelines.	.640
3.	The model is readable.	.561
4.	The model as a whole is workable.	.641
F.	**Applicability**	
1.	The model correctly represents the iTV advertising.	.681
2.	The model provides complete and detail information regarding iTV advertising development.	.655
3.	The model improves the quality of my work.	.642
4.	All elements in the model are relevant in representing the iTV advertising.	.618

Table 3.8 continued

G.	**Satisfaction**	
1.	The information provided in the model is adequate.	.750
2.	The model is effective in providing the information.	.804
3.	The model gives benefits to advertising designers.	.590
4.	I am satisfied with the model for providing the needed information.	.631
5.	The model produces output that can be used for future improvement of the iTV advertising.	.606
H.	**Motivation**	
1.	The model is interesting.	.560
2.	The model is important for me.	.703
3.	The model is valuable.	.710
4.	The model is meaningful for me.	.575
5.	The model provides rich information.	.642
I.	**Overall Perceived Influence**	
1.	The model is adequate and sufficient to assist the advertising designers in developing iTV advertisemenst.	.601
2.	The model provides specific guide for the development of iTV advertisements that are perceived could influence impulse purchase tendency.	.615
3.	The model enables me to obtain accurate information regarding the development of iTV advertisements that are perceived could influence impulse purchase tendency.	.638
4.	The model has ability to increase impulse purchase level for iTV advertising.	.695
5.	Overall, the model gives a complete representation of the iTV advertisements that are perceived could influence impulse purchase tendency.	.679

As shown in Table 3.8, all the items in questionnaire are found valid and can be used to represent respective dimensions. As stated ealier, factor loadings of $\pm$.50 or greater are considered practically significant, whereas loadings exceeding $\pm$.70 are considered indicative of well-defined structure (Hair et al., 2006). The factor analysis test carried out in this study was referring to confirmatory factor analysis. Since the items proposed in questionnaire were elicited from various previous works, hence it is important to seek confirmation (through factor analysis) to see if these items underlie that proposed dimensions in questionnaire. Besides that, Table 3.9 show the scale if items deleted are in questionnaire.

Table 3.9

Scale if Items Deleted in Questionnaire

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A1	228.096	627.113	.606	.965
A2	228.497	627.931	.523	.966
A3	228.268	622.659	.598	.965
A4	228.268	624.684	.596	.965
A5	228.217	623.273	.655	.965
A6	228.108	622.110	.631	.965
B1	228.268	625.120	.661	.965
B2	227.943	628.183	.618	.965
B3	228.166	627.934	.620	.965
B4	228.000	624.897	.639	.965
C1	227.949	630.728	.513	.966
C2	227.905	621.882	.686	.965
C3	228.153	625.464	.601	.965
C4	228.013	627.820	.603	.965
D1	228.516	626.828	.577	.965
D2	227.726	623.110	.681	.965
D3	228.140	626.993	.549	.966
D4	228.204	626.574	.612	.965
D5	228.115	629.141	.566	.965
E1	227.841	623.699	.622	.965
E2	228.064	619.983	.727	.965
E3	228.013	626.449	.583	.965
E4	228.026	619.846	.742	.965
F1	228.096	623.869	.657	.965
F2	228.045	622.658	.691	.965
F3	228.108	629.328	.608	.965
F4	228.064	618.906	.734	.965
G1	228.178	635.994	.408	.966
G2	227.994	629.583	.565	.965
G3	227.822	624.160	.668	.965
G4	227.981	621.570	.731	.965
G5	227.739	623.092	.667	.965
H1	227.662	625.340	.618	.965
H2	228.000	623.615	.694	.965
H3	228.000	626.308	.623	.965

Table 3.9 continued

H4	228.172	630.630	.525	.966
H5	227.834	634.126	.461	.966
I1	227.962	622.306	.660	.965
I2	227.898	626.092	.652	.965
I3	228.032	623.121	.747	.965
I4	227.822	624.686	.618	.965
I5	227.911	621.274	.714	.965

ii) Reliability Test

Reliability of a measure is an indication of consistency. In the pilot study, the measure of consistency is examined through the interim consistency reliability test. The value of Cronbach's coefficient alpha was computed and should indicate the value of alpha, (Sekaran, 1992) to be accepted as reliable. From the test, all dimensions were found significant as depicted in Table 3.10. These results show that the measurement were consistent. Therefore, this measurement is able to be used for data collection in the main study.

Table 3.10

Reliability Test

Dimensions	Cronbach's Alpha	N of Items
Perceived ease of use	.892	6
Perceived Usefulness	.818	4
Clarity	.817	4
Flexibility	.807	5
Visibility	.787	4
Applicability	.844	4
Satisfaction	.818	5
Motivation	.823	5
Overall Perceived Influence	.842	5

The instrument on perceived influence of the proposed model as attached in Appendix B.

3.4.4 Phase : Evaluation

Vaishnavi and Kuechler (2007) show various types of approaches to evaluate and validate the suggested solution, namely experimentation, demonstration, using metrics, simulation, benchmarking, logical reasoning, and mathematical evidence. These approaches vary in terms of their appropriateness and the strength (Vaishnavi & Kuechler, 2007; Ariffin, 2009; Syamsul Bahrin, 2011; Siti Mahfuzah, 2011).

For this research, two parts of assessment techniques that were conducted by Sherwood and Rout (1998); (i) survey, and (ii) interview were carried out. The combination of evaluation techniques ensures an evaluation process that is seen as an effective approach. Figure 3.7 illustrates the phase. Further, subsequent sections describe in detail all the strategies and instruments needed in the evaluation process.

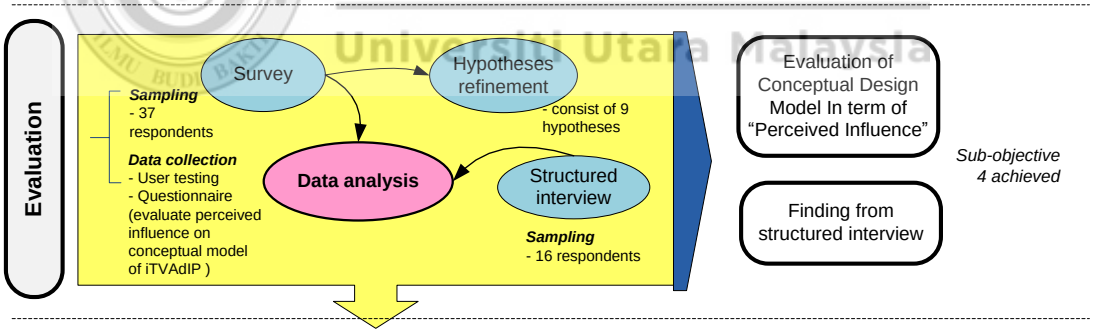


Figure 3.7. Evaluation

3.4.4.1 Survey

Survey is a type of evaluation that seeks to determine whether a program or intervention had the intended causal effect on program participants. The survey was conducted to measure whether the conceptual design model embedding impulse purchase elements that are perceived could influence impulse purchase tendency.

The survey involved 37 respondents (potential advertising designers) which are the students who are taking Advertising course in Universiti Utara Malaysia. The rationale of using 37 repondents are stated below:

i. The number of respondents who completed the survey is enough to attain a reliable result in statistical tests as suggested by Sekaran (1992/2003).
ii. Due to cost and limited time only 37 respondents who were taking Advertising course for that semester were included.
iii. The Advertising course is not offered for every semester, so research time would have to be extended a year just to include more respondents.

Previously discussed questionnaire (see chapter 3) was used as the data collection tool. The test was conducted in a lab environment. At the end of the session, they were asked to fill up the given questionnaire. The procedures of the survey were arranged using the following steps:

i. Design the survey and select the respondents (potential advertising designers).

ii. They were asked to develop a video of interactive advertising based on their preferred model (the model that they are familiar with).

iii. Then, one designer and one expert were asked to use the impulse purchase conformity tool to evaluate the percentage of conformity of impulse purchase elements in the interactive advertising developed by potential advertising designers. The percentage result for each advertising design was noted.

iv. Then, they were given an explanation about the proposed model of iTVAdIP.

v. Next, three samples video of iTV advertisings which consist of interactive elements (hand gesture, touch screen and remote control) were shown to them. The purpose of showing the sample is to show them the execution of impulse purchase elements and interactivity for iTV advertising.

vi. After that, they were given the questionnaire to assess the perceived influence of the elements as proposed in the conceptual model.

vii. Lastly, interviews with potential advertising designers regarding their opinions on the added impulse purchase and interactivity elements on iTV advertising were also conducted.

Chapter 6 describes the process and data analysis in details.

A. Hypotheses

Having identified the eight constructs (i.e. perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction, and motivation) for measuring overall perceived influence of an iTVAdTIP design model, a list of refined hypotheses was constructed progressing from the general hypothesis (see

Table 3.11). For the purpose of achieving objective 4, which is to investigate the potential advertising designers' perceived influence of conceptual design model for iTVAdTIP, nine hypotheses were formulated as displayed in (see Table 3.11). H_9 was formulated to extract additional information. This supports the richness of the findings, besides the descriptive analyses.

Table 3.11

Research Hypothesis

No.	Hypotheses	Supporting references
1.	H_1: There is a positive relation between perceived ease of use and overall perceived influence.	Maes and Poes (2006), Denise et al., (2009), Barclay & Bryson (2009),
2.	H_2: There is a positive relation between perceived usefulness and overall perceived influence.	Bonner (2008), Kitchenham (1998), Moore & Benbasat (1991)
3.	H_3: There is a positive relation between clarity and overall perceived influence.	Syamsul & Norshuhada (2014), Veryard (1985), Platts (1990), Lang & Barry (2001),
4.	H_4: There is a positive relation between flexibility and overall perceived influence.	Veryard (1985), Syamsul & Norshuhada (2014), Hecksel (2004), Bonner (2008)
5.	H_5: There is a positive relation between visibility and overall perceived influence.	Veryard (1985) , Lang & Barry (2001), Syamsul & Norshuhada (2014)
6.	H_6: There is a positive relation between applicability and overall perceived influence.	Maes and Poels (2006), Denise et al., (2009), Barclay & Bryson (2009), Kashif & Samira (2009, Nguyen (2011)
7.	H_7: There is a positive relation between satisfaction and overall perceived influence.	Maes and Poels (2006), Denise et al., (2009), Barclay & Bryson (2009), Kunda (2001), Nguyen (2011)
8.	H_8: There is a positive relation between motivation and overall perceived influence.	Kitchenham (1998), Garrity (1998), Kashif & Samira (2009), Guay et al., (2000)
9.	H_9:The mean score of overall perceived influence for iTVAdIP design model is high.	

In this study, the conceptual design model is measured based on the perceived influence of the proposed model to be implemented by potential advertising designers. A number of dimensions of perceived influence have been proposed by

other researchers to evaluate models which come in different fields such as general advertising design, general design model, software development, multimedia applications, and project management (Maes & Poels, 2006; Kuan, 2013; Kitchenham, 1998; Moore & Benbasat, 1991; Denise et al., 2009; Bonner, 2008; Garrity & Sanders, 1998; Lang & Barry, 2001; Barclay & Bryson, 2009; Syamsul & Norshuhada, 2014; Kashif & Samira, 2009; Guay et al., 2000; Davis, 1989; Veryard, 1985; Nguyen, 2011; Hecksel, 2004). The finding of the hypothesis as described detail in chapter 6.

3.4.4.2 Additional Evaluation (Structured Interview)

In addition, to strengthen the result, a structured interview was conducted. The main objectives of this interview are (i) to obtain the feedback from potential advertising designers regarding the difference between advertising with interaction elements and without interaction elements, and (ii) to gather the potential advertising designer's opinion regarding the advertisements with interaction elements that are perceived could influence more consumers or not compared to advertising with no interaction elements. Therefore, a series of interviews were conducted by involving potential advertising designers. The detail finding from the interview as describe detail in chapter 6.

3.4.4.3 Data Analysis

Throughout this study, many claims and evidences were identified. All these claims and evidences were justified through analysis of data. The techniques used were

based on the collected data. In making inferences the following statistical procedures were utilized:

i. **Semi-structured interview** were used for **preliminary studies and general finding**.
ii. **Descriptive analysis** and **content analysis** for **expert reviews.**
iii. In pilot study, the **Principal component** method was used for factor analysis test, whereas the **Cronbach's coefficient alpha** was used for **reliability analysis**.
iv. In hypotheses testing, the **Pearson Correlation test** and **descriptive statistics for general findings** were used.

SPSS Version 15 was used as a tool in analyzing the data and producing the visual representation of the analyzed data. Next, the unit of analysis in this study is explained.

3.4.4.4 Unit of Analysis

The unit of analysis can be defined as the major entity being studied during subsequent data analysis stage (Trochim & Donnelly, 2007; Sekaran & Bougie, 2010). According to Yin (1994), the unit of analysis in a study could be of individuals, groups and artifacts. Moreover, for different analyses in the same study, different units of analysis may have been identified. The following are units of analysis identified throughout this study:

i. **Respondents of preliminary study:** six practitioners participated in the preliminary study. The respondents represented various backgrounds; two from broadcaster, one self-regulator agency, one government organization, one advertising agencies and one from market research agency.

ii. **Experts in expert consultation:** three experts were consulted prior to establishing the elements of impulse purchase for iTV advertising.

iii. **Experts in face validity:** Six experts from different background such as persuasive, advertising, and design technology were involved in validating the questionnaire.

iv. **Respondents of pilot study:** The pilot study of the research instrument involved 157 subjects from convenience sampling.

v. **Expert in expert review of proposed model:** Expert reviews (refer appendix A) were conducted to validate the proposed conceptual design model. It involves 2 international experts, 3 local experts and 1 expert from industries.

vi. **Expert in expert review conformity tool:** Expert reviews were conducted to validate the conformity tool. It involves 5 experts from academicians and 1 expert from industries.

vii. **Respondents in the Survey:** The respondents from the survey involved 37 people from potential advertising designers.

viii. **Respondents in the additional evaluation (structured interview):** The respondents from the structured interview involved 16 people from potential advertising designers.

3.4.5 Phase 5 : Conclusion

In the final phase as stated in Figure 3.8, all the findings gathered in each of the previous phases were concluded through revisit and answering all the research questions and research objective. Finally, this study comes out with full thesis and several publications as the contribution to the body of knowledge and theory.

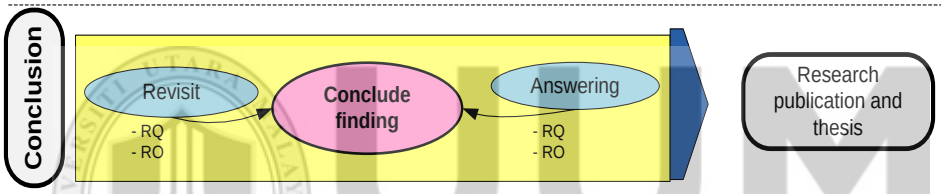


Figure 3.8. Conclusion

3.5 Summary

As a conclusion, this chapter discusses the research approaches that were adapted in this study. Basically, three major phases which are (i) theoretical study, (ii) development, and (iii) empirical study were followed through. Five sub-phases performed are (i) awareness of problem, (ii) suggestion, (iii) development, (iv) evaluation, and (v) conclusion that is adapted from the design science research. Each of the phases is described in detail with the activities that were carried out throughout this study.

CHAPTER FOUR
CONCEPTUAL DESIGN MODEL OF iTVAdIP

4.1 Overview

This chapter describes the process in constructing the conceptual design model for iTVAdIP. The first step is to identify the appropriate elements for impulse purchase elements of iTVAdIP. After that, the layer of technology elements were identified and incorporated in the structure of conceptual design model of iTVAdIP. In addition, the conceptual design model also includes the elements of development process for iTVAdIP design model. In general, the methods used in developing a conceptual design model for iTVAdIP involve content analysis, comparative analysis, and expert consultation. The following sections discuss how theories relate to the development of proposed model and describe each activity in details which lead to the proposition of the design model.

4.2 Related Theories in Proposing the Proposed Model of iTVAdIP

This study chooses four persuasion theories most influential in marketing, advertising, and research on consumer behaviour in the last 30 years, which are (i) elaboration likelihood model (ELM), (ii) persuasion knowledge model, (iii) hierarchy of effects model, and (iv) conditioning theory. All of these theories have been widely used to understand how persuasive advertising work (Liu et al., 2012; Haugtvedt & Kasmer, 2008; Heath & Fairchild, 2007; Petty & Wegener, 1998). In a nutshell, these theories could elaborate how the classic inputs into persuasion

(source, message, recipient, and context) could have different impacts, depending on the certain route to persuasion (Scholten, 1996; Petty & Krosnick, 1995).

For example, the theory of elaboration likehood model determined which elements of a persuasive communication that are most effective, either central cues (message quality) or peripheral cues (mood, expertise, source attractiveness). Meanwhile, persuasion knowledge model explains how knowledge of marketers' persuasion tactics will affects consumers' responses to such tactics (Friestad & Wright, 1994). It focuses more on the interaction between the marketer (agent) and the consumer (target).

In addition, the theory of hierarchy of effect model describes the series of stages potential buyers to be taken through to move them from unawareness of a product or service to willingness to purchase the product (Belch & Belch, 2009). Moreover, conditioning theory explains on how persuasion occurs when changes in belief, attitude, or behavioural intention is due by promotional communication such as advertising and personal selling. Therefore, all of these theories are important in understanding how persuasive advertising works and acts as the root of advertising development.

All of these theories were embed in constructing the proposed conceptual design model of iTVAdIP. In addition, these theories are established advertising theories that act as the root of advertising development. Although, these four advertising theories have their own hypotheses and principles, not all of the elements are inserted into the development of proposed model. They are selected based on

applicability, which particularly relate to proposed model. These theories also are important to understand how interactive advertising may influence impulse purchase tendency.

Nevertheless, two psychology approaches were chosen in this study which are the environment psychology and design of psychology customization. These two approaches focus on the factor of how environment influence attitude which leads to a behavioural response. For example, how the way of advertising being presented may influence attitude which could lead to purchase intention. These approaches are important to understand how advertising work to influence consumers to purchase the product.

The concept in psychology customization design involves physical, content and code in the development process psychology effect. Hence, it really implicates to this study particularly in understanding how advertising act as a persuasive communication. The factor influence psychology effect in psychology customization helps to find the element of advertising content in producing impulse purchase advertising.

Other than that, environment psychology also important in order to find the environment factor that contributes to impulse purchase in iTV advertising. As a result, without adapting the advertising theories and approaches, the proposed model of iTVAdIP were not usable.

The next section discusses the construction of proposed conceptual design model in details.

4.3 Impulse purchase elements

Impulse purchase means purchase happened without planning and it happened when a consumer experiences positives effects when exposed to stimulus such as the product quality, promotion, brand identifier, product display and etc (Bono, 2012). Impulse purchase elements may involve the different kind of strategies and tactics. However, to the best of the researcher's knowledge, no previous studies have systematically investigated the components of impulse purchase in iTV advertising.

In order to get the impulse purchase elements, content analysis, comparative analysis and expert consultation were done. It involved two cycles of comparative analysis. Firstly, the comparative analysis was done from twenty two authors that focus on impulse purchase elements and secondly, the comparative made though eight existing advertising from various advertising medium which are website, traditional TV, and iTV were also considered. The next section discussed in details the first cycle of comparative analysis for getting impulse purchase elements that suit for iTV advertising.

4.3.1 First Cycle of Comparative Analysis

The first cycle of comparative analysis involves 22 previous studies that focus on impulse purchase elements on different medium of advertising which are website, traditional television and iTV. Table 4.1 and Table 4.2 show the mentioned studies on impulse purchase elements with commonalities.

Table 4.1

Comparative Analysis of Generic Impulse Purchase Elements In Different Advertising Medium

AUTHOR																					
Chu, Deng & Chuang 2014	**Labrador et al. 2014**	**Ibrahim et al. 2013**	**Borchers, 2005**	**Thawani et al. 2004**	**Bono, 2012**	**Colin & Walker, 2012**	**Saari et al. 2004**	**Ghisi, 2009**	**Almedia et al. 2013**	**Ulger, 2009**	**Fan et al, 2012**	**Boyland et al. 2012**	**Jae Hoon et al, 2008**	**Erdorgan, 2004**	**Roberto et al, 2010**	**Kukkonen & Harjumaa, 2009**	**Gantz et al. 2007**	**Wicks et al. 2009**	**Adelaar et al. 2003**	**Koo et al. 2010**	**Batada et al. 2008**	**ELEMENTS**
Product Information	Describe Product	Content					Content			Product Distribu-Tion				Product informa-tion	Product Distribu-tion						Product Distribu-tion	**Information**
Price	Features											Price		Exploring product								
Product Quality						Argument				Promotion		Premium Offer Free Gift			Promotion	Praise	Promotion					**Influence**
	Promotion					Product Quality				Sales		Promotion			Sales	Reward	Premium Offer Free Gift					
Empathy		Liking	Audience emotion			Loyalty	Emotional			Trust	Trust	Fun			Trust	Trust		Humour				**Emotion**
Self-expression	Positive					Hope	Self-expression			Self-expression		Enjoyment			Favou-rables	Liking		Fun				
Playfulness						Aspiration						Satisfaction						Happiness				
												Brand equity				Brand Recognition					Brand	**Attention**
		Credibility Spokesperson	Credibility Spokes-person													Credibility Spokesperson					Logo	
												Taglines									Slogan	
		Authority				Expertise	Stories Problem & solution					Celebrities endorse-Ment				Authority	Celebrities endorse-ment	Story Problem & solution				**Acceptance**
	Data	Social proof				Data evidence										Expertise						
	Headline	Consistency				Consistency								Interface			Persuasive appeals		Simplicity	Clarity		**Message**

Table 4.1 continued

	Powerful text													Powerful text			Powerful text			Headline		
	Text				Color		Color												Text	Color		**Still Media**
	Pictures				Picture		Shapes							Typo-graphy					Still Images			
					Text		Text															
							Texture															
		Visual Element			Graphic		Audio										Animation		Video	Graphic		**Motion Media**
							Sound										Visual Effect		Music			
							Video															
							Animation															
							Navigation						Interaction	Navigation						Link		**Interactivity**
														Notification						Menu		
					Remote control			Remote control						Remote control						Interac-tion		
														Bookmark the product								
														Interaction								

Table 4.2

The details Impulse Purchase Elements that were classified from comparative analysis

Strategy		
Information		
	Show product characteristics	Chu, Deng & Chuang, 2014; Labrador et al. 2014; Saari et al. 2004; Erdorgan, 2004; Ibrahim et al. 2013
	Price description	Chu, Deng & Chuang, 2014; Boyland et al. 2012
	Include product distribution	Ulger, 2009; Roberto et al, 2010; Batada et al. 2008
Emotion		
	Happiness	Ulger, 2009; Boyland et al. 2012; Roberto et al, 2010; Wicks et al. 2009
	Trust	Ulger, 2009; Roberto et al, 2010; Kukkonen & Harjumaa, 2009; Fan et al, 2012
	Self-expression	Chu, Deng & Chuang, 2014; Collin & Walker, 2012; Saari et al. 2004; Ulger, 2009
Influence		
	Show product quality	Chu, Deng & Chuang, 2014; Labrador et al. 2014; Batada et al. 2008; Collin & Walker, 2012
	Sales promotion	Labrador et al. 2014; Ulger, 2009; Boyland et al. 2012; Roberto et al, 2010; Gantz et al. 2007; Sadia, 2007
	Free gift and rewards	Kukkonen & Harjumaa, 2009; Boyland et al. 2012; Gantz et al. 2007
General tactics		
Attention		
	Brand name identifiers	Boyland et al. 2012; Kukkonen & Harjumaa, 2009; Batada et al. 2008
	Slogan and taglines	Batada et al. 2008; Boyland et al. 2012
	Credible spokesperson	Borchers, 2005; Kukkonen & Harjumaa, 2009; Ibrahim et al. 2013
Acceptance		
	Demonstrate product problem & solution	Saari et al. 2004; Wicks et al. 2009
	Data evidence & testimonial	Labrador et al. 2014; Ibrahim et al. 2013; Collin & Walker, 2012;

Table 4.2 continued

	Endorsements by celebrities, experts or customers	Nurul et al. 2013; Collin & Walker, 2012; Boyland et al. 2012; Kukkonen & Harjumaa, 2009; Gantz et al. 2007
Message		
	Powerful text	Gantz et al. 2007; Erdorgan, 2004; Labrador et al. 2014
	Simplicity & clarity	Adelaar et al. 2003; Koo et al. 2010
	Consistency	Ibrahim et al. 2013; Collin & Walker, 2012
Media specific tactics		
Still media		
	Headline	Koo et al. 2010; Labrador et al. 2014
	Informative Color and Pictures	Labrador et al. 2014; Saari et al. 2004; Adelaar et al. 2003; Bono, 2012, Koo et al. 2010
	Text	Labrador et al. 2014; Saari et al. 2014; Erdorgan, 2004; Adelaar et al. 2003; Bono, 2012
Motion Media		
	Scenes	Saari et al. 2014; Gantz et al. 2007
	Voice	Koo et al. 2010; Saari et al. 2014; Ibrahim et al. 2013; Bono 2012
	Animation	Gantz et al. 2007; Saari et al. 2014
	Graphic	Bono, 2012
	Music and sound	Koo et al. 2010; Saari et al. 2014; Ibrahim et al. 2013; Bono 2012
	Video	Saari et al. 2014; Gantz et al. 2007
	Transaction	Koo et al. 2010; Jae Hoon et al, 2008
	Effect	Gantz et al. 2007; Koo et al. 2010
	Audio	Saari et al. 2004; Adelaar et al. 2007
Interactivity		
	Navigation	Saari et al. 2004; Erdorgan, 2004; Koo et al. 2010
	Interaction	Erdorgan, 2004; Koo et al. 2010; Ghisi et al. 2009, Jae Hoon et al, 2008
	Remote control	Erdorgan, 2004; Ghisi et al. 2009, Thawanni et al. 2004, Almedia et al. 2013
	Hand gesture	Additional elements was added
	Face recognition	Additional elements was added
	Touch screen	Additional elements was added

Findings from the analysis were summarized and tabulated (see Table 4.2). The table has grouped the findings based on the prominent work by Amstrong (2010). It has grouped into three main components and nine sub components namely, Strategy (information, influence, emotion), General Tactics (Attention, Message, Acceptance) and Media Specific Tactics (Still Media, Motion Media and Interactivity). It shows that most of the impulse purchase elements have been studied by many researchers. However, there is lack of studies that focus on impulse purchase for interactivity elements.

Because of that, the **interactivity** elements were added to this study. Since the focus of this study is towards the impulse purchase tendency in iTV advertising, thus the interactivity element is seen as crucial to cater for both interaction and navigation styles. In addition, the added interactivity elements from existing model are important in order to interact and influence the consumers to purchase the advertised product easily.

4.3.2 Main Elements of Impulse Purchase

Based on the first cycle of comparative analysis, the main and sub elements of impulse purchase were gathered. This study provides the general explanations on the main elements of impulse purchase as depicted in Table 4.3.

Table 4.3

The elaboration of main elements of impulse purchase for iTV advertising

Elements	Descriptions
STRATEGY	
Information	The information in advertisings should emphasize on product characteristics, price descriptions and include product distribution which is when and how to get the product in order for consumers to be impulsive.
Influence	Influence is important to motivate consumers to buy impulsively. It focuses more on examining the strategies that advertising designers can employ to influence consumers to take action. Thus, the advertising should emphasize on product quality which include the reason and proof why product is important and widely used. In addition, by providing special promotion, free gift or rewards in order to influence consumer to purchase impulsively.
Emotion	Emotion emphasizes on the process of convincing consumers to make a purchase. For example once people have become familiar with the brand, advertising designers can shift the emphasis from information toward emotion. Thus, advertising with emotional elements such as happiness, trust, and self-expression can effect consumers expectations toward the product.
GENERAL TACTICS	
Attention	Advertising must first gain attention if it is to have any impact. In order to get attention from consumers, advertising designers should emphasize brand identifiers in using logos to express meanings or emotions. In addition, advertising should consider a short memorable slogan (tagline) with the brand name and benefit, as well involve credible spokesperson to support product.
Message	Message is important in getting consumers to be impulsive. It deals with the crafting the powerful text that can attract consumers to buy the product. In addition, the message should be consistent, simple and clarity in order to make consumers buy impulsively.
Acceptance	Principles for gaining acceptance should be considered for all advertising. Once the audience is in a receptive mode, the advertising should seek acceptance of the message. All of acceptance elements such as demonstration of product problem and solution, show data evidence or testimonial, endorsement by celebrities, experts or consumers should be clear in order to be accepted by consumers.

Table 4.3 continued

MEDIA SPECIFIC TACTICS	
Still Media	Still media emphasize on messages that contain complex information. It allows the consumers to decide when to read an advertising and at what pace. Still media consist of elements such as headline, pictures, and text which play an important role in order to make an advertising more attractive and create a high perceived value for the product.
Motion Media	Motion media focus on how to create advertising that emphasize on emotional rather than informative appeals. It much focuses on simple demonstrations reinforcing consumers beliefs rather than changing them. Motion media consists of video; scenes, audio; voice, music and sound, animation; effect, transition, and graphic that play an important role to present the creative advertising that can generate high emotional appeal until able to persuade consumers to buy impulsively.
Interactivity	Interactivity emphasizes on the interaction style of the advertising presentation. It shows how consumers can have interaction with the advertising. For example, to know more about the product, consumers could pressing a button on the remote control, performing natural hand gesture, providing oral commands directly to TV, and by touching on areas on the TV screen.

4.3.3 Impulse purchase elements for iTV advertising supported by Advertising Theories

Table 4.4 show the impulse purchase elements for iTV advertising supported by relevant Advertising Theories.

Table 4.4

Impulse purchase elements for iTV advertising supported by Advertising Theories

No	**Impulse Purchase Elements**	**Theory**	**Description**
1.	Information	Hierarchy of Effects Model	Before a consumer develops a liking or dislike towards a product or service, consumers must have sufficient knowledge of the product or service. It is to make consumers aware and understand the core message of advertising.

Table 4.4 continued

		AIDA	Attention strategies emphasize on the presentation of rational arguments or pieces of information to consumers. When awareness message strategy is used, the advertisement's key message is about the product's attributes or the benefits. Consumers can obtain these benefits by using the product.
2.	Emotion	Hierarchy of Effects Model	Once the knowledge is obtained, the advertising designers can try to influence the buyer by develop a liking a particular brand or product.
		Conditioning theory	It is important for the advertising designers to establish a connection to the consumers to bring back certain emotions when they see the advertisement.
3.	Influence	Hierarchy of Effects Model	Once the knowledge is obtained and a liking is developed, the advertising designers can try to influence the buyer to favour a particular brand or product. Consumers can easily be influenced when it involves on promotion and sales that will attract them directly to buy the product.
		AIDA	Interest strategies are designed to lead more directly to some type of consumer response. They can be used to support other promotional efforts, such as free gift, coupon redemption and offers such as buy-one-get-one-free.
4.	Attention	Persuasion Knowledge Model	It explains how knowledge of marketers' persuasion tactics affects consumers' response to such tactics. So, tactics such as brand name identifier, slogan and tagline play important role to attract consumer response. In addition. The marketing team selects sources or spokespersons based on the individual's attractiveness, likeability, trustworthiness, expertise, or credibility. The more of these characteristics that are present, the better off the advertisement will be.
5.	Message	AIDA	Choosing the right message strategy is a key ingredient in creating a successful advertising program. To be effective, the message strategy must be carefully matched with the leverage point and executional framework that have been selected as well as with the media that will be utilized.
		Hierarchy of Effects Model	Awareness is the stage where advertising can raise audience awareness on advertising message.
6.	Acceptance	Persuasion	The persuasion attempt encompasses not only the message

Table 4.4 continued

		Knowledge Model	of the agent, which itself is influenced by the agent's knowledge of the topic, target, the effectiveness and the applicability of different persuasion tactics, but it is also influenced by the target's perception of the agent's persuasion strategy.
		AIDA	The marketing team selects celebrities or expertise based on their attractiveness, likeability, trustworthiness, expertise, or credibility. The more of these characteristics that are present, the better off the advertisement will be.
7.	Still Media	Elaboration Likehood Model	The greater emphasis is given on words in some of the advertisements in order to evoke the response from the target market.
8.	Motion Media	Elaboration Likehood Model	In contrast, when the likelihood of message elaboration is low, they have lack of motivation or ability to process the information, and people tend to take the peripheral route to persuasion.
9.	Interactivity	Conditioning Theory	It is more about leading someone into taking certain actions of their own, rather than giving direct commands.
		Persuasion Knowledge Model	With these different forms of knowledge in place, the persuasion episode occurs in the interaction between the agent's persuasion attempt and the target's persuasion coping behavior

4.3.4 Sub Elements of Impulse Purchase

In addition, this study also provides the details explaination of sub elements of impulse purchase as described below:-

1. *Strategy:*
    a. Information
        i. Product characteristic (Chu, Deng & Chuang, 2014; Labrador et al. 2014; Saari et al. 2004; Erdorgan, 2004; Ibrahim et al. 2013) – allows users to know about the information and characteristis of product.

ii. Price (Chu, Deng & Chuang, 2014; Boyland et al. 2012) – consists of product price that assist users to do comparison with other product.

iii. Distribution (Ulger, 2009; Roberto et al, 2010; Batada et al. 2008) – consists information regarding how, when and where to get the product.

b. Influence

i. Quality product (Chu, Deng & Chuang, 2014; Labrador et al. 2014; Batada et al. 2008; Collin & Walker, 2012) – able users to know the quality of product by differentiating with other products.

ii. Promotion (Labrador et al. 2014; Ulger, 2009; Boyland et al. 2012; Roberto et al, 2010; Gantz et al. 2007; Sadia, 2007) – shows the promotion of product that can persuade users to buy that product.

iii. Free gift and rewards (Kukkonen & Harjumaa, 2009; Boyland et al. 2012; Gantz et al. 2007) – provide consumers free gift and rewards for additional purchase.

c. Emotion

i. Happiness (Ulger, 2009; Boyland et al. 2012; Roberto et al, 2010; Wicks et al. 2009) – represents the emotion of users when having the product.

ii. Trust (Ulger, 2009; Roberto et al, 2010; Kukkonen & Harjumaa, 2009; Fan et al, 2012) – represents any symbol that can attract users to believe on product.

iii. Self-expression (Chu, Deng & Chuang, 2014; Collin & Walker, 2012; Saari et al. 2004; Ulger, 2009) – as a symbolic for users to show their self-expression when having the product.

2. *General Tactics:*

a. Attention

i. Brand name identifiers (Boyland et al. 2012; Kukkonen & Harjumaa, 2009; Batada et al. 2008) – a way to call attention such as logo that can convey information quickly.

ii. Slogan and taglines (Batada et al. 2008; Boyland et al. 2012) – representation of any interactive trademark in presenting the product value.

iii. Credible spokesperson (Borchers, 2005; Kukkonen & Harjumaa, 2009; Ibrahim et al. 2013) – Use a trustworthy and credible spokesperson whose appearance is consistent with the objectives, product and target market

b. Message

i. Powerful word (Gantz et al. 2007; Erdorgan, 2004; Labrador et al. 2014) – the word which brings meaningful information to users.

ii. Simplicity and clarity (Adelaar et al. 2003; Koo et al. 2010) – the information is relevant, short and easy to read.

iii. Consistency (Ibrahim et al. 2013; Collin & Walker, 2012) – make the elements of advertising consistent to each other.

c. Acceptance

i. Demonstration of product (Saari et al. 2004; Wicks et al. 2009) – demonstrates product benefits.

ii. Data evidence (Labrador et al. 2014; Ibrahim et al. 2013; Collin & Walker, 2012) – provides quantitative evidence and offer verifiable evidence.

iii. Endorsement by celebrities, experts or customers (Ibrahim et al. 2013; Collin & Walker, 2012; Boyland et al. 2012; Kukkonen & Harjumaa, 2009; Gantz et al. 2007) - consider celebrity, expert and customer endorsements for gaining attention and make sure they are relevant to the product.

3. Media Specific Tactics:

a. Still Media

i. Headline (Koo et al. 2010; Labrador et al. 2014) – uses right headline relevant to the product.

ii. Informative color and picture (Labrador et al. 2014; Saari et al. 2004; Adelaar et al. 2003; Bono, 2012, Koo et al. 2010) – uses informative color and picture to convey information quickly.

iii. Interesting text (Labrador et al. 2014; Saari et al. 2014; Erdorgan, 2004; Adelaar et al. 2003; Bono, 2012) – contains relevant information about the product itself.

b. Motion Media

i. Scenes (Saari et al. 2014; Gantz et al. 2007) - makes the closing scene relevant to the key message.

ii. Voices (Koo et al. 2010; Saari et al. 2014; Ibrahim et al. 2013; Bono 2012) – uses an appropriate voice and avoid orally ambiguous words

iii. Animation (Gantz et al. 2007; Saari et al. 2014) – uses an appropriate animation that is relevant to the product.

iv. Graphic (Bono, 2012) – provides graphics that make sense especially on describe quality of product.

v. Music and Sound (Koo et al. 2010; Saari et al. 2014; Ibrahim et al. 2013; Bono 2012) – if music or sound effects are used, make them relevant to the product.

vi. Video (Saari et al. 2014; Gantz et al. 2007) – uses an opening that directly emphasizes the product.

vii. Transition (Koo et al. 2010; Jae Hoon et al, 2008)– if transition is used make them relevant to the product.

viii. Effect (Gantz et al. 2007; Koo et al. 2010) – uses attractive effect that suitable to the product.

ix. Audio (Saari et al. 2004; Adelaar et al. 2007) – if audio is used make them relevant to the product.

c. Interactivity

i. Navigation (Saari et al. 2004; Erdorgan, 2004; Koo et al. 2010) – considers a good and clear navigation in order to provide consumers to access the information sources of the quality of products quickly and easily.

ii. Interaction (Erdorgan, 2004; Koo et al. 2010; Ghisi et al. 2009, Jae Hoon et al, 2008) – a way of interaction that allows users to navigate whenever they wish.

a. Remote control (Erdorgan, 2004; Ghisi et al. 2009, Thawanni et al. 2004, Almedia et al. 2013) - Uses a limited number of keys for interaction with the remote control that enable consumers to press on in order to help consumers to see more information about the product.

b. Hand gesture - consumers are able to interact with information provided via natural hand gesture.

c. Face recognition – consumers are able to interact with information through face recognition.

d. Touch screen – consumers can interact with information by touching on the TV screen.

4.3.5 Second Cycle of Comparative Analysis of Impulse Purchase Elements

The second cycle of comparative analysis is needed in order to confirm the elements of impulse purchase by identifying which element is compulsory or recommended to apply. Eight samples of advertising were identified and later compared. Table 4.5 summarizes the features of all the samples of advertising.

Table 4.5

Features of Advertising

Advertising	**Medium**	**Features**
A1: ZALORA URL: www.zalora.com.my	Website Advertising	It consists of fashion online for both men and women. It has the collection of fashion clothes with the latest fashion trends and styles.
A2: LELONG URL: www.lelong.com.my	Website Advertising	It is the Malaysia most demanded and successful e-commerce. It sells varieties of product such as electronic tool, clothes and etc.
A3: TVC JAKEL	Traditional Television Advertising	It contains of Jakel ‘s Collection
A4 : TVC FIRST LADY	Traditional Television advertising	It contains of First Lady’s Collection
A5 : TVC PEACE	Traditional Television Advertising	In consists of peace’s collections
A6 : ADIDAS SHOE WALL	Interactive advertising	It consists of interactive elements.
A7 : INTERACTIVE DRESSING DIGITAL SIGNAGE	Interactive advertising	It consists of interactive elements.
A8 : CISCO STYLEME FASHION	Interactive advertising	It consists of interactive elements.

Generally, the selection of advertising involved in this study was made based on a number of reasons. Nevertheless, the number of advertising reviews in this study is meant to be representative, not exhaustive.

- Samples include varying medium of advertising (website, traditional television and interactive television) to illustrate different designs of advertising.
- Samples provide varying type of products that can persuade consumers to buy the product.
- Most of the sample regarding clothes because the statistics show that the clothes is the most famous product purchased by consumers (Stefany, 2012).
- The sample chosen from the most top and popular website used by consumers to purchase the product.

Table 4.6 compares the findings from analysis made to the samples of advertising. As stated earlier, the components of existing applications are used as guides to propose generic components for iTVAdIP.

Accordingly, from the total of occurrence of each component in the samples, this study proposed a list of generic components in iTV advertisements that are perceived could influence impulse purchase tendency. The conditions for determining compulsory and recommended components are as displayed in Table 4.7.

Based on the conditions stated in Table 4.7, the generic components of impulse purchase on iTV advertising are proposed and as demonstrated in Table 4.8.

Table 4.6

Analysis of the Impulse Purchase Components for iTV Advertising

Components			A1	A2	A3	A4	A5	A6	A7	A8	T
Strategy	Information	Show product characteristics	√	√	√	√	√	√	√	√	8
		Price descriptions	√	√				√		√	4
		Include product distribution	√	√	√		√	√			5
	Influence	Show product quality	√	√	√	√	√	√	√	√	8
		Sales promotion	√	√	√		√			√	5
		Free gift and rewards	√	√					√	√	4
	Emotion	Happiness	√	√	√	√	√	√	√		7
		Trust	√	√	√		√		√	√	6
		Self-expression	√	√	√				√	√	4
General tactics	Attention	Brand identifiers	√	√	√	√	√	√	√	√	8
		Slogans & taglines	√	√		√	√	√	√	√	7
		Credible spokesperson			√	√	√	√	√	√	6
	Message	Powerful word	√	√	√	√	√	√		√	7
		Simplicity and clarity	√	√		√	√	√	√	√	7
		Consistency	√	√		√		√	√	√	6
	Acceptance	Demonstration product problem and solution	√	√				√		√	4
		Data evidence or testimonial	√	√				√	√	√	5
		Endorsement by celebrities, expert or customer	√	√	√	√		√	√	√	7
Media specific tactics	Still Media	Headline	√	√	√	√	√	√	√	√	8
		Informative color and pictures	√	√	√	√	√	√	√	√	8
		Interesting text	√	√	√	√	√	√	√	√	8
	Motion Media	Scenes			√	√	√	√	√	√	6
		Voices			√	√	√	√	√	√	6
		Animation	√	√		√	√	√	√	√	7
		Graphic	√	√			√	√	√	√	6
		Music and Sound			√	√	√	√	√	√	6
		Video			√	√	√	√	√	√	6
		Transition			√	√	√	√	√	√	6
		Effect	√			√	√		√	√	5
		Audio		√			√	√	√	√	6
	Interactivity	Navigation	√	√	√	√	√	√	√		7
		Interaction	√	√			√	√	√	√	6
		Remote control			√	√	√				3
		Hand gesture						√	√	√	3
		Face recognition						√	√	√	3
		Touch screen	√					√	√	√	4

Note.
A1 = Advertising 1
Total is referring to number of occurrence of each component
√ indicates the component is used in the advertising

Table 4.7

Conditions for Classification of Generic Components

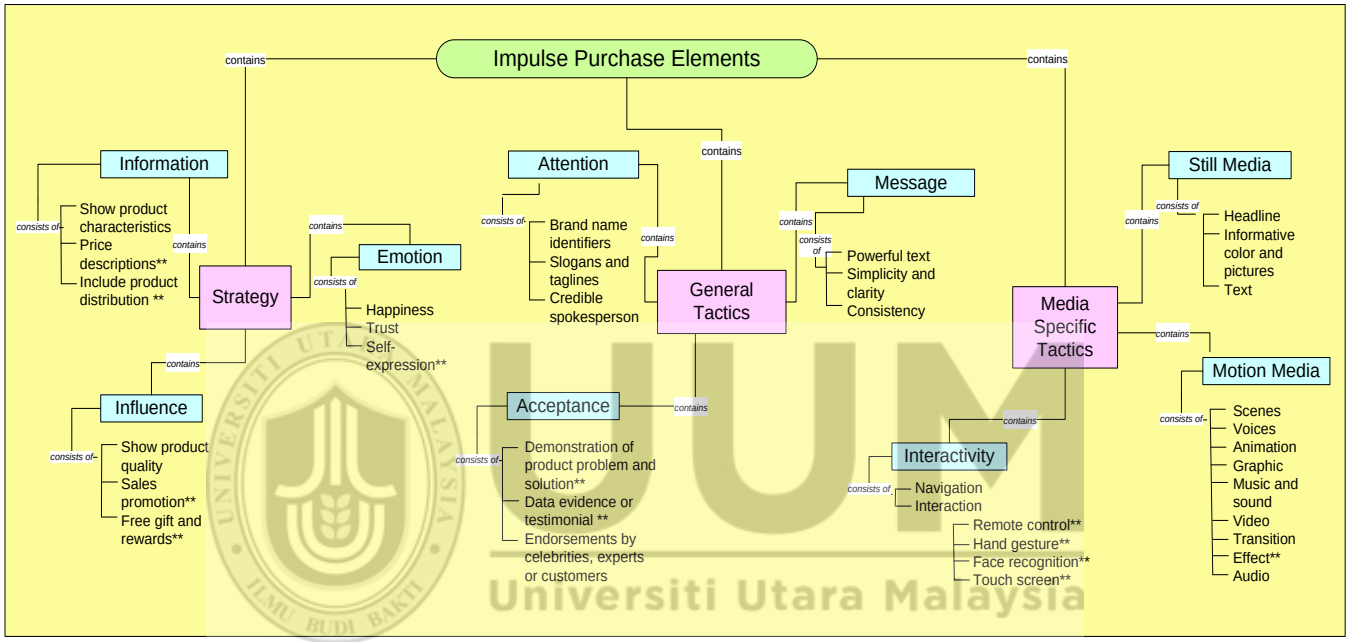
Conditions (Total score)	Indications
6 to 8	Compulsory
3 to 5	Recommended
0 to 2	Discarded

Table 4.8

Impulse Purchase Components for iTV Advertising

		Components	For iTVAd
Strategy	Information	Show product characteristics	Compulsory
		Price descriptions	Recommended
		Include product distribution	Recommended
	Influence	Show product quality	Compulsory
		Sales promotion	Recommended
		Free gift and rewards	Recommended
	Emotion	Happiness	Compulsory
		Trust	Compulsory
		Self-expression	Recommended
General tactics	Attention	Brand identifiers	Compulsory
		Slogans & taglines	Compulsory
		Credible spokesperson	Compulsory
	Message	Powerful word	Compulsory
		Simplicity and clarity	Compulsory
		Consistency	Compulsory
	Acceptance	Demonstration product problem and solution	Recommended
		Data evidence or testimonial	Recommended
		Endorsement by celebrities, expert or customer	Compulsory
Media specific tactics	Still Media	Headline	Compulsory
		Informative color and pictures	Compulsory
		Interesting text	Compulsory
	Motion Media	Scenes	Compulsory
		Voices	Compulsory
		Animation	Compulsory
		Graphic	Compulsory
		Music and Sound	Compulsory
		Video	Compulsory
		Transition	Compulsory
		Effect	Recommended
		Audio	Compulsory
	Interactivity	Navigation	Compulsory
		Interaction	Compulsory
		Remote control	Recommended
		Hand gesture	Recommended
		Face recognition	Recommended
		Touch screen	Recommended

From the proposed components in Table 4.8 the model of iTVAdIP could be obtained and illustrated in Figure 4.1. The model is later incorporated into the proposed conceptual design model to support the implementation of proposed advertising process in iTV Advertising.



Note. ** - recommended

Figure 4.1. The proposed impulse purchase elements

Next subsection describes the details the components layer of technology to be embedded in conceptual design model of iTVAdIP.

4.4 Layer of technology

In general, a layer of technology comprises a way in implementing mind-based technologies (also called psychology design) in the system design (Saari, 2001). In the literatures, the layer of technology in interactive advertising is divided into several phases. The work by Saari (2011) has outlined three major phases in a layer

of technology in interactive advertising, namely, physical, interaction and style of presentation. Physical layer includes the physical technological device and the connection channel that is used to transmit communication signals. It involves the type of devices or hardware is identified. The interaction phase is a way of presenting controls in an interface visually and functionally. It means that how interaction on user interfaces is performed. Meanwhile, the style of presentation phase consists of the way of presentation for interactive advertising which includes contextualize, independent and interactive advertising. When the layer of technology is followed, then it is ready for implementation of iTV advertising.

4.4.1 Component of Layer of Technology

In seeking for the components of layer of technology, comparative analysis method was employed. Eight samples of advertising were identified and later compared (the same sample with Table 4.5). These samples were used as the basis to get the generic components of the layer of technology.

The existing advertisings were assessed on the following aspects of layer of technology.

1. Physical: physical technological device and the connection channel that are used to transmit communication signals
    a. Devices / Hardware- It involves the type of devices or hardware.
2. Interaction: is a way of presenting on user interface
    a. Interaction on user interface - how interaction on user interfaces is performed.

3. Style of presentation: the way presentation on advertising
    a. Contextualized – the advertising depending on other application, channel or program.
    b. Independent – the advertising having own application, channel or program.
    c. Interactive advertising – adds interactivity in commercials for specific application

The following subsection discusses the comparison made to obtain the generic components of layer of technology.

4.4.2 Proposed Layer of Technology Component

The process started with analyzing the mentioned aspects in all samples of advertising. Findings from the analysis were summarized and tabulated (see Table 4.9) for comparison. Also, the table has grouped the findings into three main components namely, Physical (Devices/Hardware), Interaction (Interaction on user interface) and Style of presentation (Contextualize, Independent, Interactive Advertising).

Table 4.9 compares the findings from analysis made to the samples of advertising. As mentioned earlier, the components of existing advertising are used as guide to propose generic components for iTVAdIP. Accordingly, from the total of occurrence of each component in the samples, this study proposed a list of generic components in the layer of technology for iTVAdIP. The conditions for determining compulsory and recommended components are as displayed in Table 4.7.

Based on the conditions stated in Table 4.7, the generic components of the layer of technology of iTVAdIP are proposed and as demonstrated in Table 4.10.

Table 4.9

Analysis of the Layer of technology component for iTVAdIP

Layer of technology component	**Layer of technology component**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**Total**
Physical	Devices/ Hardware	√	√	√	√	√	√	√	√	8
Interaction	Interaction on user interface	√	√	√	√	√	√	√	√	8
Style of presentation	Contextualize				√	√	√	√	√	5
	Independent	√	√	√	√	√	√	√	√	8
	Interactive advertising	√				√	√	√		4

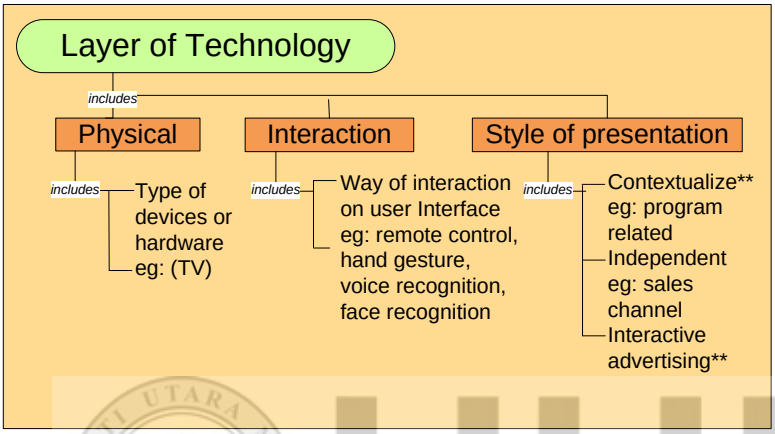
Note.
A1 = Advertising 1
Total is referring to number of occurrence of each component
√ indicates the component is used in the advertising

Table 4.10

Layer of technology component for iTVAdIP

Layer of technology component	**Layer of technology component**	**For iTVAdIP**
Physical	Devices/ Hardware	Compulsory
Interaction	Interaction on user interface	Compulsory
Style of presentation	Contextualize	Recommended
	Independent	Compulsory
	Interactive advertising	Recommended

From the proposed components in Table 4.10 the model of layer of technology for iTVAdIP could be obtained and illustrated in Figure 4.2. The model is later incorporated into the proposed conceptual design model of interactive television advertising toward influencing impulse purchase tendency.



Note. ** - recommended

Figure 4.2. Layer of Technology in Conceptual Design Model for iTVAdIP

Having described the layer of technology, the next step is to discuss the development process elements that should be incorporated in conceptual design model of iTVAdIP.

4.5 Development process of iTV advertising

In the literatures, the processes in making iTV advertising are divided into several phases. The work by Arrens, (1996), Schwalb & Edward, (2004), Thomas et al. (2004), Jaaskelainen, (2001) and Bovee & Courtland, (1986) has outlined three major phases in iTV advertising making process. The first phase is pre-production where the preliminary arrangements concerning conception and planning are made upon the inception of an iTV advertising development. The second phase is

production where the iTV advertising is technically produced which includes code and content integration. The third phase is post-production, which is the final stage in iTV advertising development, and typically involves finalizing the iTV advertising before it is marketed.

To get the elements of development process, six samples of interactive advertising process were compared to identify generic steps that are suitable with the development process on iTV advertising. A comparison of all interactive advertising processes is presented in Table 4.11, where every step in each process was mapped to phases suggested in (Arrens, 1996; Schwalb & Edward, 2004; Thomas et al., 2004; Jaaskelainen, 2001 and Bovee & Courtland, 1986). From the table, a repetition of steps can be detected which show similar patterns for iTV advertising process. Table 4.12 summarizes the selection of steps that should be included in the proposed conceptual design model based on the majority appearance in the comparison table (see Table 4.11).

Table 4.11

Comparison of steps involved in iTV advertising

	AP1	AP2	AP3	AP4	AP5	AP6
Authors	**Jaaskelainen (2001)**	**Bovee & Courtland (1986)**	**IAB (2008)**	**Schwalb & Edward, 2004**	**Thomas et al. (2004)**	**Arens & William (2013)**
Pre-production	• Environment analysis • Audience analysis • Content analysis • System analysis • Paper prototype • Functional requirement • Skeleton screens • Working prototype (development) • Storyboards & flowchart scripts	• Storyboarding • Advertising body / design	• Preparation & planning • Prioritize features • Features assigned	• Preparation & planning • Scene structuring	• Idea/ concept • Identify actor • Setting up props	• Bidding • Choosing production company • Preproduction meeting • Planning special elements • Script writing
Production	• Interface design • Navigation map	• Code optimization • Dressing up the advertising	• Development • Meeting for feedback	• Adding interactivity • Adding effects	• Design advertising • Develop / Build advertising	• Editing • Sound Mix
Post-production	• Implementation/ Evaluation • Alpha Test • Beta Test • Publish • Executive • Evaluation	• Fixing the bugs/ testing	• Advertising review/ testing • Adjustment • Advertising Release	• Preview • Testing • Packaging Content	• Test advertising • Collate / analyze results	• Final tape • Approved • Video tape duplicates • Tape Creation • Pre Airing • Live

Note. AP x/n = Advertising Process 1

Table 4.12

Analysis of the selected steps

Phases	Steps	AP1	AP2	AP3	AP4	AP5	AP6
Pre-production	• Brainstorming idea	√		√	√	√	√
	• Environmental analysis (timimg, budget, media)	√		√	√		√
	• Analysis target audience	√		√			√
	• Creating concept	√	√	√	√	√	√
	• Planning special elements for advertising content	√		√	√		√
	• Decide style of presentation		√	√	√	√	
	• Creating storyboard	√	√				
	• Script preparation	√		√			√
	• Identify actor			√		√	
	• Setting up props	√				√	√
	• Planning schedule			√			
Production	• Preparing multimedia elements	√		√			
	• Audio recording						√
	• Developing user interface design	√				√	
	• Insert actual content on presentation style			√		√	√
	• Organize scene structuring	√			√		
	• Programming code		√	√			
	• Organize navigation specification	√					
	• Adding interactivity	√			√		
	• Insert audio						
	• Adding effect (sound mix, animation, transitions)				√		√
							√
Post-production	• Pre Airing			√	√	√	√
	• Quality checking	√			√		
	• Live		√				√
	• Analyze results	√					
	• Packaging content	√		√			√

Note. AP x/n = Advertising Process 1

4.5.1 Proposed Development Process for iTV Advertising

Based on the summary displayed in Table 4.12, the following steps are included in the development process of the conceptual design model for iTVAdIP. The production phase consists of brainstorming idea, environment analysis, analysis target audience, creating concept, planning special elements for advertising content,

deciding style of presentation, creating storyboard, script preparation, identifying actor, setting up props, and planning schedule. In the production phase, steps include preparing multimedia elements, audio recording, developing user interface design, insert actual content on presentation style, organize scene structuring, programming code, organize navigation specification, adding interactivity, insert audio, adding effect (sound mix, animation and transitions). Meanwhile, in the post-production phase includes pre airing, quality checking, live, analyze results, and packaging contents. In real situation, the advertising designers must revisit the steps in completing their advertising development. The identification of development process could be illustrated in Figure 4.3.

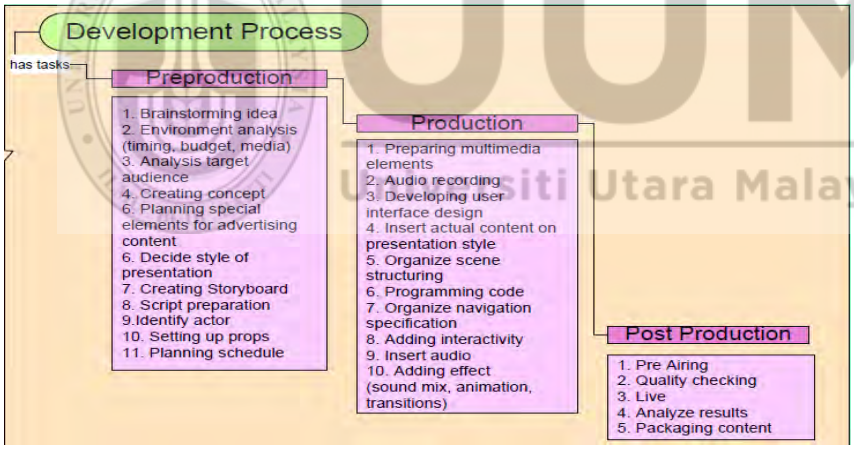


Figure 4.3. Proposed development process of iTV advertising

Having described the development process, the next step is to discuss details the proposed conceptual design model of iTVAdIP.

4.6 The Proposed Conceptual Design Model of iTVAdIP

Generally, the proposed Conceptual Design Model of iTVAdIP consists of four generic components which are (i) impulse purchase elements, (ii) layer of technology, (iii) development process, and (iv) advertising theories.

Impulse purchase elements is very important in order to develop iTV advertisements that which embed elements that are perceived could influence impulse purchase tendency. Three main components are included, namely strategy, general tactics and media specific tactics. In strategy elements, information (which consists of product characteristics, price descriptions, and product distribution), influence (product quality, sales promotion, and free gift and rewards), and emotion (happiness, trust, self-expression) could be included. In general tactics elements, attention (brand name identifier, slogan and taglines, credible spokesperson), message (powerful text, simplicity and clarity, consistency), acceptance (demonstration of product problem and solution, data evidence or testimonial, endorsement by celebrities, experts or customers) could be opted. Meanwhile in media specific tactics, still media (information color and text, attractive headline, clear pictures, relevant text), and interactivity (navigation, interaction [remote control, hand gesture, voice recognition, touch screen, and face recognition]) could be considered. All of impulse purchase elements implicate each other in ensuring the iTV advertisements that are perceived could influence impulse purchase tendency and can attract consumers to purchase the advertised product impulsively. In addition, all of these elements guarantee that the content of iTV advertising achieve the objective towards influencing impulse purchase tendency.

In addition, the conceptual design model of iTVAdIP also supported by **layer of technology components.** The function of layer of technology is to understand how iTV Advertising work. There are three main components are included namely physical, interaction and style of presentation. In physical, types of devices or hardware (eg. TV) could be included. In interaction, way of interaction on user interface (eg. remote control, hand gesture, touch screen, and face recognition) could be opted. Meanwhile, in term of style of presentation is devided into three stages where contextualize (eg. program related), independent (eg. sales channel) and interactive advertising. Therefore, all of them implicate each other in ensuring the iTV advertisements are perceived could influence impulse purchase tendency. In addition, all of these components are important for developer to understand the different between iTV advertising and traditional TV advertising. In this study, television is the best platform for advertiser to advertise their product.

In supporting the proposed iTVAdIP design model, the **development process** is needed in order to guide the advertising designers to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. Therefore, the developers are recommended to refer to the three-phase activity recommended in the development process components. It outlines three main phases namely pre-production, production and post-production phase. The pre-production phase contains of brainstorming idea, environment analysis, analysis target audience, creating concept, planning special elements for advertising content, decide style of presentation, creating storyboard, script preparation, identify actor, setting up props, and planning schedule.

In production phase, steps include preparing multimedia elements, audio recording, developing user interface design, insert actual content on presentation style, organize scene structuring, programming code, organize navigation specification, adding interactivity, insert audio, adding effect (sound mix, animation and transitions). Meanwhile, in post-production phase includes pre airing, quality checking, live, analyze results, and packaging contents. Thus, all of these steps are easily to follow by developer in order to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency.

Besides that, the conceptual design model is also associated with other attributes namely **advertising theories**. All of these theories were embed in constructing the proposed conceptual design model of iTVAdIP. As shown in Figure 4.4, a number of advertising theories are considered in support of the proposed strategies in conceptual design model for iTVAdIP. Those advertising theories are elaboration likehood model, hierarchy of effect model, persuasion knowledge model, AIDA (attention, interest, desire, action) and conditioning theory. These theories also are important to understand how interactive advertising work and could influence impulse purchase tendency. In addition, these theories are established advertising theories that act as the root of advertising development

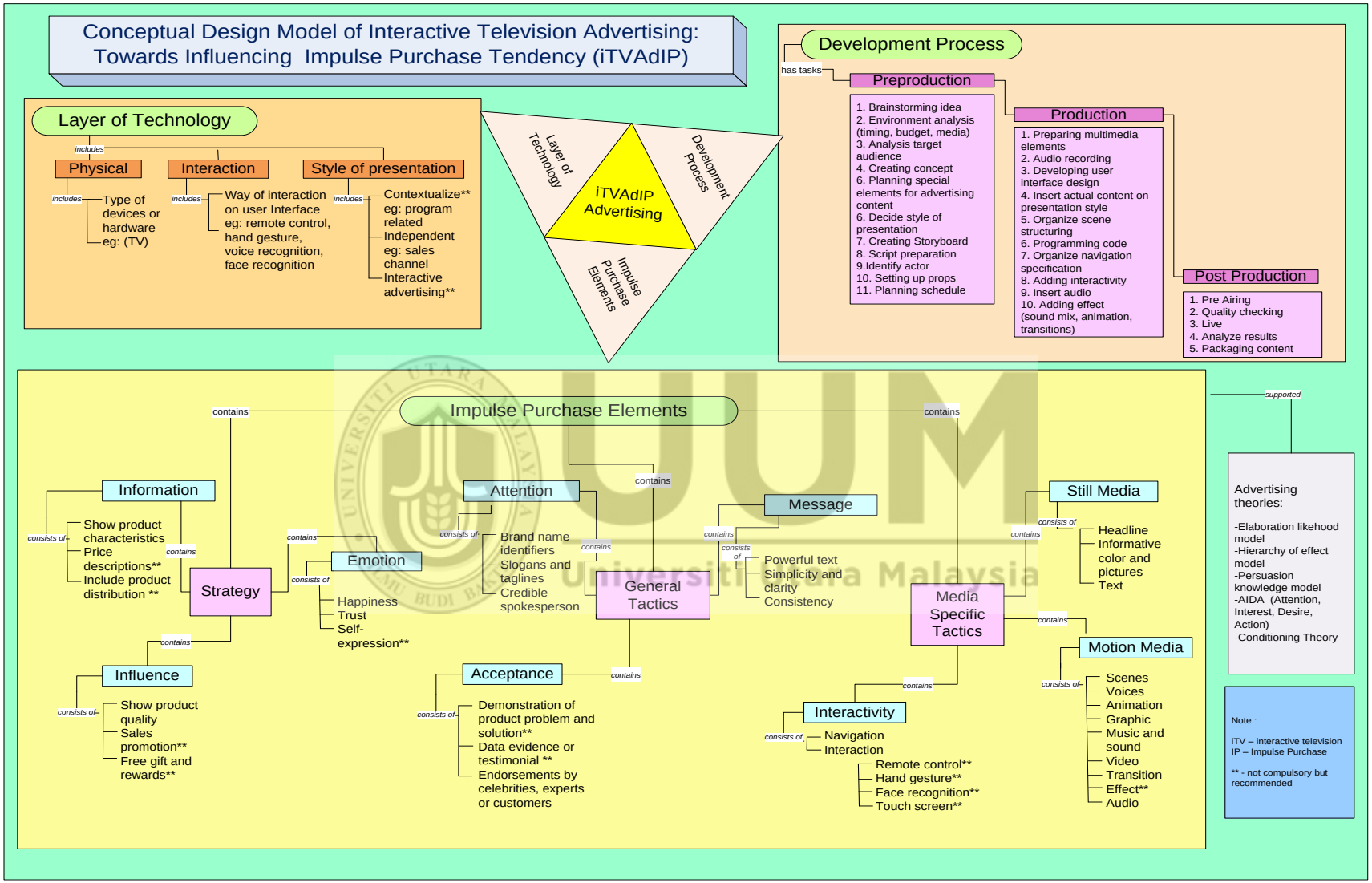


Figure 4.4. Proposed Conceptual Design Model of iTVAdIP

4.7 Summary

This chapter contains detailed descriptions of the activities involved in constructing the proposed conceptual design model for iTVAdIP. It starts off with determine the impulse purchase elements, followed by layer of techology. In addition, to support the implementation of the proposed design model of iTVAdIP, the development process elements were also identified, formalized and discussed. The outcomes serve to support the first and second objectives of this study. Also, the components in the proposed conceptual design model were expected to contribute to whether adapting the iTVAdIP that are perceived could influence impulse purchase tendency. In the next chapter, the proposed conceptual design model is validated through expert review and prototyping. The detailed descriptions are included in Chapter 5.

CHAPTER FIVE
EXPERT REVIEW ON iTVAdIP DESIGN MODEL AND CONFORMITY TOOL

5.1 Overview

This chapter describes the process in validating the proposed iTVAdIP conceptual design model through expert review. Generally, the main activities were carried out by means of validating the components of the conceptual design model for iTVAdIP, which are impulse purchase components, layer of technology, and development process.

In addition, the development of the conformity tool and expert review for conformity tool are also described in this chapter. Also in this chapter, an analysis of the reviews is also included. The following sections discuss the activities in details which lead to the model validation.

5.2 Expert Review on Conceptual Design Model of iTVAdIP

As mentioned earlier (in chapter 1), the third objective of this study is to validate the proposed conceptual design. Altogether, 10 invitations (5 experts for each local and international) were sent to the identified experts via email communication. Experts involved to review the proposed model were classified based on any of the following criteria:

1) have qualifications in either Persuasive, Advertising, Marketing or Communication or related areas or/and

2) have at least five years teaching background in Persuasive, Advertising Marketing or Communication or related areas or/and
3) have been working/ studying/ researching in Persuasive, Advertising, Marketing or Communication or related areas for at least five years.

From ten invitations, only six agreed to validate the proposed model. This number is considered sufficient as supported by Folch-Lyon and Trost (1981), Kitzinger (1995), Morgan (1996) and Nielsen (1997). Hence, Table 5.1 displays demographic profile of the experts.

Table 5.1
Demographic Profiles of Experts

No.	**Gender**	**Age (Year)**	**Education**	**Field of Expertise**	**Experience (Year)**	**Affiliations**
1.	Female	34	Master	Advertising	9	Universiti Teknologi Malaysia
2.	Male	36	PhD	Advertising	14	Universiti Sains Malaysia
3.	Female	40	PhD	Marketing	14	Universiti Islam Antarabangsa
4.	Male	56	Master	Advertising	27	Director in TYCH Design & Advertising
5.	Male	57	PhD	Advertising	32	University of Udine, Italy
6.	Female	53	PhD	Video Production, Media & Broadcast Communication	31	University of the Philippines

As shown in Table 5.1, the experts represent different field of expertise from different academic institutions including local and international. This is important to establish reviews and comments. As for the educational background, one is a professor and one is a associate professor. The remaining two are PhD holders and two possesses master degrees and currently pursuing their PhD in advertising. This number met with requirement for experts in this study. Their experiences in the respective fields vary from 9 to 32 years. The age of experts varies from 34 to 57 which show the level of maturity in giving opinions and assessments. Hence, it is applicable to the review.

Expert 5 is a Professor from University of Udine, Italy who is an expert in Advertising. He previously served as a Adjunct professor of Advertising for the Public Relations Degree programme of the University of Udine in Gorizia. He also served as a creative and strategic consultant for TREN Marketing & Advertising in Milan where he developed strategies and creative concepts for the agency's main clients: Snaidero, Vodafone, Zanussi Electrolux, Trudi.

Another international expert involved was Expert 6 which is an Associate Professor from University of Philippines. She is an expert in Video Production, Media Studies and Broadcast Communication. Her specialization areas are also Film, Documentary, Cinematography, Communication Studies, Communication Planning and Photography.

It is important for this study to have experts not only from academic background but also from the industry to gain input from the industrial perspectives. Accordingly, Expert 4 who is a Director in TYCH Design & Advertising Associate Sdn Bhd for 27 years approached. His company is a creative design agency with over 20 years of experience serving a multitude of clients.

He also works with both multi-national companies and homegrown establishments, his company develops pragmatic solutions to unique marketing challenges and help clients create and communicate a distinctive corporate image and expertise in visual communication includes Advertising and Promotional.

The other experts are local and most of them are experts in advertising, and marketing. Reviews and comments from the international, local and industries experts who are experts in materials related to impulse purchase are important in confirming the elements in the proposed model. It is also because, they have advance experiences regarding advertising to guarantee no elements is missing.

Data gathered from the expert reviews are tabulated in Table 5.2. The data are recorded as in frequency of responses to the questions asked in the instrument.

Table 5.2

Frequency of Responses from Expert Review

No.	Items	Frequency (n=6)		
		Need further detail explanations	**Need some explanations**	**Is easy to understand**
Q1.	Layer of technology			
	Physical	0	2	4
	Interaction	0	0	6
	Style of presentation	1	2	3
Q2.	Development Process			
	Pre-production	0	0	6
	Production	0	2	4
	Post-production	1	2	3
Q3.	STRATEGY			
	Information			
	Show product characteristics	0	1	5
	Price descriptions	1	0	5
	Include product distribution	1	0	5
	Influence			
	Show product quality	0	2	4
	Sales promotion	1	0	5
	Free gift and rewards	1	0	5
	Emotion			
	Happiness	0	0	6
	Trust	0	0	6
	Self-expression	2	1	3
	GENERAL TACTICS			
	Attention			
	Brand identifiers	1	1	4
	Slogans & taglines	1	0	5
	Credible spokesperson	0	2	4
	Message			
	Powerful text	1	1	4
	Simplicity and clarity	1	2	3
	Consistency	0	0	6
	Acceptance			
	Demonstration product problem and solution	0	3	3
	Data evidence or testimonial	1	1	4
	Endorsement by celebrities, expert or customer	0	2	4

Table 5.2 continued

	MEDIA SPECIFIC TACTICS			
	Still Media			
	Headline	1	2	4
	Pictures	0	2	4
	Text	1	2	4
	Motion Media			
	Scenes	1	2	3
	Voices	0	2	4
	Animation	1	2	3
	Graphic	1	2	3
	Music and sound	0	2	4
	Video	1	2	3
	Transition	0	3	3
	Effect	1	2	3
	Audio	1	2	3
	Interactivity			
	Navigation	1	1	4
	Interaction	1	1	4
	Remote control	1	2	3
	Hand gesture	1	1	4
	Face recognition	1	1	4
	Touch screen	0	1	5
		Yes	No	
Q4.	The connections and flows of all the components are logical.	5	1	
Q5.	The model is usable to the development of interactive advertising.	6	0	
Q6.	The model is useful for the implementation of iTV advertising.	6	0	
Q7.	Overall, the conceptual model is readable / feasible.	6	0	

Note. Q1 = Question 1

As shown in Figure 5.1, Figure 5.2, Figure 5.3, Figure 5.4, Figure 5.5, and Figure 5.6 majority of the experts agreed that the proposed conceptual design model contains relevant elements, exhibit logical flows, usable and readable. However, for each impulse purchase element, at least half of the experts think that the impulse purchase elements used in the conceptual design model need to have better clarifications because some of the impulse purchase elements have the same meaning. In addition, further comments from the experts were also recorded during the reviews.

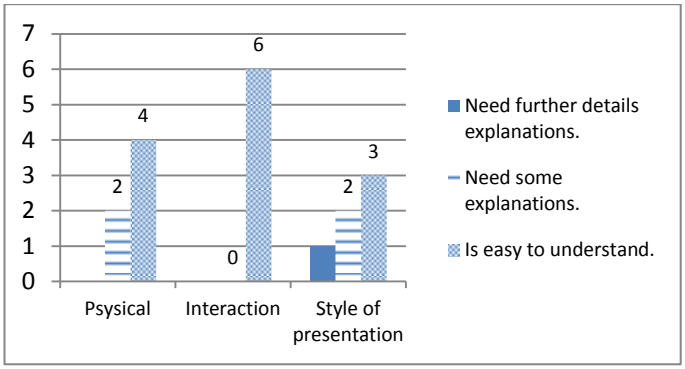


Figure 5.1. Clarity of terminology (layer of technology)

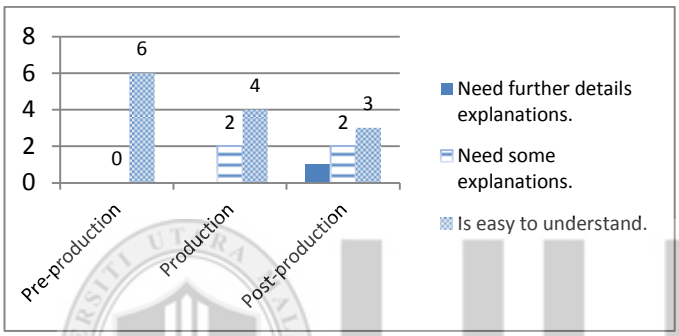


Figure 5.2. Clarity of terminology (development phases)

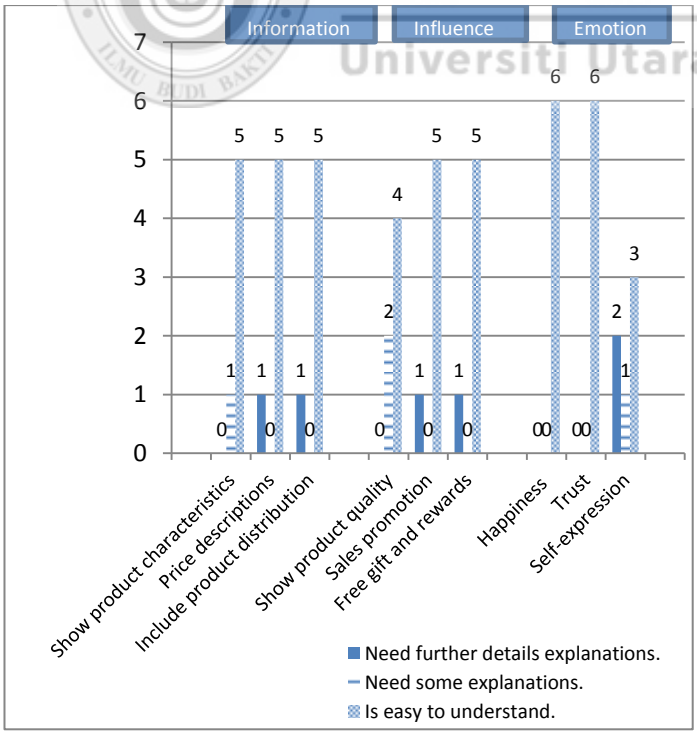


Figure 5.3. Relevancy of proposed elements on impulse purchase (Strategy)

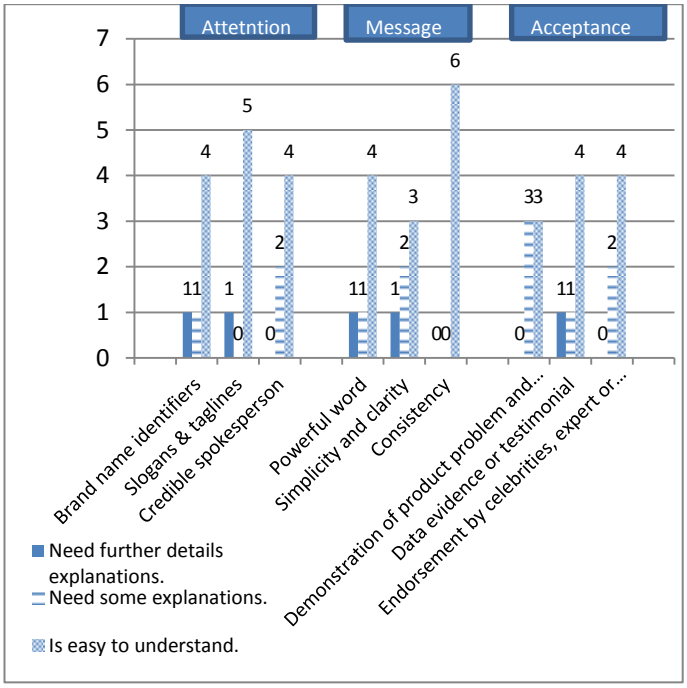


Figure 5.4. Relevancy of proposed elements on impulse purchase component (General Tactics)

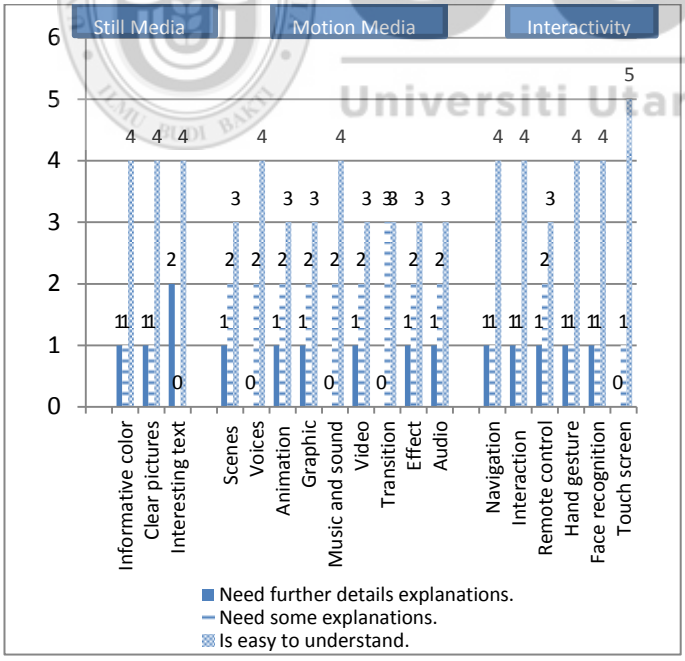


Figure 5.5. Relevancy of proposed elements on impulse purchase (Media Specific Tactics)

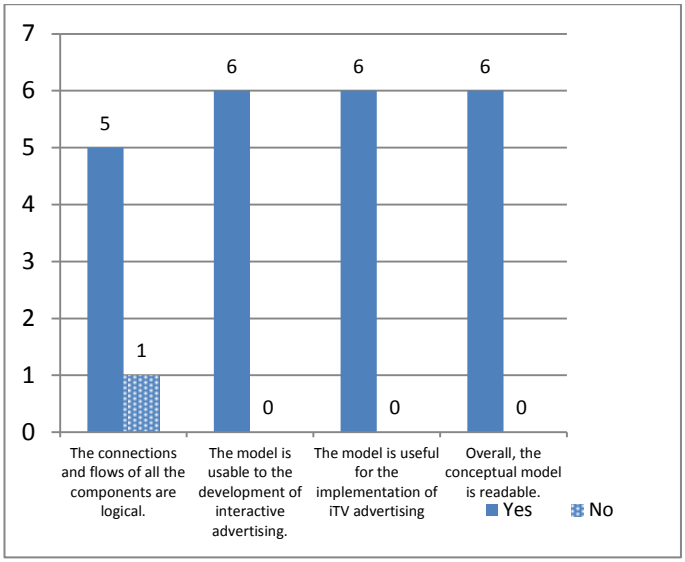


Figure 5.6. The flow, usability, usefulness and readability of the conceptual design model

Table 5.3 displays the comments from all of the experts. Some of the comments were rephrased from the original versions to convey clearer meaning.

Table 5.3

Further comments from the experts

Experts	Comments
Expert 1	1) Some of the sequence in the development process could be improved. 2) The tactics are well stated but the impulse purchase elements needs to further understood. 3) Please also refer to S-O-R framework and look back on theories. 4) Expert 1 gives suggestion to add some elements in the model; scripts; visual copy; visual appeal; and instant gratification.
Experts 2	1) All the materials are in the chart. The flow might need some readjustment. 2) The development process is clear and useful as a guide. 3) The model is comprehensive. 4) The details provided are useful to increase impulse purchase. 5) The use of word for self-expression might be changed to self-belonging or self-identity.

Table 5.3 continued

Expert 3	1) The basic ideas of this model are clear to show the advertising designers to create or to develop a creative or persuasive message (advertising message to influence customer/consumer). 2) Need to add rational or logical appeal instead of emotional appeal. 3) The voice element could be narrator.
Experts 4	1) The model is good and consists of general knowledge of iTV advertising. 2) Need to narrow down some more deep study especially the strategy part. 3) This is the advertising in this social media era, I think with careful planning and research you are moving into the right direction. 4) Personally I think the emotional part is lacking, you must create a strategy of 'want' and 'must buy' from the audience. 5) Focus on the basic one; use the right headline; the honest message; know the target audience and their purchasing; pattern, study how your competitors are doing and their strategy; then finally using the right media.
Expert 5	1) Need to look on the several factors to be considered such as psychological factors, technical factor, and external factor. 2) Measuring the impulse purchase effect on a single medium/channel might need detail explanation. 3) Your model is interesting and gives benefit for advertising designers to evaluate the creativity of advertising before it goes on air. 4) Give clear definition on impulse purchase that is suitable for this study. 5) Maybe your project could lead to a successful cross-culture or international academic cooperation.
Expert 6	1) Need to give explanation on pre airing. 2) The model is readable and feasible. 3) Need to include the explanation on each item to be more comprehensive. 4) The explanation can be expressed in a matrix for readability. 5) The model should not target the specific motive for the study. 6) The model should explain the phenomena of impulse purchase.

From the comments as depicted in Table 5.3, it can be concluded that the majority of the experts agreed that the model is useful to guide advertising designers to develop

iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. However, half of the experts inquired for clearer explanations on the meaning of impulse purchase and asked for elaboration for each impulse purchase element in the conceptual design model. Also, three of them gave advice and suggestion to add some words for the existing impulse purchase elements. They also suggested ways to improve the components in conceptual design model of iTVAdIP.

5.2.1 Refinement of Conceptual Design Model

Regarding comments on the **development process**, majority of the experts agreed that the development process is clear and useful as a guide for advertising designers to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. However, there are some comments and suggestions from Expert 1 and Expert 2 to improve the sequence in the development process. They gave suggestion to add elements under pre-production phase which are "Analysis on how competitors are doing and what are their strategies" and "choose the right media". Those elements were added under the preproduction phase for the development process. In addition, Expert 6 gave suggestion to elaborate the element of pre airing under post-production phase, however the detail explanations on pre airing are already described clearly in chapter 4.

This study also focuses on the **layer of technology** that explains how iTV advertising works. Majority of the experts could understand the meaning of physical and interaction elements very well. However, some experts need clearer explanations

on the style of presentation element. Detail explanations on styles of presentation element is as described clearly in chapter 4.

The model also includes the most important element which are **impulse purchase elements**. This element will guide advertising designers to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. Regarding comments on the impulse purchase elements, some experts gave suggestions on "need to better understand the elements of impulse purchase" (Expert 1), "should give clearer explanation on impulse purchase definition" (Expert 5) and "should explain in details the phenomena of impulse purchase" and must include explanation for each element of impulse purchase which can be expressed in a matrix for readability and comprehensiveness (Expert 6). However, all of the comments regarding clear explanation on impulse purchase and the elaboration for each impulse purchase element already described in detail in chapter 4.

Interestingly, Expert 2 also pointed out her concern about the elements under motion media. She gave suggestion to group the elements under motion media into four categories which are video (scene); audio (voice, music, sound); animation (effect, transition), and graphic to make it clearer and easy to understand. This study agrees with the suggestion. Furthermore, two experts gave suggestion to add existing impulse purchase elements term such as voice for narrator, scene or storyline, interactive visual under motion media; honest message under message; used the right headline under still media; and interactive interaction under interactivity. So to improve comprehensiveness, this study agrees to all the suggestions from the

experts. In addition, this study also counters the comment about the use of "self-reflection" word to change to "self-identity" to be more understandable.

In addition, a comment from Expert 4 states, "…you must create a strategy of 'want' and 'must buy' from the audience." All of the impulse purchase elements in the conceptual design model already cover the strategy of 'want' and 'must buy' from the audience. For example, emotion elements in the model meant for invoking the audience's emotion of wanting to buy certain products. As a result, the customers are emotionally motivated or driven to make certain purchases. Putting trust and ensuring buyers' happiness are said to be a positive strategy. Meanwhile, the strategy of 'must buy' mostly refers to the elements that strengthen the consumer benefits rather than product features. Data evidence and testimonial are the important essential to persuade consumers through sharing experience on benefits of using such product.

Additionally, one of the experts also pointed out her concerns about adding rational or logical instead of emotion appeal. The rational or logical appeal is mostly concerned on the logical and rational minds of consumers by highlighting the benefits of owning the product. Therefore, the elements like show the product quality and product characteristics are the examples of rational or logical appeal which are already listed in the proposed model.

To answer the comments and suggestions regarding **flows and connection** from Expert 2 "all the important materials and elements are in the chart. However, the flow and connection might need some readjustments", which means that, the main

component (impulse purchase components, layer of technology and development process) need to be rearranged to make it clearer and easy to understand. Therefore, taking this into account arrows were added to the logical flow so as to avoid confusion.

Comments by Expert 3 and Expert 1 about **advertising theories** "refer to S-O-R framework" were also addressed. So, the S-O-R framework theory was added to the proposed model. Based on the explanations above, the conceptual design model for iTVAdIP is revised and redesigned to give better impression and enhance readability of the model. Table 5.4 show the modification made to the proposed model. The proposed model before its refinement and after refinement is as illustrated in Figure 5.7 and Figure 5.8. Besides that, Figure 5.9 show the clearer and actual conceptual design model of iTVAdIP.

Table 5.4

The Modification Made on the Proposed Model

No	Before Refinement	After Refinement
1.	The flow and connection is a bit confusing.	The flow and connection rearranged to make it clear and easy to understand.
2.	No elements added under pre-production	Two elements were added to improve the sequence in the development process.
3.	Sefl reflection word a bit difficult to understand	Self-reflection change to sel-identity to be more understandable.
4.	Powerful text not enough strength	Powerful and honest is explained in understandable sentences.
5.	Interaction is much simple word	Interactive interaction is explained in understandable sentences.
6.	Headline term is difficult to understand	Use the right headline is explained in understandable sentences.
7.	The element under motion media is unstructured	The elements under motian media were grouped into four categories; video, audio, animation, and graphic to make it clearer and easy to understand.
8.	No S-O-R theory under advertising theory.	The important theories in the model are added.

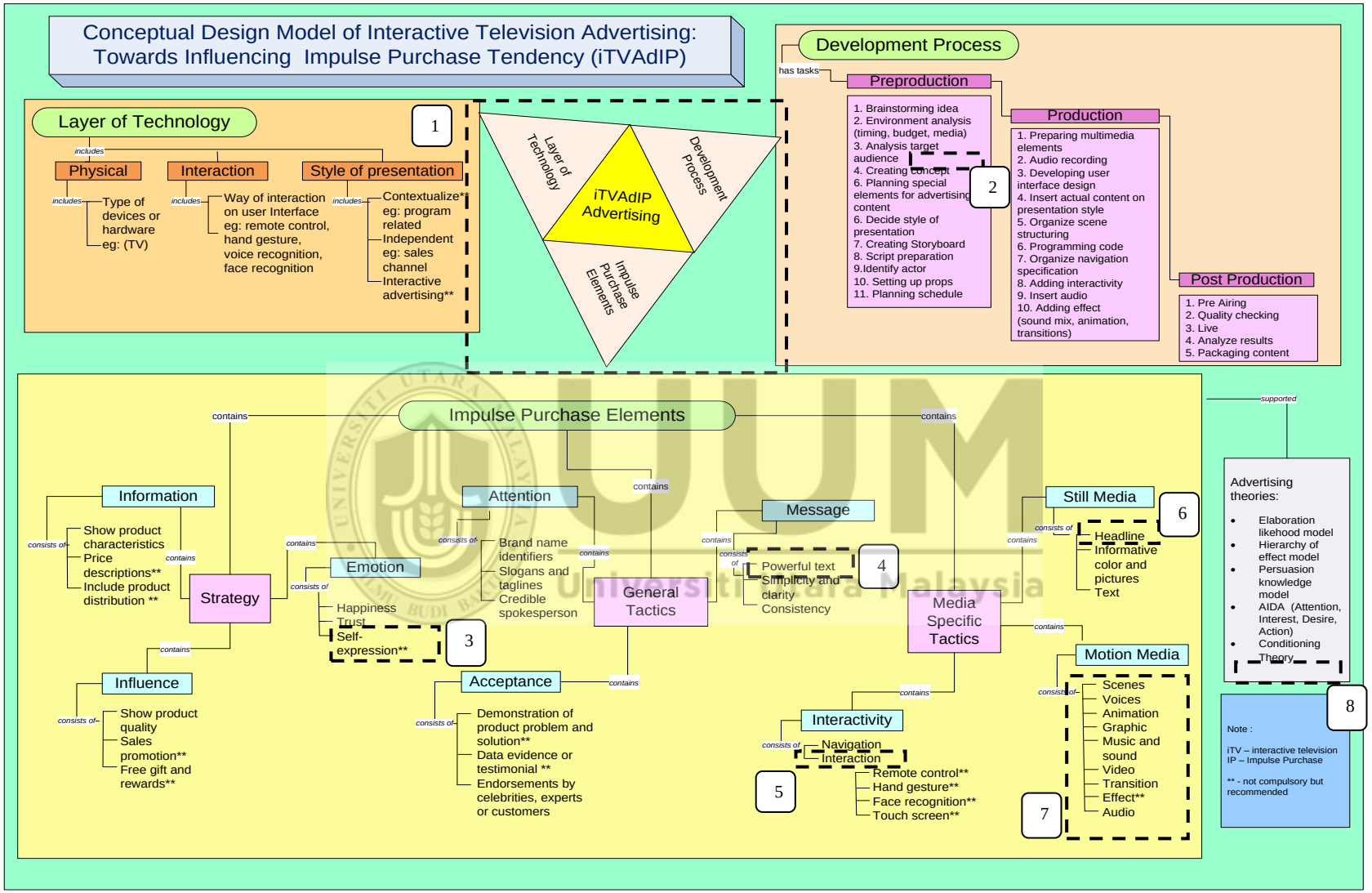


Figure 5.7. The Conceptual Design Model of iTVAdIP Before Refinement

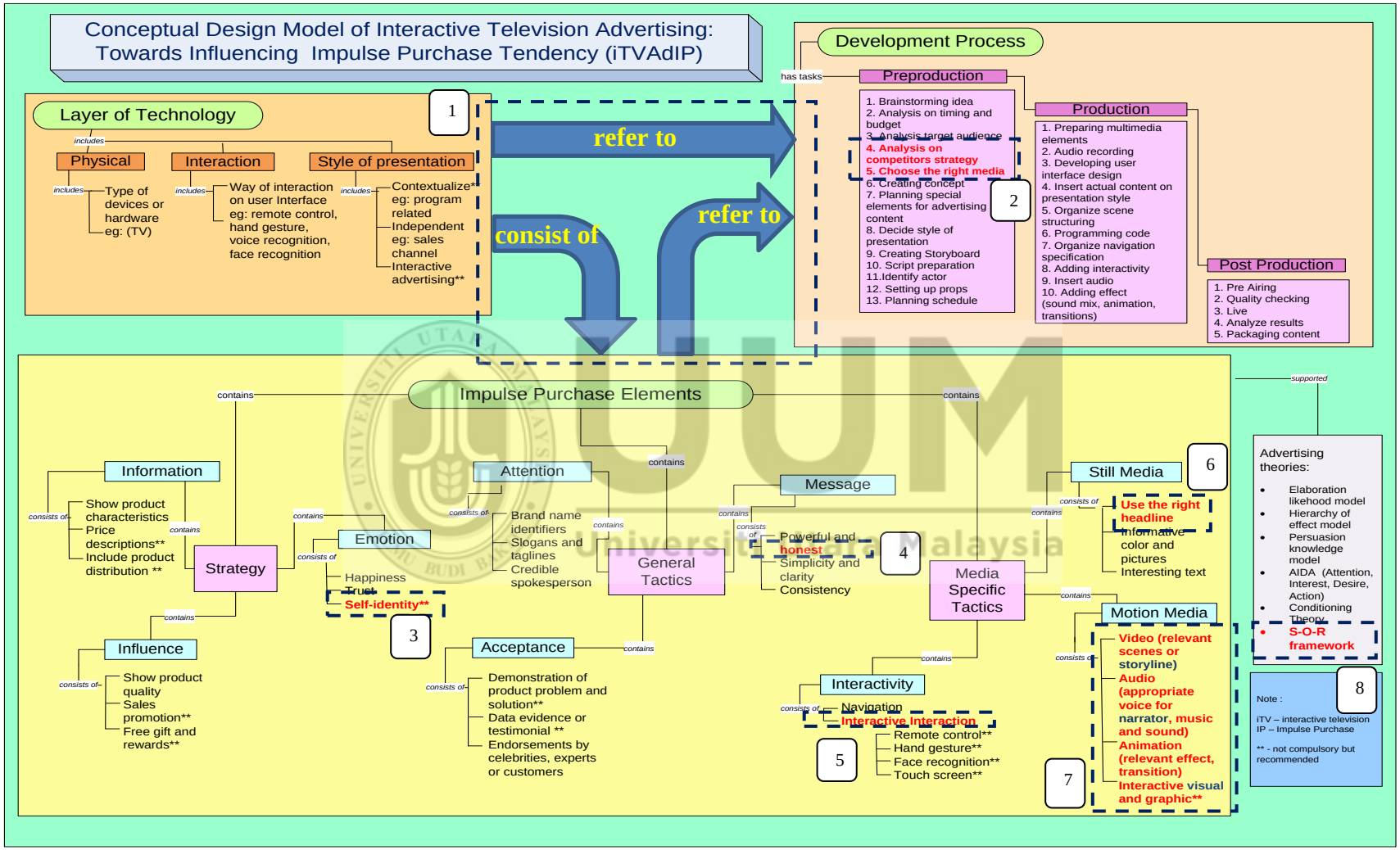


Figure 5.8. The conceptual design model of iTVAdIP after refinement

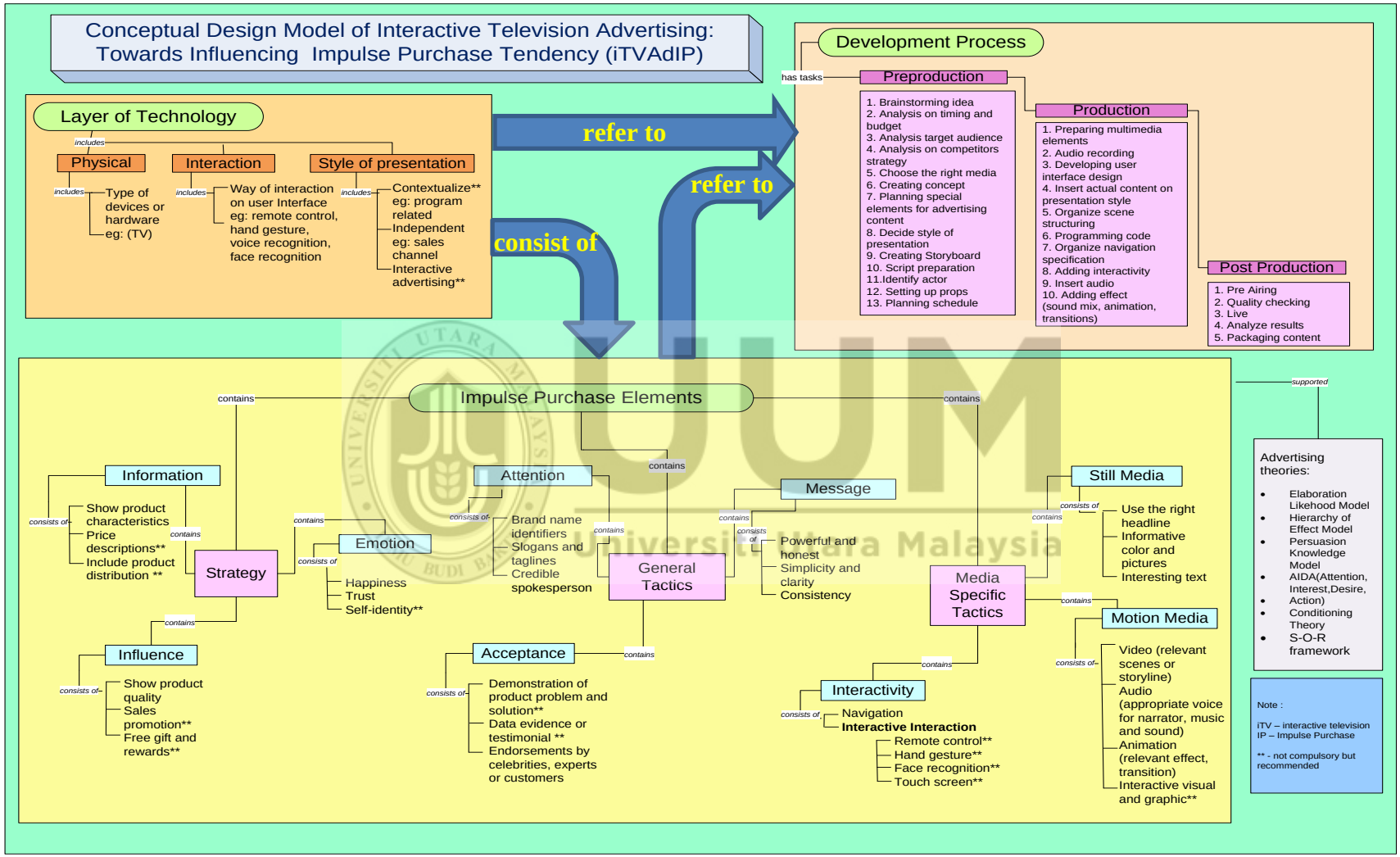


Figure 5.9. Conceptual Design Model of iTVAdIP

5.3 Expert Review of iTVAdIP Conformity Tool

5.3.1 iTVAdIP Tool Development

A prototype named as iTVAdIP conformity tool was developed. The purpose is to assist advertising designers to develop iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. The tool allows the advertising designers to measure whether their designs conform to the proposed conceptual model.

A. Tool Development Approach

(i) Confirm User Requirements

a) **Analysis of target user who can use the tool**

– the target users were identified who are advertising designers.

(ii) System Analysis

a) **Planning special elements for conformity tool**

- decide the special elements such as the font style, the image of navigation and etc.

b) **Analysing impulse purchase elements**

– the impulse purchase elements were identified based on content analysis, comparative analysis, and expert consultation.

c) **Creating concept**

– identify the concept that is suitable for the conformity tool development.

(iii) System Design

a) Creating Storyboard

– draw detail storyboard on how the conformity tool will work.

b) Developing user interface design

– develop user interface using Adobe Photoshop.

c) Inserting actual content on the system

– insert the impulse purchase elements as contents for the conformity tool.

d) Organizing navigation specification

– insert navigation to navigate to another page.

e) Adding interactivity

– adding interactivity such as pop up window that will be appear if user click on textbox to know more about the explanation of each elements.

(iv) Programming

a) Programming code (for calculation)

– using java programming code to do the calculation to determine the percentages of impulse purchase tendency on advertising design. The calculation made was based on the assumption (Armstrong, 2010), that the more impulse purchase elements applied in advertising design, the more interactive advertising will be and it could influence more impulse purchase tendency. In addition, all the impulse purchase elements have the equal weightage (Armstrong, 2010) with condition that the focal point for advertisement to be evaluated should be the interactive advertisement.

The calculation to evaluate the percentages of impulse purchase conformity on advertising design is as depicted in Table 5.5.

Table 5.5

Determine Percentages of Impulse Purchase Tendency

No.	Range	Category
1.	25-30	Highest Level of Impulse Purchase Advertising Design
2.	19-24	High Level of Impulse Purchase Advertising Design
3.	13-18	Moderate Level of Impulse Purchase Advertising Design
4.	07-12	Low Level of Impulse Purchase Advertising Design
5.	01-06	Lowest Level of Impulse Purchase Advertising Design

(v) Testing

a) **Quality checking**

– to check the functionality of the prototype of conformity tool.

(vi) Implementation

a) **Used by advertising designers**

– the conformity tool was used by advertising designers.

(vii) Use and Evaluation

a) **Conformity tool evaluation**

– the conformity tool was used by advertising designers in order to evaluate the percentages of impulse purchase conformity on advertising design.

5.3.2 iTVAdIP Conformity Tool Screens

At first, the tool starts with an introduction which shows the log in page. Next, it displays the impuse purchase elements by categories which are strategy, general tactics, and media specific tactics. After that, the users (i.e advertising designers) are required to select which impulse purchase elements to measure. In addition, the users could see the detail explanation for each of the impulse purchase elements. After the users make the selection, the prototype will calculate and show the percentages of impulse purchase tendency on the advertising design.

First, this conformity tool requires a user to log into the system (Figure 5.10).

Figure 5.10. Login Interface

Next, the system will display the three main categories, which are strategy, general tactics and media specific tactics. The strategy sections is divided into three areas; (1) information, (2) influence and (3) emotion as shown in Figure 5.11.

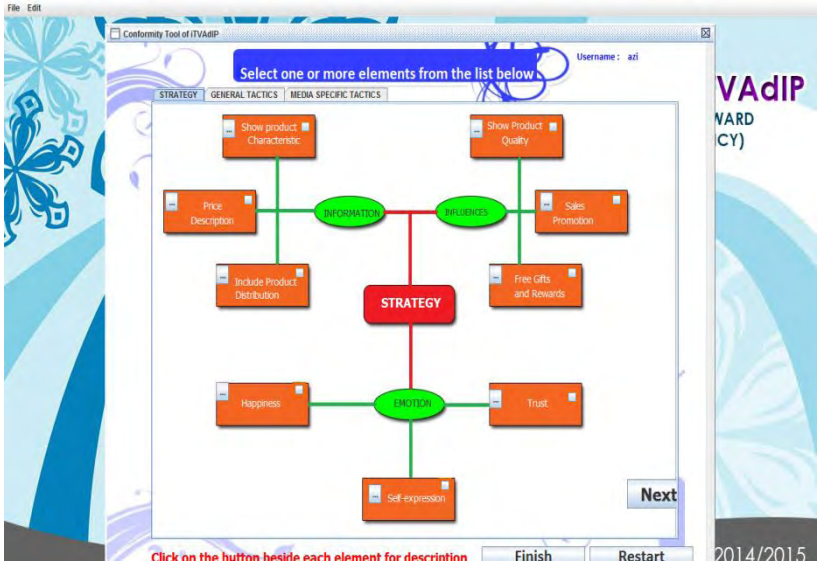


Figure 5.11. Strategy Elements

Whereas Figure 5.12 shows the general tactics section, which consists of (1) attention, (2) message, and (3) acceptance.

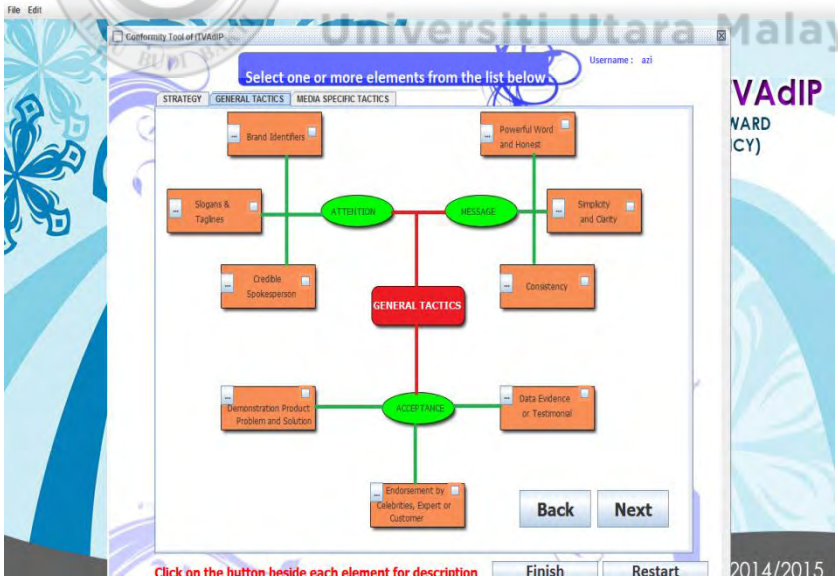


Figure 5.12. General Tactics Elements

The third section is the media specific tactics, which consists of; (1) still media, (2) motion media, and (3) interactivity (Figure 5.13).

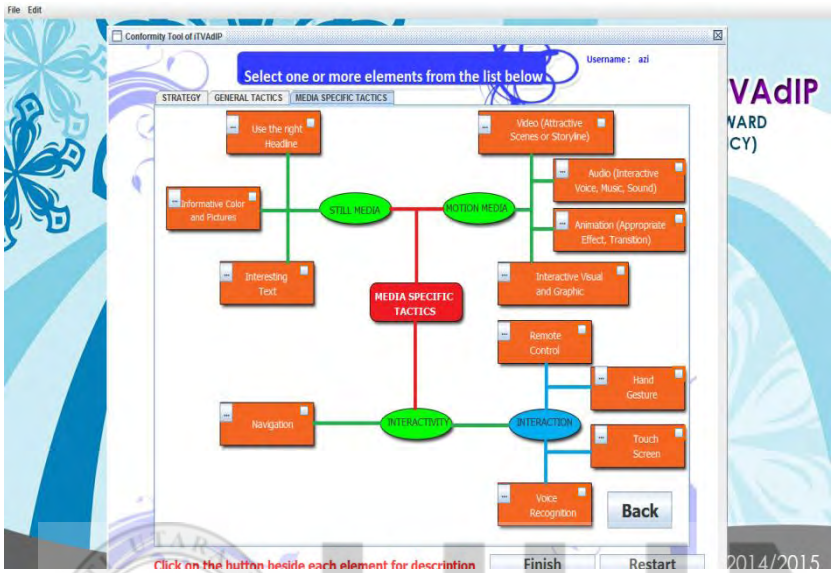


Figure 5.13. Media Specific Tactics Elements

Furthermore, if users need to know more explanation for each element, they could click the tiny square next to each element and the explanation of the element will be displayed (as shown in Figure 5.14).

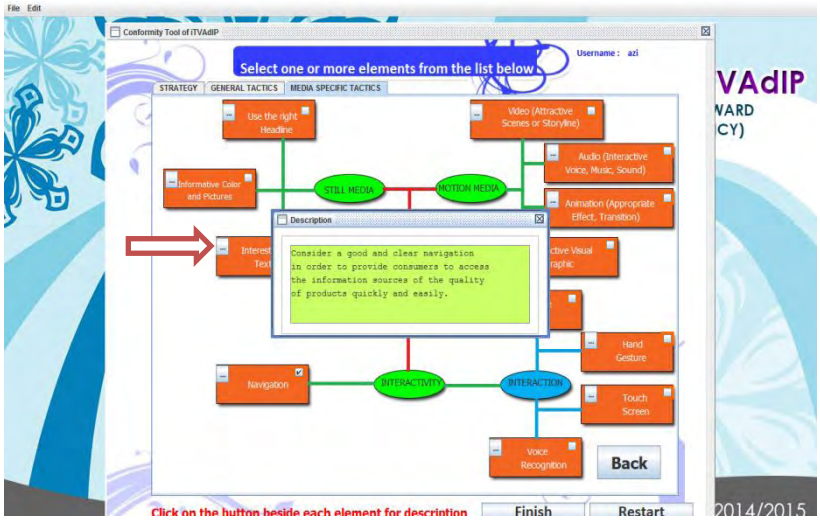


Figure 5.14. Explanation of Elements

Moreover, if the users apply any impulse purchase elements on their advertising design, they need to tick on the tiny square besides each element (as shown in Figure 5.15).

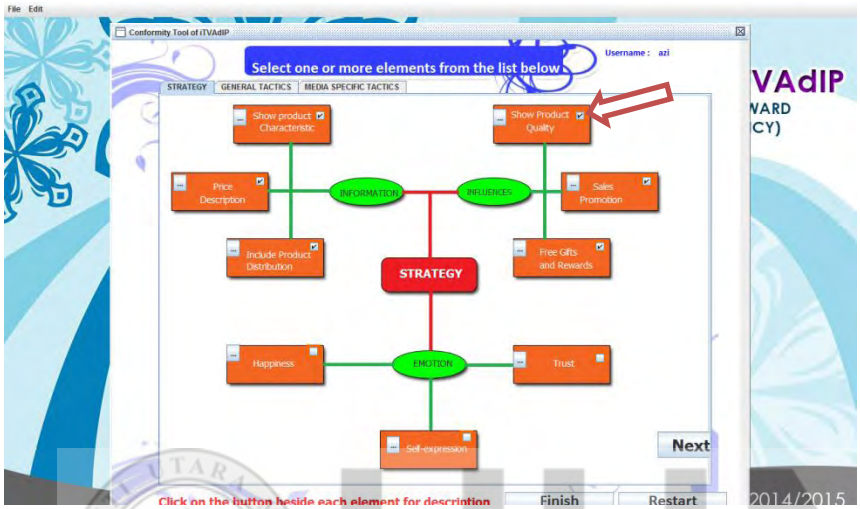


Figure 5.15. The elements selected by click on checkbox

After completing the list checking, the system will show the result of percentage of impulse purchase confomance on advertising design (as depicted in Figure 5.16). The system will calculate how many elements were applied in the advertising. If more elements applied, the higher the estimated impulse purchase confomance will be. The higher the confomance percentage, it is assumed that the greater the influence on impulse purchase tendency.

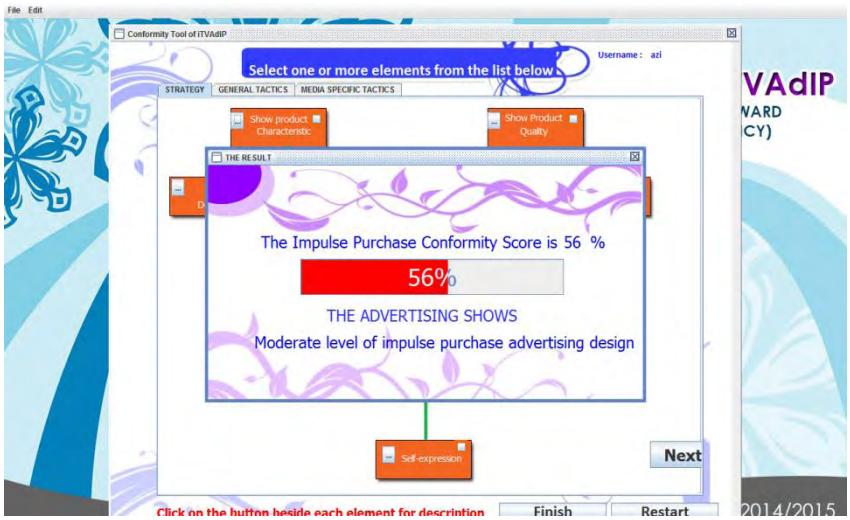


Figure 5.16. Result Interface

The conformity tool was validated through expert review method. Six experts went through the review process and they were chosen based on the following criteria: (1) they possess qualifications in advertising, marketing or related areas, and/or (2) they have been working, studying, researching, or teaching in advertising/marketing area for at least five years.

During the review, the experts were asked whether they agree or not with the following statements, (1) the conformity tool is very helpful to advertising designers, (2) the conformity tool helps to increase the interactivity of the advertising design, (3) the conformity tool helps to increase the perceived influence of the advertising design, and (4) the conformity tool helps to increase the impulse purchase tendency of the advertising design.

Figure 5.17 shows the analysis from the experts' feedbacks.

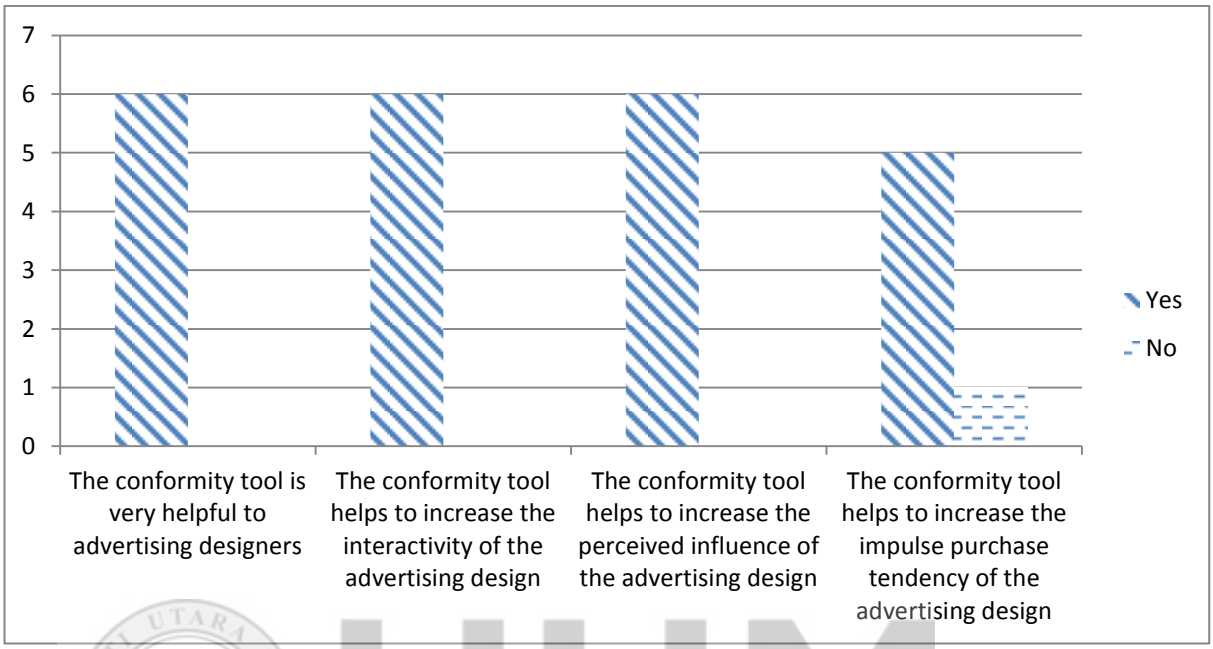


Figure 5.17. Analysis summary from experts review

From the analysis summary as depicted in Figure 5.17, majority of the experts agreed that the conformity tool is very helpful to the advertising designers (100% agreed); can help to increase the interactivity of advertising design (100% agreed); can help to increase the perceived influence of advertising design (100% agreed); and also help to increase the impulse purchase tendency of the advertising design (83.34% agreed).

In addition, experts were also encouraged to give their additional comments about the conformity tool. Table 5.6 displays the comments from all of the experts. Some comments were rephrased from the original versions to convey clearer meaning.

Table 5.6

Comments from the Experts

Expert	Comments
Expert 1	1) The conformity tool is very helpful to help advertising designers to increase the interactivity and persuasiveness of the advertising design. 2) The conformity tool can increase the impulse purchase level of the advertising design.
Experts 2	1) It is a good study because it focuses on one part of the consumer behaviors that rarely been studied in developed countries like US. In US, the main focus on the profit. 2) This study also looks into buying culture among Malaysian.
Expert 3	1) The elements in the conformity tool should be further explained to avoid vagueness. 2) The conformity tool could be improved by looking into loyalty perspectives besides looking on impulse purchase aspect.
Experts 4	1) I would suggest an ideal number of 5-6 users (i.e advertising designers) to use the conformity tool to evaluate one advertising and then calculate the average result for best result.
Expert 5	1) The conformity tool could have been better with insertion of images/symbols for relevant elements to make them clearer and easier to understand. 2) The conformity tool provides excellent guide for advertising designers especially the beginner as it helps them learn how to create effective advertising.
Expert 6	1) Overall, the conformity tool is easy to understand but might need more explanations for some elements. 2) The conformity tool could have been better with insertion of images/symbols for relevant elements to make them clearer and easier to understand.

From the comments as depicted in Table 5.6, it can be concluded that majority of the experts inquired for clearer explanations of some elements in the conformity tool. Besides that, two of the experts suggested the inclusion of images or symbols to some elements to make it recognizable. Also, three of the experts suggested ways to improve the performance of the conformity tool.

In addition, this study agrees with the effect of interactive advertising in making the consumer to buy impulsively. Hence, three categories of persuasive advertising from (Armstrong, 2010) are studied and enhanced as the main reference to conform the impulse purchase level in iTV advertising. By developing this application it will not only helps advertising designers to create advertising with impulse purchase elements but it can also be a guide to the new potential advertising designers to learn to design such advertising.

Moreover, findings from the expert review shown that majority of the experts agreed and perceived the conformity tool as useful to the advertising designers; help to increase the perceived influence of the interactive advertising design; and help to increase impulse purchase tendency towards advertised product.

5.4 Summary

This chapter contains detailed descriptions of the activities involved in validating the proposed conceptual design model for iTVAdIP. It starts with the list of expert reviews in validating the proposed conceptual design model. Also, the instrument and procedures for the expert review is described and the analyses for the expert review are tabled. Lastly, this chapter also describes the development of conformity tool and the result on expert reviews of the conformity tool.

CHAPTER SIX
ANALYSIS OF PERCEIVED INFLUENCE

6.1 Overview

In chapter 2, the research problems are identified through reviews of concepts, theories and technologies pertinent to interactive advertising and iTV advertising. Next in chapter 4, a conceptual design model for iTVAdIP was constructed after a substantial amount of consideration on related components; i.e. impulse purchase components, layer of technology, and development process. In achieving the fourth objective of this study, a perceived influence of the conceptual design model of iTV advertising was measured by potential advertising designers. Next sections of this chapter discuss the survey procedure, analysis of data and hypothesis testing.

6.2 Survey: Measuring Perceived Influence

In measuring the perceived influence of the proposed model, a survey was carried out. A questionnaire was constructed as the main instrument for this survey. Chapter 3 described in details the process of constructing the questionnaire of perceived influence.

The main study was carried out in a controlled setting where tasks were purposely designed for the survey and subjects were sampled from the main population. The demographic background of the samples and the general findings from the survey are discussed first.

6.2.1 Demographic Background

There were 37 samples involved in the survey. Table 6.1 summarizes the recorded data of the demographic background of respondents.

Table 6.1

Demographic Background of Respondent

Gender	**Frequency**	**Percentage**
Male	8	21.60
Female	29	78.40
Total	37	100.00

In the survey, samples were gathered through purposive sampling. The sample is from the potential advertising designers. This criteria provides the desired information in measuring the perceived influence of conceptual design model of iTVAdIP. As shown in Table 6.1, 29 samples were female, representing 78.4% of the total. Another 8 (21.6%) were male.

6.2.2 Survey Design

As described in earlier chapter (Chapter 3), the survey involves the following procedures, apparatus and techniques as shown in Table 6.2.

Table 6.2

Summary of Procedures, Apparatus and Data Collection Method of the Survey

Survey	Procedure, Apparatus and Data Collection Method
Procedure	• Samples were potential advertising designers who were assigned to develop interactive advertising. • Control: conditions for each respondent during the survey were ensured fully controlled; avoid disadvantages caused by factors such as application failure, noise and venue was booked prior to the experiment. • Flow: designer and expert assess the impulse purchase elements using conformity tool. • Then the researcher briefly explained the iTVAdIP design to respondents. • After that, three samples of videos that contain relevant elements (remote control, hand gesture and touch screen) was showed to the respondents. • Later the respondents answered the questionnaire. • Lastly, an interview was conducted. • The survey took about two hours, depending on the respondents' readiness to proceed.
Apparatus	• Conformity tool. • Questionnaire. • Pencil, pen, eraser, blank papers (for note taking).
Data collection	• Respondent did think-aloud procedure. • Respondents answered the questionnaire. • Respondents were interviewed.

6.3 Samples of Advertising Made By Respondents

Figure 6.1 until 6.3 show the samples of advertising made by the respondents categorised into 3:

a) The highest percentage (many impulse purchase elements applied on advertising design).

b) The moderate percentage (some of impulse purchase elements applied on advertising design).

c) The lowest percentages (a few impulse purchase elements applied on advertising design).

Figure 6.1. Highest percentage (The Luna Store)

Figure 6.2. Moderate percentage (Children Muslimah Clothes)

Figure 6.3. Lowest percentage (Sonali Clothes)

Based on the advertising made by respondents, it can be concluded that majority of the designs do not include interactivity elements (the consumers could not interact with the advertisement).

After the respondents developed the advertisings, a designer and expert assess their design using conformity tool.

Next, the respondents were shown the proposed conceptual design model of iTVAdIP (Figure 6.4).

Each element was briefly explained and particular attention was given on the impulse purchase interaction components, consisting of remote control, hand gesture, and touch screen elements. Then 3 samples of advertising interaction displaying the implementation of impulse purchase interaction were shown (refer to Figure 6.5, Figure 6.6, and Figure 6.7).

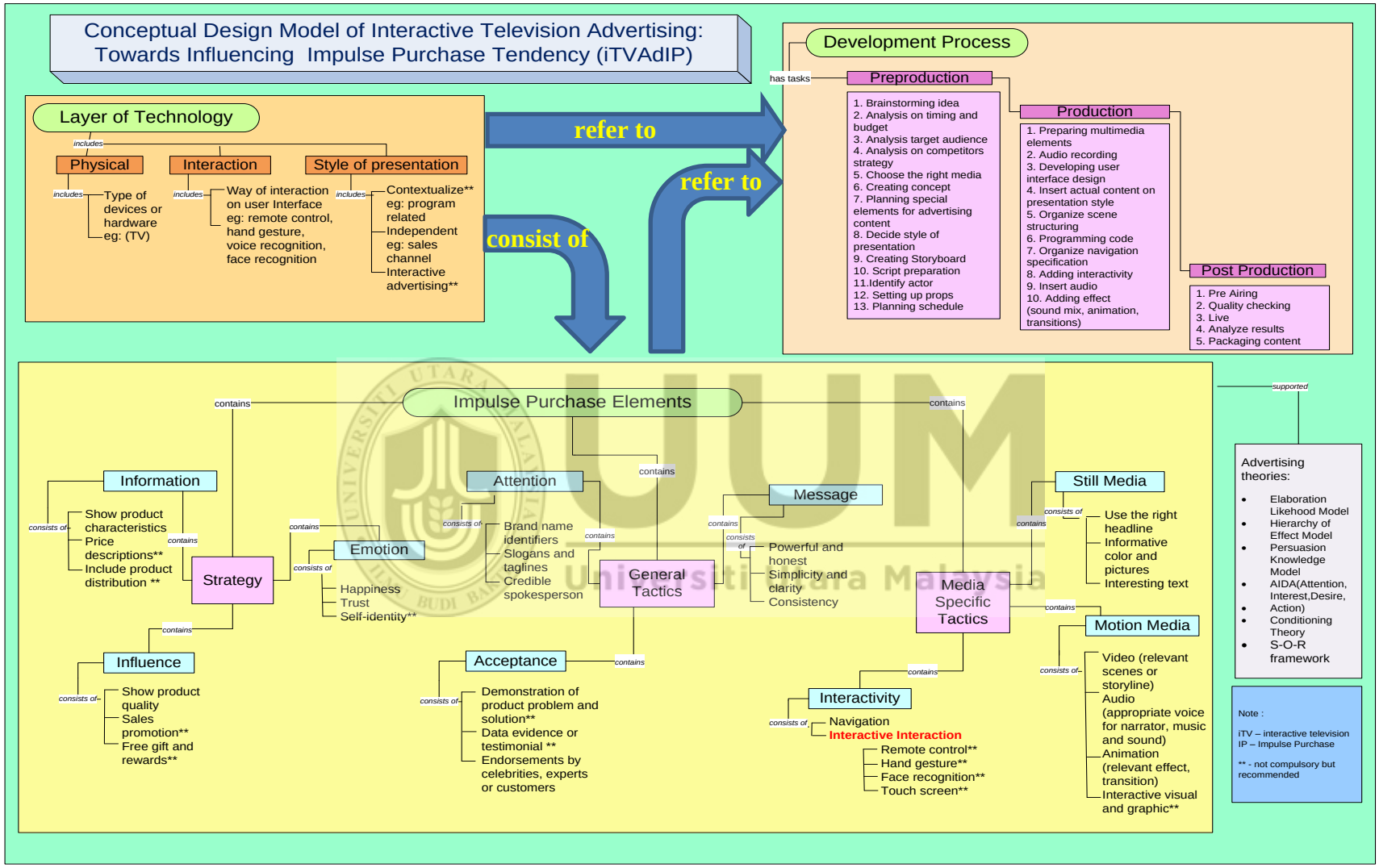


Figure 6.4. Conceptual Design Model of iTVAdIP

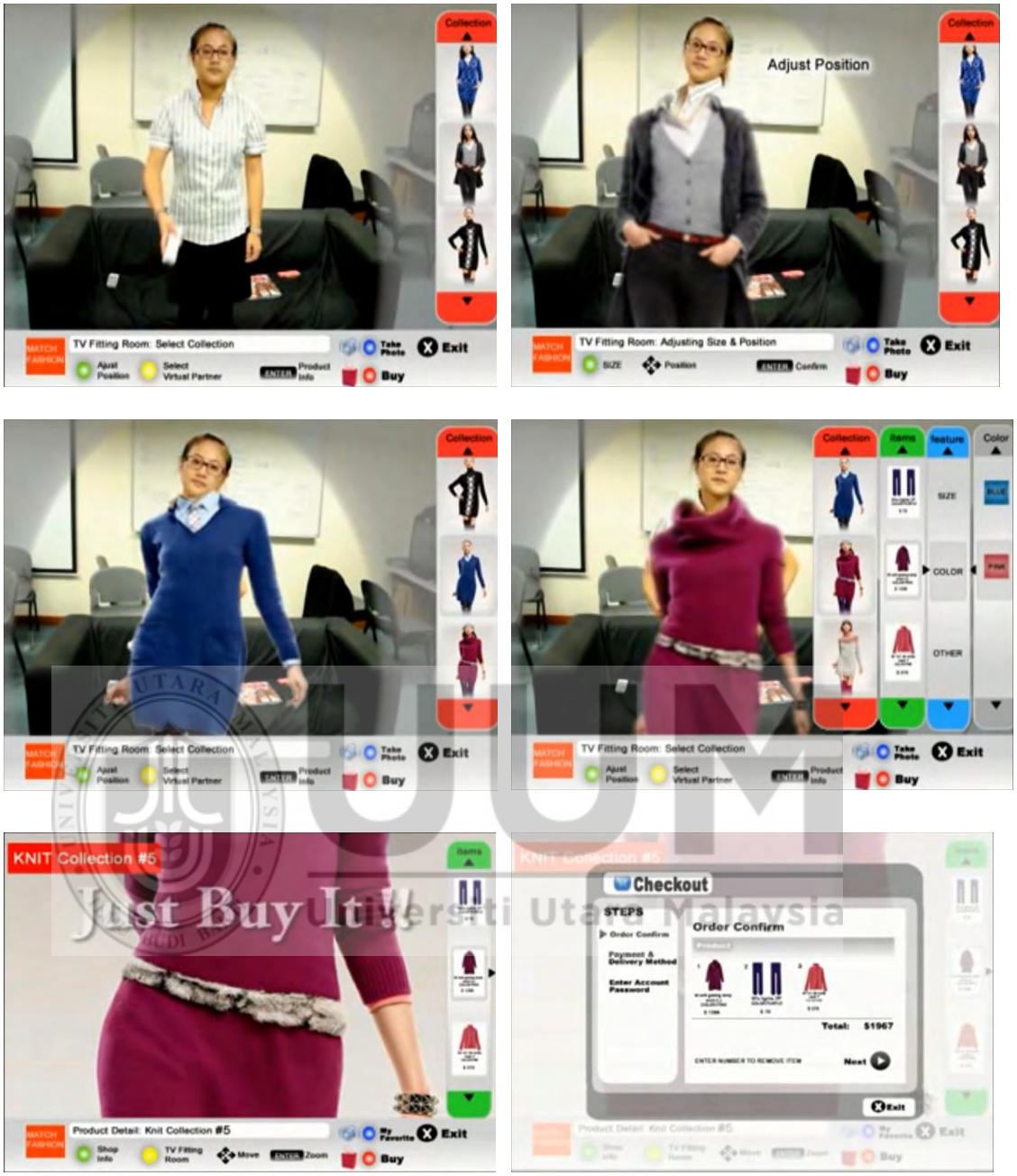


Figure 6.5. Sample of Interactive Interaction Using Remote Control

This sample shows that the interactive interaction using remote control. It allows consumers to purchase the product easily by clicking on remote control.

Figure 6.6. Sample of Interactive Interaction Using Hand Gesture

This sample shows that the interactive interaction using hand gesture. It enables consumers to purchase the product by using hand gesture only.

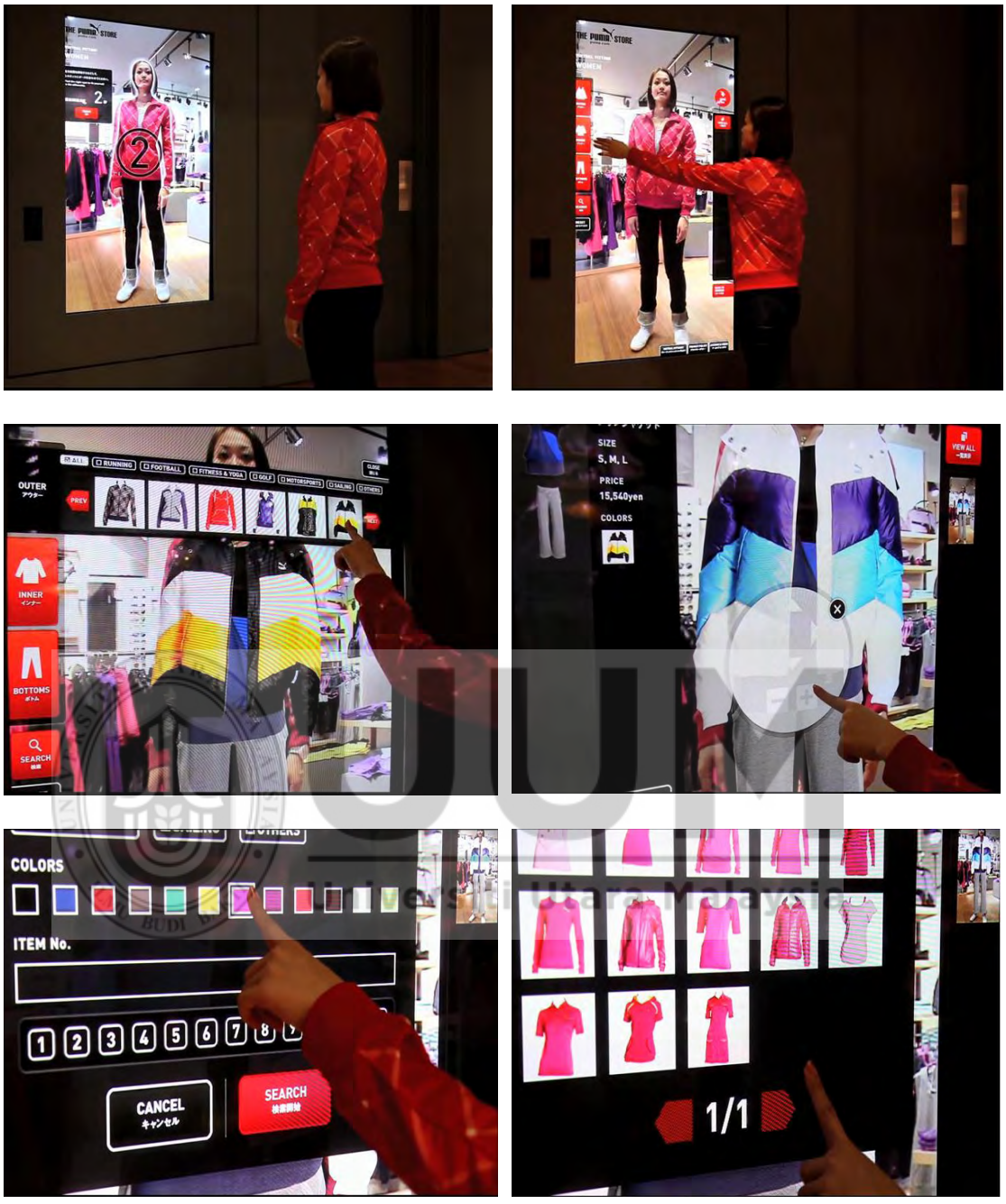


Figure 6.7. Sample of Interactive Interaction Using Touch Screen

This sample shows that the interactive interaction using touch screen. It allows the consumers to purchase the product by dragging, selecting, and pointing on the touch screen.

6.4 Findings on iTVAdIP Conformity Tool

Two sets of assessments were recorded, (a) by a designer (b) by an advertising expert. Table 6.3 show the results of the design assessments.

Table 6.3

The average percentages of impulse purchase elements for each design

Design by Respondent	The percentages of impulse purchase tendency of advertising design (assesessed by designer)	The percentages of impulse purchase tendency of advertising design (assesessed by an expert)	Average percentages
R1	20 %	16 %	18 %
R2	13 %	20 %	17 %
R3	40 %	36 %	38 %
R4	23 %	26 %	25 %
R5	26 %	26 %	26 %
R6	23 %	26 %	25 %
R7	30 %	33 %	32 %
R8	30 %	30 %	20 %
R9	23 %	16 %	20 %
R10	26 %	30 %	28 %
R11	23 %	23 %	23 %
R12	30 %	33 %	32 %
R13	30 %	30 %	30 %
R14	20 %	26 %	23 %
R15	36 %	33 %	35 %
R16	23 %	20 %	22 %
R17	23 %	26 %	25 %
R18	16 %	23 %	20 %
R19	30 %	33 %	32 %
R20	16 %	20 %	18 %

Table 6.3 continued

R21	30 %	26 %	28 %
R22	20 %	30 %	25 %
R23	23 %	20 %	22 %
R24	26 %	26 %	26 %
R25	23 %	23 %	23 %
R26	20 %	20 %	20 %
R27	36 %	33 %	35 %
R28	26 %	30 %	35 %
R29	13 %	23 %	18 %
R30	13 %	20 %	17 %
R31	16 %	20 %	18 %
R32	20 %	16 %	18 %
R33	26 %	30 %	28 %
R34	23 %	26 %	24 %
R35	30 %	30 %	30 %
R36	23 %	20 %	22 %
R37	30 %	26 %	28 %

Based on Table 6.3 it shows that most of the results of the design assessments are less than 40% (based on the average of conformity tool results). It could be concluded that majority of the advertisements created by the respondents are low in interactivity or do not have many impulse purchase elements that are perceived could influence impulse purchase tendency.

Table 6.4

Mean different between designer and expert.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Expert - Designer	.703	5.873	.966	-1.255	2.661	.728	36	.471

Based on Table 6.4, it shows that there is no significant different between the two means, indicating that the conformity tool can be utilised to assess the impulse purchase elements.

Mowever, from the analysis of the survey, it was found that 94.6% of subjects agreed that the model can guide advertising designers to create an iTV advertisements which embed elements that are perceived could influence impulse purchase tendency (refer to Table 6.5 and Figure 6.8).

Table 6.5

Statistics of subjects who agreed that the model can guide advertising designers to create iTV advertisements which embed elements that are perceived could influence impulse purchase tendency.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	94.60	94.60	94.60
	No	2	5.40	5.40	100.00
	Total	37	100.00	100.00	

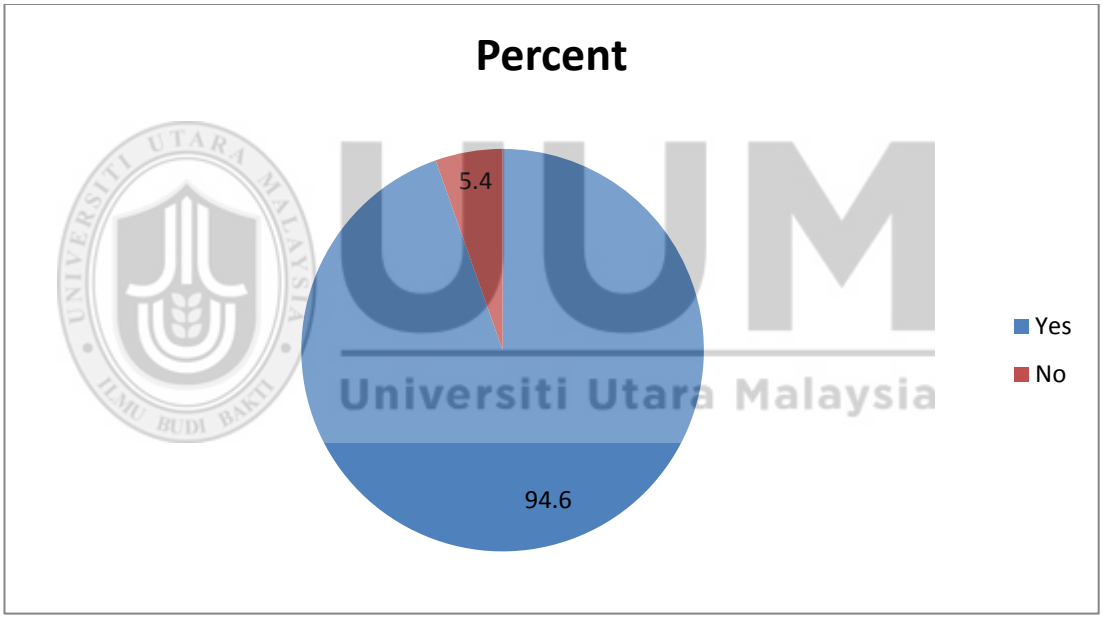


Figure 6.8. Statistics of subjects who agreed that the model can guide advertising designers to create iTV advertisements which embed elements that are perceived could influence impulse purchase tendency

Secondly, the percentages of subjects agreeing to the statement that the model has the ability to influence impulse purchase tendency for iTV advertising was also obtained (see Table 6.6 and Figure 6.9). It was found that 91.9% of subjects agreed that the model has the ability to influence impulse purchase tendency for iTV advertising.

Table 6.6

Statistics of subjects who agree that the model has the ability to influence impulse purchase tendency for iTV advertising

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	34	91.90	91.90	91.90
	No	3	8.10	8.10	100.00
	Total	37	100.00	100.00	

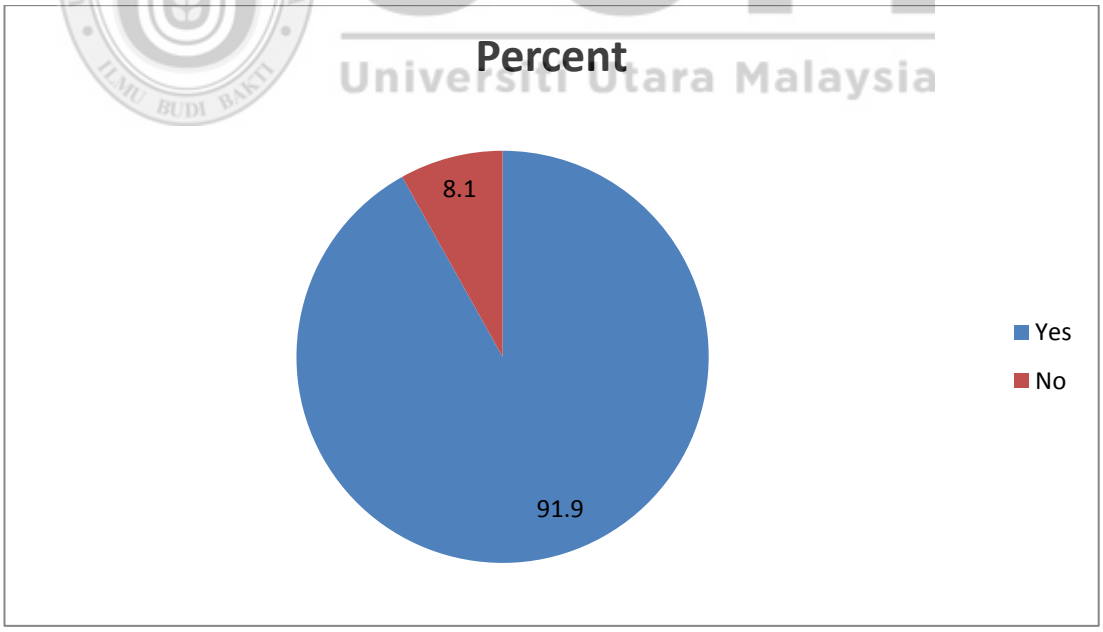


Figure 6.9. Statistics of subjects who agree that the model has the ability to influence impulse purchase tendency for iTV advertising

Table 6.7 shows the result of the mean values for each measurement item in the dimensions. The mean values for each measurement item are greater than 5 indicating the respondents agreed with the statement for each measurement item.

Table 6.7
Mean Values for Each Measurement Item

	Items	Mean
A.	**Perceived Ease of Use**	
1.	The model is understandable.	5.38
2.	I can easily interpret the model.	5.27
3.	I find the model is easy to use.	5.57
4.	The model is easy for me.	5.46
5.	It is easy for me to become skillfull in development of iTV advertising when using the model.	5.59
6.	The model makes my job easier.	5.65
B.	**Perceived Usefulness**	
1.	It is useful for me to understand the model.	5.81
2.	The model is useful for me as an advertising designers.	5.65
3.	The model improves my ability in developing iTV advertising.	5.51
4.	The model enables me to do my job.	5.65
C.	**Clarity**	
1.	The model is well organized and structured.	5.65
2.	The layer of technology in the model is clear.	5.73
3.	The development process in the model is easy to follow.	5.57
4.	The impulse purchase elements in the model are clearly stated.	5.62
D.	**Flexibility**	
1.	The model is flexible with minimal planning.	5.24
2.	The model is adaptable for future use.	6.08
3.	Changing requirements in the model over time is possible.	5.84
4.	The model allows self-monitoring to be followed.	5.27
5.	The model is manageable or controllable.	5.46
E.	**Visibility**	
1.	The model is visible to me as a developer of iTV advertising.	5.68
2.	The model provides visible guidelines.	5.54
3.	The model is readable.	5.54
4.	The model as a whole is workable.	5.73

Table 6.7 continued

F.	**Applicability**	
1.	The model correctly represents the iTV advertising.	5.57
2.	The model provides complete and detail information regarding iTV advertising development.	5.57
3.	The model improves the quality of my work.	5.92
4.	All elements in the model are relevant in representing the iTV advertising.	5.92
G.	**Satisfaction**	
1.	The information provided in the model is adequate.	5.41
2.	The model is effective in providing the information.	5.70
3.	The model gives benefits to advertising designers.	5.68
4.	I am satisfied with the model for providing the needed information.	5.65
5.	The model produces output that can be used for future improvement of the iTV advertising.	5.43
H.	**Motivation**	
1.	The model is interesting.	6.03
2.	The model is important for me.	5.95
3.	The model is valuable.	5.62
4.	The model is meaningful for me.	5.73
5.	The model provides rich information.	5.89
I.	**Overall Perceived Influence**	
1.	The model is adequate and sufficient to assist the advertising designers in developing iTV advertisemenst.	5.59
2.	The model provides specific guide for the development of iTV advertisements that are perceived could influence impulse purchase tendency.	5.68
3.	The model enables me to obtain accurate information regarding the development of iTV advertisements that are perceived could influence impulse purchase tendency.	5.46
4.	The model has ability to increase impulse purchase level for iTV advertising.	5.76
5.	Overall, the model gives a complete representation of the iTV advertisements that are perceived could influence impulse purchase tendency.	5.68

Table 6.8 shows the descriptive statistics for each dimension. The mean values for all the measured dimensions are greater than 5 indicating the respondents agreed that the model is perceived as easy to use, is useful, clear, flexible, visible, applicable, gives satisfaction and motivation. Overall, the model is perceived as having an influence on impulse purchase tendency.

Table 6.8

Mean Values of the Composite Factors

No	Factor	Mean
1.	Perceived ease of use	5.49
2.	Perceived Usefullness	5.66
3.	Clarity	5.64
4.	Flexibilty	5.62
5.	Visibility	5.74
6.	Applicability	5.74
7.	Satisfaction	5.57
8.	Motivation	5.84
9.	Overall Perceived Influence	5.63

6.5 Hypotheses

Few inferences were made using the following statistical procedures to test the hypotheses of this study (see Table 6.9).

Table 6.9

Statistical Procedures to Test the Hypotheses of This Study

No.	Statistical Tests	Hypotheses
1.	Person Correlation Test	$H_{1:}$ There is a positive relation between perceived ease of use and overall perceived influence. $H_{2:}$ There is a positive relation between perceived usefulness and overall perceived influence. $H_{3:}$ There is a positive relation between clarity and overall perceived influence. $H_{4:}$ There is a positive relation between flexibility and overall perceived influence. $H_{5:}$ There is a positive relation between visibility and overall perceived influence. $H_{6:}$ There is a positive relation between applicability and overall perceived influence. $H_{7:}$ There is a positive relation between satisfaction and overall perceived influence. $H_{8:}$ There is a positive relation between motivation and overall perceived influence.
2.	Descriptive Analysis	$H_{9:}$ The mean score of the overall perceived influence of iTVAdIP design model is high.

Pearson correlation tests are examples of parametric tests. In order to undertake parametric tests appropriately, the data need to be checked for normal distribution. Many parametric tests rely on the assumption that data need to be normally distributed. This study used One sample Kolmogorov-Smirnov test, which tests the data for normal distribution. Table 6.10 displays the outputs of One sample Kolmogorov-Smirnov test for perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction, and motivation.

Table 6.10

Normal Distribution of Samples for perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction, and motivation.

		Ease of -use	**Useful-ness**	**Cla-rity**	**Flexi-bility**	**Visibi-lity**	**Appli-cability**	**Satisfa-ction**	**Motiva-tion**	**Influ-encing**
N		37	37	37	37	37	37	37	37	37
Normal	Mean	5.487	5.655	5.642	5.622	5.743	5.743	5.573	5.843	5.632
Parameters[a,b]	SD	6.362	4.125	3.253	4.550	3.664	3.140	4.385	3.874	4.279
Most Extreme	Absolute	.172	.171	.157	.192	.174	.145	.188	.169	.132
Differences	Positif	.109	.130	.136	.146	.174	.075	.099	.110	.132
	Negatif	-.172	-.171	-.157	-.192	-.153	-.145	-.188	-.169	-.118
Kolmogorov-Smirnov Z		1.049	1.043	.953	1.167	1.061	.881	1.143	1.029	.803
Asymp. Sig. (2-tailed)		**.221**	**.227**	**.324**	**.131**	**.210**	**.146**	**.146**	**.240**	**.540**

a. Test distribution is Normal.

b. Calculated from data.

As shown in Table 6.17 the Asymp. Sig (2 tailed) values of all variables are greater than .05, therefore it can be assumed that all data from the samples are normally distributed. Hence, this study proceeded with parametric tests for hypotheses testing.

6.5.1 Hypotheses Testing

This section discusses the hypotheses individually.

H_1 to H_8 show that positive correlation is expected in each relationship. Positive correlation indicates directions. Therefore, the predictions are one-tailed. Significant correlations are highlighted with an asterisk (*) for a significance of p <. 05 and double asterisks (**) for p < .01.

As for the last hypothesis (i.e.H_9), descriptive statistics tests were used. Examples of descriptive statistics are the measures of central tendency (e.g., mean) and the measures of dispersion (e.g., standard deviation). The following subsections discuss the results of all the tests.

6.5.2 Testing H_1

H_1: There is a positive relation between PERCEIVED EASE OF USE and OVERALL PERCEIVED INFLUENCE

Table 6.11 shows enough evidence not to reject H_1 where the correlation coefficient r = .519 and value of p = .000. As the r value reported is positive and p < .01, it means that perceived ease of use and overall perceived influence has a positive relation and it is significant at 0.01 level.

Table 6.11

Correlation of Perceived Ease of Use and Overall Perceived Influence

		EASE OF USE	OVERALL PERCEIVED INFLUENCE
EASE OF USE	Pearson Correlation	1	.519**
	Sig. (1-tailed)		.000
	N	37	37
OVERALL PERCEIVED INFLUENCE	Pearson Correlation	.519**	1
	Sig. (1-tailed)	.000	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

6.5.3 Testing H_2

H_2: There is a positive relation between PERCEIVED USEFULNESS and OVERALL PERCEIVED INFLUENCE

Table 6.12 shows enough evidence not to reject H_2 where the correlation coefficient r = .693 and value of p = .000. As the r value reported is positive and p < .01, it means that perceived usefulness and overall perceived influence has a positive relation and it is significant at 0.01 level.

Table 6.12

Correlation of Perceived Usefulness and Overall Perceived Influence

		USEFULNESS	OVERALL PERCEIVED INFLUENCE
USEFULNESS	Pearson Correlation	1	.693**
	Sig. (1-tailed)		.000
	N	37	37
OVERALL PERCEIVED INFLUENCE	Pearson Correlation	.693**	1
	Sig. (1-tailed)	.000	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

6.5.4 Testing H_3

H_3: There is a positive relation between CLARITY and OVERALL PERCEIVED INFLUENCE

Table 6.13 shows enough evidence not to reject H_3 where the correlation coefficient r = .777 and value of p = .000. As the r value reported is positive and p < .01, it means that clarity and overall perceived influence has a positive relation and it is significant at 0.01 level.

Table 6.13

Correlation of Clarity and Overall Perceived Influence

		CLARITY	OVERALL PERCEIVED INFLUENCE
CLARITY	Pearson Correlation	1	.777**
	Sig. (1-tailed)		.000
	N	37	37
OVERALL PERCEIVED INFLUENCE	Pearson Correlation	.777**	1
	Sig. (1-tailed)	.000	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

6.5.5 Testing H_4

H_4: There is a positive relation between FLEXIBILITY and OVERALL PERCEIVED INFLUENCE

Table 6.14 shows enough evidence not to reject H_4 where the correlation coefficient r = .747 and value of p = .000. As the r value reported is positive and p < .01, it means that flexibility and overall perceived influence has a positive relation and it is significant at 0.01 level.

Table 6.14

Correlation of Flexibility and Overall Perceived Influence

		FLEXIBILITY	OVERALL PERCEIVED INFLUENCE
FLEXIBILITY	Pearson Correlation	1	.747**
	Sig. (1-tailed)		.000
	N	37	37
OVERALL PERCEIVED INFLUENCE	Pearson Correlation	.747**	1
	Sig. (1-tailed)	.000	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

6.5.6 Testing H_5

H_5: There is a positive relation between VISIBILITY and OVERALL PERCEIVED INFLUENCE

Table 6.15 shows enough evidence not to reject H_5 where the correlation coefficient r = .890 and value of p = .000. As the r value reported is positive and p < .01, it means that visibility and overall perceived influence has a positive relation and it is significant at 0.01 level.

Table 6.15

Correlation of Visibility and Overall Perceived Influence

		VISIBILITY	OVERALL PERCEIVED INFLUENCE
FLEXIBILITY	Pearson Correlation	1	.890**
	Sig. (1-tailed)		.000
	N	37	37
OVERALL PERCEIVED INFLUENCE	Pearson Correlation	.890**	1
	Sig. (1-tailed)	.000	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

6.5.7 Testing H_6

H_6: There is a positive relation between APPLICABALITY and OVERALL PERCEIVED INFLUENCE

Table 6.16 shows enough evidence not to reject H_6 where the correlation coefficient r = .819 and value of p = .000. As the r value reported is positive and p < .01, it means that satisfaction and overall perceived influence has a positive relation and it is significant at 0.01 level.

Table 6.16

Correlation of Applicability and Overall Perceived Influence

		APPLICABALITY	OVERALL PERCEIVED INFLUENCE
APPLICABALITY	Pearson Correlation	1	.819**
	Sig. (1-tailed)		.000
	N	37	37
OVERALL PERCEIVED INFLUENCE	Pearson Correlation	.819**	1
	Sig. (1-tailed)	.000	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

6.5.8 Testing H_7

H_7: There is a positive relation between SATISFACTION and OVERALL PERCEIVED INFLUENCE

Table 6.17 shows enough evidence not to reject H_7 where the correlation coefficient r = .817 and value of p = .000. As the r value reported is positive and p < .01, it means that satisfaction and overall perceived influence has a positive relation and it is significant at 0.01 level.

Table 6.17

Correlation of Satisfaction and Overall Perceived Influence

		SATISFACTION	OVERALL PERCEIVED INFLUENCE
SATISFACTION	Pearson Correlation	1	.817**
	Sig. (1-tailed)		.000
	N	37	37
OVERALL PERCEIVED INFLUENCE	Pearson Correlation	.817**	1
	Sig. (1-tailed)	.000	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

6.5.9 Testing H_8

H_8: There is a positive relation between MOTIVATION and OVERALL PERCEIVED INFLUENCE

Table 6.18 shows enough evidence not to reject H_8 where the correlation coefficient r = .630 and value of p = .000. As the r value reported is positive and p < .01, it means that motivation and overall perceived influence has a positive relation and it is significant at 0.01 level.

Table 6.18

Correlation of Motivation and Overall Perceived Influence

		MOTIVATION	OVERALL PERCEIVED INFLUENCE
MOTIVATION	Pearson Correlation	1	.630**
	Sig. (1-tailed)		.000
	N	37	37
OVERALL PERCEIVED INFLUENCE	Pearson Correlation	.630**	1
	Sig. (1-tailed)	.000	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

Referring to the results the previous Pearson Correlations tests, it was found that there were enough evidences not to reject H1, H2, H3, H4, H5, H6, H7 and H8. These results also indicate the following:

- As PERCEIVED EASE OF USE increases, OVERALL PERCEIVED INFLUENCE of iTVAdIP design model towards impulse purchase tendency also increases, which is a positive correlation.
- As PERCEIVED USEFULNESS increases, OVERALL PERCEIVED INFLUENCE of iTVAdIP design model towards impulse purchase tendency also increases, which is a positive correlation.
- As CLARITY increases, OVERALL PERCEIVED INFLUENCE of iTVAdIP design model towards impulse purchase tendency also increases, which is a positive correlation.
- As FLEXIBILITY increases, OVERALL PERCEIVED INFLUENCE of iTVAdIP design model towards impulse purchase tendency also increases, which is a positive correlation.
- As VISIBILITY increases, OVERALL PERCEIVED INFLUENCE of iTVAdIP design model towards impulse purchase tendency also increases, which is a positive correlation.
- As APPLICABILITY increases, OVERALL PERCEIVED INFLUENCE of iTVAdIP design model towards impulse purchase tendency also increases, which is a positive correlation.

- As SATISFACTION increases, OVERALL PERCEIVED INFLUENCE of iTVAdIP design model towards impulse purchase tendency also increases, which is a positive correlation.
- As MOTIVATION increases, OVERALL PERCEIVED INFLUENCE of iTVAdIP design model towards impulse purchase tendency also increases, which is a positive correlation.

Figure 6.10 illustrates the results from the hypothesis testing. All the relations show positive correlation between perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction and motivation with the overall perceived influence of the iTVAdIP design model.

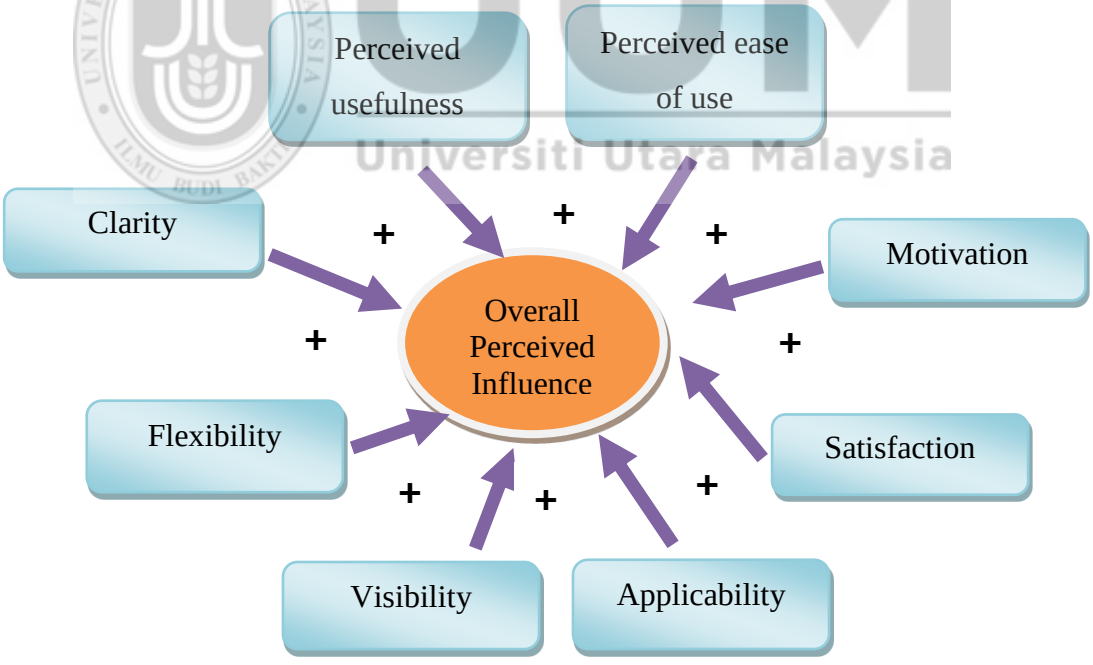


Figure 6.10. Relation of Perceived Ease of Use, Perceived Usefullness, Clarity, Flexibility, Visibility, Applicability, Satisfaction, Motivation in measuring Overall Perceived Influence of iTVAdIP design model

6.5.10 Testing H_9

H_9: The mean score of overall perceived influence for iTVAdIP design model is high.

In validating the above hypotheses (H9), descriptive analyses were performed. Table 6.19 displays the results in mean and standard deviation values.

Table 6.19

Descriptive Statistics of Overall Perceived Influence of iTVAdIP design model

		N	Mean	Std. Deviation
Overall Perceived Influence	ITVAdIP design model	37	5.632	.154

As shown in Table 6.19, the mean score for the overall perceived influence of iTVAdIP design model is 5.632. In interpreting these scores, the gap classification of interval scales is considered. As explained in Zulkarnain (2001), the gap classification of interval scales used in research instrument may follow the formula below:

Gap = (highest score – lowest score) / number of scale

= (7-1) /7

= 0.86

Therefore, for a 7-point scale, the following classifications are obtained for the response gap, as illustrated in Table 6.20. So, in order to support the hypotheses, the mean scores of the overall perceived influence have to be at least 5.35 or more.

Table 6.20

Response Classification

Gap	Classification
1.00 – 1.86	Very low
1.87 – 2.73	Low
2.74 – 3.60	Fairly low
3.61 – 4.47	Average
4.48 – 5.34	Fairly high
5.35 – 6.21	High
6.22 – 7.00	Very High

From the response classification (see Table 6.19), it was found that the mean score of overall perceived influence of iTVAdIP design model (5.632) falls under *"High"* which implies that H_9 is supported. Therefore, the results show sufficient indications that by adopting iTVAdIP design model that are perceived could influence impulse purchase tendency.

6.6 Interview Sessions

Interviews were conducted to strengthen the needs of this study. The analysis of the interview are as described below:

The main objectives of this interview are (i) to obtain the feedback from potential advertising designers regarding the difference between advertising with interaction elements and without interaction elements, and (ii) to gather the potential advertising designers opinion regarding whether the advertising with interaction elements that are perceived could influence more consumers compared to advertising with no interaction elements. A series of interviews were conducted involving 16 potential advertising designers. Before the interview, the interview questions were developed, following the phases as depicted in Figure 6.11.

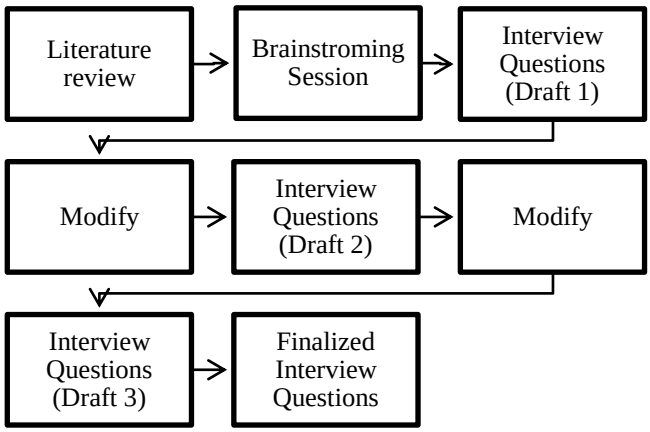


Figure 6.11. Design of the interview questions

In conjunction, the finalized semi-structured interview questions which consist of 6 questions are listed in Table 6.21.

Table 6.21

List of Interview Questions

No.	Items
Q1	In your opinion, is there any difference between advertising with interaction elements and without interaction elements?
Q2	In your opinion, do you agree that interaction elements could attract more consumers to purchase the advertised product impulsively?
Q3	In your opinion, do you agree that advertising with interaction elements that are perceived could influence more consumers compared to advertising with no interaction elements?
Q4	To your knowledge, do you agree that the interaction elements have the ability to increase impulse purchase tendency towards advertised product?
Q5	To your knowledge, do you agree that the interaction elements have the ability to increase interactivity of advertising design?
Q6	In your opinion, do you agree that the model can guide advertising designers to create iTV advertising which embed elements that are perceived could influence impulse purchase tendency?

The questions were addressed to investigate the following conditions: (1) whether there is any difference between advertising with interaction elements and without interaction elements, (2) whether the interaction elements could **attract** more consumers to purchase the advertised product impulsively, (3) whether the advertising with interaction elements that are perceived could **influence** more consumers compared to advertising with no interaction elements; (4) whether the interaction elements has the ability to **increase impulse purchase tendency** towards advertised product, (5) whether the interaction elements has the ability to **increase interactivity** of advertising design, and (6) whether that the model **can guide advertising designers** to create iTV advertising which embed elements that are perceived could influence impulse purchase tendency. In the end, the interviews managed to gather results as listed in Table 6.22.

Table 6.22

Potential advertising designers' opinion regarding interaction elements could attract more consumers to purchase the advertised product impulsively

Q	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16
1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
3	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
4	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
5	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
6	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

Note.

Description of symbols	
√	Yes
X	No
Q	Question number
R	Respondent number

Referring to Table 6.22, most of the respondents agreed that the advertising with interaction elements that are perceived could influence and attract more consumers compared to the advertising with no interaction elements (Q1)(Q2)(Q3). However, it can also be noticed that all of the respondents found that the interaction elements has the ability to increase the interactivity of advertising design and could increase the impulse purchase tendency towards advertised product (Q4)(Q5).

In addition, all of the respondents agreed that the model can guide advertising designers to create iTV advertisements which embed elements that are perceived could influence impulse purchase tendency. In addition, Table 6.23 show the comments from the interviews.

Table 6.23

Comments from the respondents

Theme	The Statement From The Respondents
Attract	1) The consumer is more interested with interactive advertising compared to non-interactive advertising. 2) Each impulse purchase element in the model could attract consumer to purchase the product. eg. element of price, music, promotion and etc. 3) The interactive advertising is not only attractive but we can save our time and energy. We can just stay in the house and buy any product that we like through television. No need to waste our time to go to the shopping complex.
Influence	1) The interactive advertising is able to persuade consumers to purchase the product because it contains persuasion value. 2) We as consumers are really satisfied with the interactive advertising because it could influence us to buy the product easily. 3) The interactive advertising has the ability to persuade consumer to purchase the product impulsively. 4) The interactive advertising gives consumers more confident compared to non-interactive advertising because it look real and intangible.

Table 6.23 continued

Increase Impulse Purchase Tendency	1) Consumers believe that the interactive advertising could give clearer information about the product and is easy to interact. 2) The interactive interaction is clearer compared to no interactive interaction and it could increase impulse purchase tendency among consumers. 3) The advantage of interactive advertising is consumers can try the product by matching the dress without going to shopping complex. 4) The interactive advertising is very good because we could try all the clothes including the expensive one and we could look around the clothes that suit our body.
Increase Interactivity	1) The interactive advertising is easy to understand. 2) The interactive advertising is easy to interact and purchase. 3) I believe that the interactive advertising will become more popular soon with the produced interactive interaction elements. 4) It gives new experience to consumers to try the product in a new way.
Can Guide Advertising Designers	1) I believe that the iTVAdIP design model will guide advertising designers and advertising agencies to create interactive TV advertisements which embed elements that are perceived could influence impulse purchase tendency. 2) It is a useful guideline for advertising designers to develop iTV advertising. 3) It benefits the advertising designers to have such a good tool for guiding them to develop interactive advertising that consists of impulse purchase elements.

From the comments as depicted in Table 6.23, it can be concluded that the majority of the respondents believe that the interactive interaction elements for iTV advertising; 1) can attract more consumers to purchase the advertised product impulsively 2) able to persuade consumers to purchase the product easily 3) it could influence consumers to buy the product using the provided interactive interaction elements 4) it has the ability to persuade consumers to purchase the product impulsively 5) the information and interaction provided by the iTV advertising show persuasion elements.

6.7 Summary

This chapter discusses the results from the survey on the iTVAdIP design model. The purpose was to measure potential advertising designers' perception on the influence of the iTVAdIP design model in impulse purchase tendency. The measurements were made through an instrument which comprises of eight main constructs, perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction, and motivation.

From the studies, two general findings are obtained; (1) more than 90% of subjects affirmed and agreed that the model can guide advertising designers to create an iTV advertisements which embed elements that are perceived could influence impulse purchase tendency and (2) majority of the respondents agreed that the model has the ability to influence impulse purchase tendency.

This chapter also illustrates and discusess the results of nine hypotheses testing. In testing H_1 to $H_{8,}$ the correlation tests confirm that all the constructs on OVERALL PERCEIVED INFLUENCE (perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction, and motivation) have positive correlations with the overall perceived influence of the iTVAdIP design model. In testing $H_{9,}$ the descriptive statistics have confirmed that the mean score of the overall perceived influence of iTVAdIP design model is high.

Additionally, the feedbacks by the respondents indicate that interactive interaction with impulse purchase elements that are perceived could influence consumers in their purchasing tendency.

CHAPTER SEVEN
CONCLUSION

7.1 Overview

This study was carried out based on these four research questions.

i) How to identify relevant impulse purchase components for iTV advertising?

ii) How to develop a conceptual design model for iTV advertising that could influence impulse purchase tendency?

iii) How to validate the proposed design model?

iv) Could the proposed design model influence impulse purchase tendency?

Also, this study formed a main aim to meet its expectation, which is to propose a conceptual design model of interactive television advertising that could influence impulse purchase tendency (iTVAdIP). To accomplish this, four objectives were outlined:

i) To identify relevant impulse purchase components for iTV advertising.

ii) To develop a conceptual design model and a conformity tool of the iTVAdIP that embed impulse purchase elements.

iii) To validate the proposed conceptual design model.

iv) To measure the perceived influence of the conceptual design model elements on impulse purchase tendency.

The next sections present the elaboration of the solutions proposed for each research question and the overall conclusions of this study.

7.2 Research Question 1

How to identify relevant impulse purchase components for iTV advertising?

The main purpose of this activity was determining the appropriate elements of impulse purchase for iTV advertising. A content analysis, comparative analysis and expert consultation were carried out to identify the appropriate impulse purchase components for iTV advertising. The comparative analysis was conducted by comparing 15 studies that focus on impulse purchase elements from different advertising environments; website; traditional TV and iTV, 22 studies from previous literature that focus on impulse purchase elements and through 8 samples of existing advertising. The expert consultation involved three experts in advertising. Discussion with the experts involves brainstorming of idea and reviews on research material.

The results from the comparative analysis and expert consultation show the impulse purchase components are generally divided into three major groups; which are strategy, general tactics and media specific tactics. The strategy section is organized into three areas; information, influence, and emotion. The general tactics section is divided into three areas; attention, message and acceptance. The last category is media specific tactics include still media, motion media and interactivity. Interactivity element is the unique element not available in existing models, and is seen as a crucial element to cater for both interaction and navigation styles in the forms of remote control, hand gesture, face recognition and touch screen. The combination of these impulse purchase elements could ensure that the iTV advertising could influence impulse purchase tendency.

7.3 Research Question 2

How to develop a conceptual design model for iTV advertising that could influence impulse purchase tendency?

The main purpose of this activity was determining the appropriate components and elements of an iTVAdIP design model. Overall the proposed iTVAdIP design model contains three main components, which are (i) impulse purchase elements, (ii) layer of technology, and (iii) development process.

To develop the conceptual design model, all components gathered from the comparative analysis that is related to impulse purchase elements were compiled and integrated into the iTVAdIP design model. Three main components are included, namely strategy, general tactics and media specific tactics.

Then through a content analysis and comparative analysis from eight sample of existing advertising, the layer of technology components were identified. This is followed by outlining the advertising development processes.

The activities involved were again content analysis and comparative analysis of six studies that focus on advertising process.

Findings from all the mentioned methods were then incorporated into the conceptual design model of iTVAdIP as described in chapter 4.

7.4 Research Question 3

How to validate the proposed design model?

In answering the question, few activities were conducted. Firstly, the proposed iTVAdIP design model was validated through expert reviews. They were given a form to evaluate the model where 6 experts were involved. In addition, the experts were also encouraged to write their further comments in the provided instrument. The findings from the expert reviews are discussed in detail in chapter 5. Next, a conformity tool was developed as the means to validate the model. In addition, the conformity tool were evaluated by expert reviews. Lastly, the proposed model was validated through a survey (chapter 6) to assess the perceived influence of iTVAdIP design model.

7.5 Research Question 4

Could the proposed design model influence impulse purchase tendency?

In answering this question, an instrument for measuring the perceived influence of iTVAdIP design model was constructed. In the instrument, 8 dimensions were proposed to measure the overall perceived influence, which are perceived ease of use, perceived usefulness, clarity, flexibility, visibility, applicability, satisfaction and motivation. For each dimension, the items were adapted from relevant studies. The instrument was found highly reliable in the pilot study with Cronbach's Alpha for each dimension was greater than 0.7. The results were obtained, showing enough evidences to conclude that the proposed iTVAdIP design model was able to influence perceived impulse purchase tendency.

7.6 Aim and Objectives: Revisit

The main aim of this study is to propose a conceptual design model of interactive television advertising that could influence impulse purchase tendency. The main aim has been achieved through completion of the four supporting objectives.

The first objective was achieved through the identification of relevant impulse purchase elements for iTV advertising. The identified elements were then classified into three, which are Strategy, General Tactics and Media Specific Tactics. The classification was achieved through rigorous process of content analysis, comparative analysis, and face to face expert consultation (see chapter 4).

The second objective was achieved with the construction of the conceptual design model (iTVAdIP) and a conformity tool that embeds the impulse purchase elements. In general, the iTVAdIP design model consists of three main components which are Impulse Purchase Elements, Layer Of Technology and Development Process. The conceptual design model was constructed based on findings from series of content analysis, comparative analysis and expert consultation methods (see chapter 4). Meanwhile, the development of the conformity tool of iTVAdIP adopts system development life cycle (SDLC) approach and involve Java programming. The conformity tool is meant to assist advertising designers to develop iTV advertising where percentage of impulse purchase elements will be calculated based on the availability of the elements in the created advertisement. This will come in handy for advertising designers to go through the design process of creating iTV

advertisements which embed elements that are perceived could influence impulse purchase tendency.

Next the third objective was achieved with the validation of the proposed conceptual design model of iTVAdIP. The validation is made through series of expert reviews (see chapter 5). In addition, the conformity tool is also evaluated by expert reviews (see chapter 5). The expert reviews are valuable to improve the quality of proposed conceptual design model of iTVAdIP.

Finally, the fourth objective was achieved with the evaluation of perceived influence of the conceptual design model elements on impulse purchase tendency using the constructed instrument of perceived influence (see chapter 6). The results show that all dimensions are significantly correlated to the overall perceived influence of the conceptual design model, and the mean score of overall perceived influence is high. Therefore, it is concluded that the results show that the conceptual design model of iTVAdIP were found to perceived influence impulse purchase tendency on advertising design.

In addition, structured interviews with potential advertising designers were also conducted as additional evaluation to achieve the fourth objective. The purpose of the structured interview are (i) to obtain feedbacks on the differences between advertising with and without interaction elements, and (ii) to gather opinions whether advertising with interaction elements has more influence on consumers to purchase impulsively as compared to advertising without interaction elements. The findings show that, there is a difference between advertising with interaction and without

interaction elements where the advertising with interactive interaction elements could perceived influence more consumers in their purchasing tendency compared to advertising without interaction elements (see chapter 6).

7.7 Limitations and Recommendations

The limitations and recommendations were described in two aspects which are conceptual design model and conformity tool prototype.

7.7.1 Conceptual Design Model

In constructing the iTVAdIP conceptual design model, the components were proposed as the outcomes of various methods implemented throughout the study, which are content analysis, comparatives analysis, and expert consultations. A number of impulse purchase models were based as to derive the common components and elements of impulse purchase. However, the models used are not exhaustive. The selection also represents the design models for the past ten years (i.e. 2004-2014). Definitely, consideration of more impulse purchase models could produce more conceptual design model options.

Furthermore, the evaluation of the model only focuses on potential advertising designers in order to guide them to develop iTV advertising which embed elements that are perceived could influence impulse purchase tendency. Thereby, future work could target on the evaluation of the model from potential consumers.

In addition, due to time constraint, the number of experts and respondents involved were limited. Perhaps with more respondents from different levels of expertise and experience may produce other results.

Moreover, this study only attempted to investigate the perceived influence of the proposed model. Thus, future works could consider measuring each layer in term of their effectiveness.

7.7.2 Conformity Tool Prototype

The tool calculates result based on users' selection of dimensions. A more intelligent application to detect conformity of advertising design ought to be explored. Moreover, testing the tool to a larger samples and different situations could further enhance the adaptability of the model.

7.8 Conclusion

This study was carried out in a systematic investigation. All relevant elements and components in designing a iTVAdIP were considered and validated. From the findings, there are indications that the proposed conceptual design model could be utilized to design advertising that could influence perceived impulse purchase tendency.

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