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



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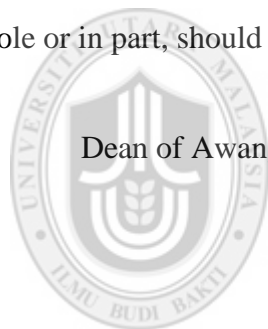
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Abstrak

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
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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. *ARPJ 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.

PROCEEDINGS

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 (ADV CIT 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

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BRONZE

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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

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REFERENCES

- Adelaar, T., Chang, S., Lancendorfer, K.M., Lee, B., & Morimoto, M. (2003). Effects of Media Formats on Emotions and Impulse Buying Intent. *Journal of Information Technology*, 18, 247-266. doi: 10.1080/0268396032000150799
- Advertising Forecast (2011). *Advertising Forecast Magnaglobal*. Retrieved from <http://www.neoadvertising.com/ch/wp-content/uploads/2011/06/2011-MAGNAGLOBAL-Advertising-Forecast-Abbreviated.pdf>
- Almeida, P., Abreu, J., Reis, M., & Cardoso, M. (2013). Interactive Trends in the TV Advertising Landscape. *Procedia Technology*, 9, 399-404
- Amos, C., Holmes, G., & Strutton, D. (2008). Exploring the relationship between celebrity endorser effects and advertising effectiveness. *International journal of advertising research*, 27(2), 209-234.
- Arens, Williams F. (1996). *Contemporary Advertising*. USA, Richard D. Irwin, A. Times Mirror Higher Education Group Inc. Company
- Ariffin, A. M. (2009). *Conceptual design of reality learning media (RLM) model based on entertaining and fun constructs*. (Doctoral dissertation, Universiti Utara Malaysia, 2009). Retrieved from <http://etd.uum.edu.my/1521/>
- Armstrong, J. (2010). *Persuasive Advertising: Evidence-based Principles*. Palgrave: Macmillan.
- Atkin, C., & Block, M. (1983). Effectiveness of celebrity endorsers. *Journal of advertising research*, 23(1), 57-61.
- Badgaiyan, A. J., & Verma, A. (2014). Intrinsic factors affecting impulsive buying behaviour-Evidence from India. *Journal of Retailing and Consumer Services*, 21, 537-549.
- Barab, S., & Squire, K. (2004). Design-based research: putting a stake in the ground. *Journal of the Learning Sciences*, 13, 1-14. DOI: 10.1.1.128.5080
- Barclay, C., & Osei B, Kwak M, (2009). An Exploratory Evaluation Of Three I.S. Project Performance Measurement Methods. *ECIS 2009 Proceedings*, 63 .<http://aisel.aisnet.org/ecis2009/>
- Barry, T.E. (2002). In defense of the hierarchy of effects: A rejoinder to Weilbacher. *Journal of Advertising Research*, 42(3), 44-47
- Batada, A., & Borzekowski, D. L. (2008). Snap! crackle! what? Recognition of cereal advertisements and understanding of commercials' persuasive intent

- among urban, minority children in the USA. *Journal of Children and Media*, 2, 19–36.
- Beatty, S. E., & Ferrell, M. E. (1998). Impulsive Buying: Modeling Its Precursors. *Journal of Retailing*, 74(2), 169–191.
- Bedford, T. (1961) , Researches on Thermal Comfort, *Ergonomics*, 4, 289-310.
- Belch, G.E & Belch, M.A (2009), *Advertising and Promotion: An Integrated Marketing Communications Perspective* (8th ed.). Boston: The McGraw-Hill/Irwin.
- Benkler, Y. (2000) From Consumers to Users: Shifting the Deeper Structures of Regulation. *Federal Communications Law Journal*, 52, 561-63.
- Bernama.com (2008). *Malaysian Adex to Reach RM6 billion This Year with 8% Increase*. Retrieved from <http://bernama.com/bernama/v6/index.php>
- Billmann, D. (1998) Representations. In Bechtel, W. and Graham, G. (Ed.), *A companion to cognitive science* (pp. 649-659). Malden, MA: Blackwell publishers
- Bolatito, O. (2012). Linkage between Persuasion principles and Advertising. *New Media and Mass Communication*, 8, 7–12.
- Bonner, N. (2008). *Acceptance of systems development methodologies: Testing a theoretically integrated model*. (Doctoral dissertation, University of Texas Arlington, 2008)
- Bono, J. (2012). *The Influence of Web Site Aesthetics on Impulse Purchase Behavior within Online Retailing Environments*. (Doctoral Dissertation, Nova Southeastern University, 2012)
- Borcher, T.A. (2005). *Persuasion in the Media Age* (2nd ed.). Boston: McGraw-Hill.
- Bordens, K. S., & Abbott, B. B. (2008). *Research design and methods: a process approach* (7th ed.). Mountain View, CA: Mayfield.
- Boyland, E.J., Harrolf, J.A., Kirkham, T.C., & Haford., (2012). Persuasive techniques used in television advertisements to market foods to UK children. *Elsevier Appetite* , 58, 658-664.
- Brown, I., Rijk, K. D., Patel, K., Twum-Ampofo, Y., & Belle, J.P. (2006). T-Commerce: an Investigation of Non-Adoption in South Africa. *Proceedings of Conference on Information Science, Technology and Management (CISTM 2006)*, 16-18 July, Chandigarh, India.

- Campbell, M. C., & Kirmani, A. (2008). I know what you're doing and why you're doing it: The use of persuasion knowledge model in consumer research. In C. P. Haugtvedt, P. Herr, & F. R. Kardes (Eds.), *Handbook of consumer psychology* (pp. 449–573). New York, NY: Erlbaum
- Carroll, J. M. (2000). *Making use scenario-based design of human-computer interactions*. Cambridge, MA: MIT Press.
- Cauberghe, V., & Pelsmacker, P. D. (2006). Opportunities and Thresholds for Advertising on Interactive, Digital TV: A View from Advertising Professionals. *Journal of Interactive Advertising*, 7(1), 12-23
- Chang, H. J., Eckman, M., & Yan, R. N. (2011). Application of the Stimulus-Organism-Response model to the retail environment: the role of hedonic motivation in impulse buying behavior. *The International Review of Retail, Distribution and Consumer Research*, 21(3), 233-249.
- Chorianopoulos, K. (2008). User Interface Design Principles for Interactive Television Applications. *International Journal of Human-Computer Interaction*, 24(6), 556–573. doi:10.1080/10447310802205750
- Chu, H.L., Deng, Y.S., & Chuang, M.C. (2014). Investigating the Persuasiveness of E-Commerce Product Pages within a Rhetorical Perspective. *International Journal of Business and Management*, 9(4), 31-43.
- Cicchetti, D. V., Showalter, D., & Tyrer, P. J. (1985). The effect of number of rating scale categories on levels of interater reliability: A Monte Carlo investigation. *Applied Psychological Measurement*, 9(1), 31-36. doi: 10.1177/014662168500900103
- Ciconte, B., Devgan, M., Dunbar, S., Go, P., & Prem, J. (2003). J2EE software development methodologies. InformIT. Retrieved Jan 22, 2009 from <http://www.informit.com/articles/printerfriendly.aspx?p=102017>
- Clore, G. C. and Gasper, K. (2000). Feeling is believing. Some affective influences on belief. In Frijda, N.H., Manstead, A. S. R. and Bem, S. (Ed.), *Emotions and beliefs: How feelings influence thoughts* (pp. 10-44). Paris/Cambridge: Editions de la Maison des Sciences de l'Homme and Cambridge University Press.
- Cole, R., Puro, S., Rossi, M., & Sein, M. K. (2005). Being Proactive: Where Action Research Meets Design Research. In Proceedings of the 26th International Conference on Information Systems (pp. 325-336). Las Vegas, USA: AIS.
- Colin, H., & Walker, R., (2012). Ethos, logos, pathos: Strategies of persuasion in social/environmental reports. *Elsevier Accounting Forum*, 36, 194-208

- Collazos, C. a., Rusu, C., Arciniegas, J. L., & Roncagliolo, S. (2009). Designing and Evaluating Interactive Television from a Usability Perspective. *Second International Conferences on Advances in Computer-Human Interactions*, 381–385. doi:10.1109/ACHI.2009.22
- Colley, R. H. (1961). *Defining Advertising Goals for Measured Advertising Results*. New York: Association of National Advertisers.
- Costagliola, G., Ferrucci, F., & Francese, R. (2002). Web engineering: models and methodologies for the design of hypermedia applications. In *the Handbook of Software Engineering and Knowledge Engineering* (pp. 181- 199)
- Courtland L. Bovee & John V (1992). *Business Communication Today*. 3rd ed. ThiL New York: McGraw-Hill
- Craik, K.H. (1970). Environmental Psychology, *New Directions in Psychology*, 1-121
- Crane, R.R. and B.I. Levy (1962), Color Scales in Responses to Emotionally Laden Situations, *Journal of Consulting Psychology*, 26, 515-519
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (2nd ed). USA: SAGE Publications.
- Cummins, R. A., & Gullone, E. (2000). Why we should not use 5-point Likert scales: The case for subjective quality of life measurement. In *Proceedings of the 2nd International Conference on Quality of Life in Cities*, 74-93. Singapore: National University of Singapore Press.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340.
- Deloitte. (2011). *TV Shopping 2011. Perspectives on television in words and number*. Retrieved from http://www.deloitte.com/view/en_GB/uk/industries
- Denise, W., Deirdre, R., & Seamus, H. (2009). Determining The Influence Of Information Quality And System Quality On The Success Of A Knowledge Management System Within A Large Multinational Software Organisation.
- Dholakia, U.M. (2000). Temptation and Resistance: An Integrated Model of Consumption Impulse Formation and Enactment. *Psychology & Marketing*, 17(11), 955-982.
- Digisoft (2004). *T-Commerce*. Retrieved from <http://www.digisoft.tv/products/tcommerce.html>

- Dittmar, H., Beattie, J., & Friese, S. (1996). Objects, Decision Considerations and Self-Image in Men's and Women's Impulse Purchases. *Acta Psychologica*, 93(1),187-206. doi:10.1016/0001-6918(96)00019-4
- Donovan, R.J. & Rossiter, J.R. (1982). Store Atmosphere: An Environmental Psychology Approach. *Journal of Retailing*, 58(1), 34-57
- Driscoll, L. (2011). Introduction to primary research: Observations, surveys, and interviews. In P. Lowe, C. & Zemliansky (Ed.), *Writing Spaces: Readings on Writing* (pp. 153–174). United States of America: Parlor Press.
- Druin, A. (2002). The role of children in the design of new technology. *Behaviour and Information Technology*, 21(1), 1-25. DOI: 10.1080/01449290110108659
- Dwolatzky, B., Kennedy, I. G., & Owens, J. D. (2002). Modern software engineering methods for developing courseware. *Proceeding of the Engineering Education 2002:Professionals Engineering Scenarios*, 321-326 doi:10.1049/ic:20020113
- Edin, M. (2012). *Persuasive Advertising: Consumers' views of and responses to the advertising of health-related products* (Master Dissertation, Jonkoping University, 2012)
- Eekels, J., & Roozenburg, N. F. M. (1991). A methodological comparison of the structures of scientific research and engineering design: their similarities and differences. *Design Studies*, 12(4), 197-203. doi:10.1016/0142-694X(91)90031-Q
- Efendioğlu, A. (2012). Courseware development model (CDM): The effects of CDM on primary school pre-service teachers' achievements and attitudes. *Computers & Education*, 59(2), 687–700. doi:10.1016/j.compedu.2012.03.015
- Egan, D. E. (1988). Individual differences in human- computer interaction. In M. Helander (Ed.), *Handbook of Human-Computer Interaction*, (pp. 543 – 568). New York: Elsevier
- Egan, John (2007). *Marketing Communications*. London: Thomson
- Erdogan, E. (2004). *An On-Demand Advertising Model For ITV* (Master Disertation, Georgia Institute of Technology, 2004)
- Eroglu, S. A., Machleit K. A., & Davis L. M. (2001). Atmospheric Qualities of Online Retailing: A Conceptual Model and Implications. *Journal of Business Research*, 54, 177–184.
- Eysenck, M. (1994). *Individual Differences: Normal and Abnormal*. New Jersey: Erlbaum.

- Fan, X., Tian, X., & Xiao, S. (2012). A Study on the Operation Mechanism of Website Brand Equity Based on S-O-R Paradigm. *Proceeding of the International Conference on Service Systems and Service Management (ICSSSM)*, 566-569. doi: 10.1109/ICSSSM.2012.6252301
- Folch-Lyon, E., & Trost, J. F. (1981). Conducting Focus Group Sessions. *Studies in Family Planning*, 12(12), 443 – 449. Retrieved from <http://www.jstor.org/stable/1965656>
- Fontana, A., & Frey, J. H. (1994). Interviewing The Art of Science. In N. a. Y. L. Denzin (Ed.), *The Handbook of Qualitative Research* (pp. 361–376). Thousands Oaks: SAGE Publications Ltd.
- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117(1), 39-66
- Freiden, J. B. (1984). Advertising spokesperson effects: an examination of endorser type and gender on two audiences. *Journal of advertising research*, 24(5), 33-41.
- Friestad, M., & Wright, P. (1994). The persuasion knowledge model: How people cope with persuasion attempts. *Journal of Consumer Research*, 21, 1–31.
- Gantz, W., Schwartz, N., Angelini, J. R., & Rideout, V. (2007). *Food for thought. Television food advertising to children in the United States*. United State: The Kaiser Family Foundation.
- Garrity E. J. and Sanders L. G., (1998), Dimensions of Information Systems success In Garrity E. J. and Sanders L. G. (eds.), *Information Systems Success Measurement* (pp. 13-45). Hershey: Idea Group Publishing (IGP)
- Ghisi, B.C., Lopes., & G.F., Siqueira. (2009). Conceptual Model for T-Commerce in Brazil. *Proceedings of the EuroITV 2010: Workshop on Interactive Digital TV in Emergent Countries*.
- Giotis, P., & Lekakos, G. (2009). Effectiveness of Interactive Advertising Presentation Models. *Proceedings of the EuroITV'09, Leuven, Belgium*, 157-160
- Grutzner, I., Weibelzahl, S., & Waterson, P. (2004). Improving courseware quality through life-cycle encompassing quality assurance. *ACM Symposium on Applied Computing*, 946–951. doi:10.1145/967900.968092
- Guay, F., Vallerand, R.J., & Blanchard, C.M. (2000). On the assessment of state intrinsic and extrinsic motivation: The situational motivation scale (SIMS). *Motivation and Emotion*, 24, 175–213.

- Hair, Jr., J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis* (6th ed). USA: Pearson-Prentice Hall.
- Hampson, S. E. & Colman, A. M. (Eds., 1995). *Individual differences and personality*. London: Longman.
- Hartson, H. R., Andre, T. S., & Williges, R. C. (2003). Criteria for evaluating usability evaluation methods. *International Journal of Human-Computer Interaction*, 15(1), 145–181. doi:10.1.1.136.9688
- Haugtvedt, C. P., & Kasmer, J. A. (2008). Attitude change and persuasion. In C. P. Haugtvedt, P. Herr, F. R. Kardes (Eds.), *Handbook of consumer psychology* (pp. 419–436). New York, NY: Erlbaum
- Hausman, A. (2000). A Multi-Method Investigation of Consumer Motivations in Impulse Buying Behavior. *Journal of Consumer Marketing*, 17(5), 403-419.
- Heath, R., & Fairchild, R. (2007). Emotional Persuasion in Advertising: A Hierarchy-of-Processing Model. University of Bath School of Management Working Paper Series.
- Hecksel, D. (2004). *Methodology evaluation and selection. White Paper. Sun Microsystems*. Retrieved Jan 22, 2008 from <http://www.davidhecksel.com/projectcontext/whitepaper.html>
- Henderson-Sellers, B. (1995). Who needs an object-oriented methodology anyway? *Journal of Object Oriented Programming*, 8(6), 6-8.
- Hevner, A. R., March, S. T., & Park, J. (2004). Design Research in Information Systems Research. *MIS Quarterly*, 28(1), 75-105. Retrieved from <http://aisel.aisnet.org/misq/vol28/iss1/6/>
- Iacono, J. C., Brown, A., & Holtham, C. (2011). The use of the case study method in theory testing: The example of steel e-marketplaces. *The Electrical Journal of Business Research Methods*, 9(1), 57–65. Retrieved from <http://www.ejbrm.com>
- Ibrahim, N., Shiratuddin, M.F. and Wong, K.W. (2013). Persuasion techniques for tourism website design. *Proceedings of the International Conference on E-Technologies and Business on the Web (EBW2013)*, 175-180. 7 - 9 May, Bangkok, Thailand
- Interactive Advertising Bureau, IAB (2011). *An Interactive Advertising Overview*. Retrieved from <http://www.iab.net/media/file/iTVCommitteeWhitePaper7.pdf>
- Ittelson, W.H., L.G. Rivlin and H.M. Proshansky (1970), *The Use of Behavioral Maps in Environmental Psychology*, *Environmental Psychology: Man and His Physical Setting*, New York: Holt, Rinehart & Winston, Inc., 658-668

- Jaaskelainen, K. (2001). *Strategic Questions in the Development of Interactive Television Programs*, (Doctoral Dissertation, University of Arts and Design Helsinki, Finland 2001)
- Jack, E. P., & Raturi, A. S. (2006). Lessons learned from methodological triangulation in management research. *Management Research News*, 29(6), 345–357. doi:10.1108/01409170610683833
- Jae Hoon, C., Young Jun, S., & Junghee, R. (2008). A New Content-Related Advertising Model for Interactive Television. *Proceeding of the International Symposium on Broadband Multimedia Systems and Broadcasting*, 1-9, 31-2 April, Las Vegas. doi:10.1109/ISBMSB.2008.4536639
- Jensen, Jens F. (2005). ITV: New Genres, New Format, New Content. *Proceedings of the Second Australasian Conference on Interactive Entertainment*, 89-96
- Johnson, J., & Henderson, A. (2002). Conceptual models: Begin by designing what to design. *Interactions*, 9(1), 25-32. doi:10.1145/503355.503366
- Kacen, J. J., Hess, J. D., & Walker, D. (2012). Spontaneous selection: the influence of product and retailing factors on consumer impulse purchases. *Journal of Retailing Consumer Services*, 19, 578-588.
- Kashif, M., & Samira S.C., (2009), Evaluating the functionality of conceptual models. In C.A. Heuser & G.Pernul (Eds.), *Advances in Conceptual Modeling - Challenging Perspectives* (pp. 222-231). Berlin: Springer Berlin Heidelberg. doi: 10.1007/978-3-642-04947-7_27
- Kelly, K., & Wolf, G. (1997). *PUSH! Kiss your browser goodbye: the radical future of media beyond the Web*. *Wired*, Retrieved from http://www.wired.com/wired/archive/5.03/ff_push.html
- Kelman, H. C., & Hovland, C. I. (1953). Reinstatement of the communicator in delayed measurement of opinion change. *The Journal of Abnormal and Social Psychology*, 48, 327– 335.
- Kerzner, H. (2014). *Project Management- Best Practices: Achieving Global Excellence*. Wiley.
- Kim, P., & Sawhney, H. (2002). A machine-like new medium - theoretical examination of iTV. *Media, Culture & Society*, 24(2), 217–233. doi:10.1177/016344370202400204
- Kingsford, I. (2003). *Interactive TV Advertising: Turning Viewers Into Direct Leads Without A Set-Top Box*. Retrieved from www.broadcastpapers.com
- Kitchenham B.,(1998), Evaluating software engineering methods and tool, *ACM SIGSOFT software engineering Notes*, 23(5), 21-24.

- Kitzinger, J. (1995). Qualitative research: Introducing focus groups. *British Medical Journal*, 311(7000), 299-302.
- Koo, D.-M., & Ju, S.-H. (2010). The interactional effects of atmospherics and perceptual curiosity on emotions and online shopping intention. *Computers in Human Behavior*, 26(3), 377–388. doi:10.1016/j.chb.2009.11.009
- Koufaris, M., Kambil, A., & LaBarbera, P. A. (2002). Consumer behaviour in web-based commerce: an empirical study. *International Journal of Electronic Commerce*, 6(2), 131-54.
- Krosnick, J. A., Betz, A. L., Jussim, J. L. and Lynn, A. R. (1992). Subliminal conditioning of attitudes. *Personality and Social Psychology Bulletin*, 18, 152-162.
- Kuan, T. H. (2013). *Conceptual model of digital storytelling*. (Master dissertation, Universiti Utara Malaysia, 2013).
- Kukkonen, H.O., & Harjumma, M. (2009). Persuasive Systems Design: Key Issues, Process Model, and System Features. *Communications of the Association for Information Systems*, 24(1), 486-500
- Kunda, G. (2001). *A social-technical approach to selecting software supporting COTS-Based Systems*. (PhD dissertation, Universiti of York, 2011).
- Kwek, C.H., Tan, H.P., & Lau, T.C. (2010). Investigating the Shopping Orientations on Online Purchase Intention in the e-Commerce Environment: A Malaysian Study. *Journal of Internet Banking and Commerce*, 15(2), 1-22
- Labrador, B., Ramon, N., Moreton.H., & Sanjurjo-Gonzalez.H, (2014). Rhetorical structure and persuasive language in the subgenre of online advertisements. *Elsevier English for specific purpose*. 34, 38-47.
- Lambert, S. D., & Loiselle, C. G. (2008). Combining individual interviews and focus groups to enhance data richness. *Journal of Advanced Nursing*, 62(2), 228–237. doi:10.1111/j.1365-2648.2007.04559.
- Lang, A., Dhillon, P. and Dong, Q. (1995) Arousal, emotion and memory for television messages. *Journal of Broadcasting and Electronic Media*, 38, 1-15.
- Lang, M., & Barry, C. (2001). Techniques and methodologies for multimedia systems development: a survey of industrial practice. In N. L. Russo, et al. (Eds.), *Realigning Research and Practice in Information Systems Development, Proceedings of IFIP WG 8.2 Conference*, (pp 77-86). Boston: Kluwer.

- LaRose, R. (2001). On the Negative Effects of E-Commerce: A Socio-Cognitive Exploration of Unregulated On-Line Buying. *Journal of Computer-Mediated Communication*, 6(3)
- Lavidge, R.J & Steiner, G.A (1961). A Model for Predictive Measurements of Advertising Effectiveness. *Journal of Marketing*, 25(6), 59-62.
- Lee, M. S. (2008). *Television shopping: the effect of persuasive strategies on parasocial interaction, subjective well-being, and impulse buying tendency among older women*. (Master Dissertation, Iowa State University, 2008)
- Lekakos, G., Papakiriakopoulos, D., & Chorianopoulos, K. (2001). An Integrated Approach to Interactive and Personalized TV Advertising. In *Proceedings of the UM2001 Personalization in Future TV workshop*, 1–10. Retrieved from Sonthofen, Germany, available at: di.unito.it/~liliana/UM01/TV.html.
- Liao, S. L., Shen, Y. C., & Chu, C. H. (2009). The effects of sales promotion strategy, product appeal and consumer traits on reminder impulse buying behaviour. *International Journal of Consumer Studies*, 33,274-284.
- Liu, M., Nespoli, M., Shen, L., Oaks, T., Shrum, L. J., & Lowrey, T. M. (2012). *How Theories of Persuasion Apply to Marketing and Advertising*. (T. P. Hanbook, Ed.)
- Liu, Y., Li, H., & Hu, F. (2013). Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions. *Decision Support Systems*, 55(3), 829–837. doi:10.1016/j.dss.2013.04.001
- Luna-Reyes, L. F., & Andersen, D. L. (2003). Collecting and analyzing qualitative data for system dynamics: methods and models. *System Dynamics Review*, 19(4), 271-296. doi: 10.1002/sdr.280
- Madhavaram, S.R. & Laverie, D.A. (2004). Exploring Impulse Purchasing on the Internet, *Advances in Consumer Research*, 31, 59-66.
- Maes, A., & Poels, G. (2006). Evaluating quality of conceptual models based on user perceptions. In D.W.Embey, A. Olive, & S.Ram (Eds.), *Conceptual Modeling ER 2006* (pp. 54-67).Verlag Berlin Heidelberg: Springer International Publishing. doi: 10.1007/11901181_6
- Magoutas, B., UweSchmidt, K., Mentzas, G., & Stojanovic, L. (2010). An adaptive-questionnaire for measuring user perceived portal quality. *International Journal Human Computer Studies*, 68, 729-745.
- Malaysian Communications and Multimedia Commission, MCMC (2003). *Developing the Networked Content Industry in Malaysia*. Retrieved from

http://www.skmm.gov.my/link_file/what_we_do/Research/Industry%20studies/ir_dev_networked_content.pdf

Malaysian Communications and Multimedia Commission, MCMC (2009). *Advertising Development in Malaysia – Catching Eyeballs in Changing Media*. Retrieved from http://www.skmm.gov.my/what_we_do/Research/industry_studies.asp

Malaysian Communications and Multimedia Commission, MCMC (2011). *Communication and Multimedia – Pocket Book of Statistics*. Retrieved from http://www.skmm.gov.my/attachment/Pocket%20Book/Q3_2011_Eng.pdf

March, S. T., & Smith, G. F. (1995). Design and natural science research on information technology. *Decision Support Systems*, 15, 251-266. doi:10.1016/0167-9236(94)00041-2

Marianne, W. L. (1998). Iterative triangulation : A theory development process using existing case studies. *Journal of Operations Management*, 16(4), 455–469. doi:10.1016/S0272-6963(98)00024-2

Marketplace: How Theories of Persuasion Apply to Marketing and Advertising. In James Dillar & Lijiang Shen (Eds.), *The Persuasion Handbook* (pp. 1-40). Thousand Oaks, CA: Sage, forthcoming.

Mason, M. J., & Scammon, D. L. (2000). Health claims and disclaimers: Extended boundaries and research opportunities in consumer interpretation. *Journal of public policy & marketing*, 19(1), 144-150

Mayhew, D. J. (1992). *Principles and guidelines in software user interface design*. Englewood Cliffs, NJ: Prentice Hall.

Mehrabian, A. (1980). *Basic dimensions for a general psychological theory: Implications for personality, social, environmental, and developmental studies*. Oelgeschlager, Gunn & Hain, Cambridge, Mass.

Mehrabian, Albert and James Russell (1974). *An Approach to Environmental Psychology*. Cambridge, Mass: MIT Press

Middleton, W.C., P.J. Fay, W.A. Kerr and F. Amft (1944), The Effect of Music on Feelings of Restfulness-Tiredness and Pleasantness-Unpleasantness. *Journal of Psychology*, 17, 299-318

Monahan, J. L. (1995). Thinking positively. In E. Maibach & R. L. Parrott (Eds.), *Designing health messages* (pp. 81-98). Thousand Oaks: SAGE Publication.

- Moore, G. C. Benbasat, I. (1991) Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. *Information Systems Research*, 2(3), 192–222
- Morgan, D. L. (1996). Focus Groups. *Annual Review of Sociology*, 22, 129-152.
- NDS Business Consulting. *Interactive Advertising Broadcast*. (2000) Retrieved from <http://www.broadcastpapers.com/data/NDSInteractiveAD01.tm>
- Nesbitt, Saul (1959), *Today's Housewives Plan Menus as They Shop*, Nesbitt Associates Release, 2-3.
- Nguyen., Y. L. (2011). *Factors that Contributing to the Success of DACUM Process Implementation in Technical Vocational School of Post Telecommunication and Informatics, Vietnam*. (Master dissertation, Shu-Te University, 2011).
- Nielsen Din, R., Norman, H., Kamarulzaman, M. F., Shah, P. M., Karim, A., Mat Salleh, N. S., Mastor, K. a. (2012). Creation of a Knowledge Society via the Use of Mobile Blog: A Model of Integrated Meaningful Hybrid E-training. *Asian Social Science*, 8(16), 45–56. doi:10.5539/ass.v8n16p45
- Nielsen, J. (1997). The Use and Misuse of Focus Groups. *IEEE Software*, 14(1), 94-95. doi:10.1109/52.566434
- Nielsen. (2011). *Nielsen IMS Training Catalog Course Descriptions*. Retrieved from http://www.nielsen.com/content/dam/nielsen/en_us/documents/pdf/Training/Nielsen%20IMS%20Training%20Catalog.pdf
- Nor, A. O., Ruzita, A. R., Che, A. C. W., & Syer, S. A. (2014). Compulsive buying and credit card misuse among credit card holders: the role of self esteem, materialism, impulsive buying and budget constraint. *Intangible Capital*, 10(1), 52-74.
- Norshuhada, S., & Shahizan, H. (2010). *Design Research in Software Development: Constructing and Linking Research Questions, Objectives, Methods and Outcomes*. Sintok: Penerbit Universiti Utara Malaysia.
- O'Donoghue, T., & Punch, K. (2003). *Qualitative educational research in action: Doing and reflecting*. New York: RoutledgeFalmer.
- Olakunke, A. O. (2004). *Research Methods in Social Sciences* (2nd ed.). Norway: E-Book Press.
- Oppenheim, A. N. (1983). *Questionnaires design and attitude measurement*. London: Biddles Ltd.

- Orji, H. U. (2007). *Effects of U.S. presidents' leadership roles on global security: A case Carter and Bush*. (Doctoral Dissertation, University of Phoenix, 2007).
- Park, J., & Lennon, S. J. (2006). Psychological and environmental antecedents of impulse buying tendency in the multichannel shopping context. *Journal of consumer Marketing*, 23(2), 56–66
- Park, P., & Lekakos, G. (2009). Effectiveness of interactive advertising presentation models. *Proceedings of the seventh european conference on European interactive television conference - EuroITV '09*, 157. doi:10.1145/1542084.1542115
- Peppers, K., Tuunanen, T., Rothenberger, M. A., & Chatterjee, S. (2008). A Design Science Research Methodology for Information Systems Research. *Journal of Management Information Systems*, 24(3), 45–77. doi:10.2753/MIS0742-1222240302
- Pequeno, H. S. L., Gomes, G. a. M., Andrade, R. M. C., de Souza, J. N., & de Castro, M. F. (2010). FrameIDTV: A framework for developing interactive applications on digital television environments. *Journal of Network and Computer Applications*, 33(4), 503–511. doi:10.1016/j.jnca.2010.01.002
- Petty, R. E., & Krosnick, J. A. (Eds.). (1995). *Attitude strength: Antecedents and consequences*. Hillsdale, NJ: Erlbaum
- Petty, R. E., & Wegener, D. T. (1998). Attitude change: Multiple roles for persuasion variables. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 1, pp. 323–390). New York, NY: McGraw-Hill.
- Petty, R. E., Cacioppo, J. T., & Schumann, D. (2013). Central to The and Peripheral Role of Routes Involvement Advertising Moderating Effectiveness : *Journal of Consumer Research*, 10(2),135-146
- Piron, F. (1991). Defining Impulse Purchasing. *Advances in Consumer Research*, 18, 509-514.
- Platts, K. (1990). *Manufacturing audit in the process strategy formulation*. (Doctoral Dissertation, University of Cambridge, United Kingdom, 1990)
- Preece, J., Rogers, Y., & Sharp, H. (2007). *Interaction design: Beyond human-computer interaction* (2nd ed.). England: John Wiley & Sons.
- Purao, S. (2002). Design research in the technology of Information system: truth or dare. GSU Department of CIS working paper. Atlanta, GA.

- Ravaja, N. (2004). Effects of a small talking facial image on autonomic activity: The moderating influence of dispositional BIS and BAS sensitivities and emotions. *Biological Psychology*, 65, 163-183
- Reigeluth, C. M. (2008). Instructional-design theories and models: building a common knowledge base. (Vol. 3).
- Reynolds, T. J., Gengler, C. E., & Howard, D. J. (1995). A means-end analysis of brand persuasion through advertising. *International journal of research in marketing*, 12(3), 257- 266
- Riemenschneider, C. K., Hardgrave, B. C., & Davis F. D. (2002). Explaining software developer acceptance of methodologies: A comparison of five theoretical models. *IEEE Transactions on Software Engineering*, 28(12), 1135-1145. DOI:10.1109/TSE.2002.1158287
- Roberto, C. A., Baik, J., Harris, J. L., & Brownell, K. D. (2010). Influence of licensed characters on children's taste and snack preferences. *Pediatrics*, 126, 88-93.
- Rogers, Y., Sharp, H., & Preece, J. (2011). *Interaction design: Beyond human computer interaction* (3rd ed.). England: John Wiley & Sons.
- Rook, D. W. (1987). The Buying Impulse. *Journal of Consumer Research*, 14(2), 189-199. doi: 10.1086/209105
- Rook, D. W., & Hoch S. J. (1985). Consuming Impulses. *Advances in Consumer Research*, 12, 23-27
- Russel, J. A., & Pratt, G.A. (1980), A description of the affective quality attributed to environments. *Journal of Personality and Social Psychology*, 38, 311-322
- Saari, T. (2001). *Mind-Based Media and Communications Technologies. How the Form of Information Influences Felt Meaning*. (Doctoral dissertation, Acta University of Tempere, 2001).
- Saari, T. (2003). Designing for Psychological Effects. Towards Mind-Based Media and Communications Technologies. In Harris, D., Duffy, V., Smith, M. and Stephanidis, C. (eds.), *Human-Centred Computing: Cognitive, Social and Ergonomic Aspects* (pp. 557-561).
- Saari, T. (2003). Mind-Based Media and Communications Technologies. A Framework for producing personalized psychological effects. *Proceedings of Human Factors and Ergonomics 2003 Conference*, 13.-17, Denver, Colorado.
- Saari, T., Ravaja, N., Laarni, J., Turpeinen, M., & Kallinen, K. (2004). Psychologically targeted persuasive advertising and product information in e-

commerce. *Proceedings of the 6th international conference on Electronic Commerce*, 245-254. doi:10.1145/1052220.1052252

Sadia, Q. (2007). *Effect of TV Displays On Impulse Purchase. A Study of behavioral differences between male and female grocery consumers*. (Master dissertation, Lund University, 2007)

Schaie, K. W. (1961). A Q-Sort Study of Color-Mood Association. *Journal of Projective Techniques*, 25, 341- 346

Schaupp, C., Fan, W., & Belanger, F. (2006). Determining Success for Different Website Goals. *Proceedings of the 39th Hawaii International Conference on System Sciences*, 1-10.

Schneiderman, B. (1992). *Designing the User Interface: Strategies for Effective Human-Computer Interaction*. Reading, MA: Addison-Wesley Longman.

Schneiderman, B., Plaisant, C., Cohen, M., & Jacobs, S. (2009). *Designing the user interface: Strategies for effective human-computer interaction* (5th ed.). US: Prentice Hall.

Scholten (2000). *Interactive Advertising Broadcast*. Retrieved from <http://www.broadcastpapers.com/data/NDSInteractiveAD01.tm>

Scholten, M. (1996). Lost and Found: The Information-Processing Model of Advertising Effectiveness. *Journal of business Research*, 104, 97–104.

Schwalb., & Edward., M. (2004). *ITV Handbook: Technologies and Standards*. USA: Prentice Hall

Sekaran, U. (1992). *Research methods for business: a skill-building approach* (2nd). USA: John Wiley & Sons.

Sekaran, U. (2003). *Research methods for business: a skills-building approach* (4th ed). USA: John Wiley & Sons, Inc.

Sekaran, U., & Bougie, R. (2010). *Research Methods for Business: A Skill Building Approach* (5th ed). USA: John Wiley & Sons.

Shen, K. N., & Khalifa, M. (2012). System design effects on online impulse buying. *Internet Research*, 22(4),396-425.

Sherwood, C., & Rout, T. (1998). A structured methodology for multimedia product and systems development. In *Proceeding of the ASCILITE98 Conference*.

Silverglade, B. A. (1994). The vitamin wars- Marketing, lobbying and the consumer. *Journal of public policy and marketing*, 13(2), 152-154

- Simon, Y., & Shim, Y.J. (2002). ITV: VoD meets the Internet. *Computer*, 35(7), 109-109. doi: 10.1109/MC.2002.1016909
- Sinh, N. H. (2004). The Hierarchy Model of Advertising Effects: A Debate. *Proceeding of the International Integration*, 92-96.
- Siti Mahfuzah, S. (2011). *Conceptual design model of computerized personal-decision aid (ComPDA)*. (Doctoral dissertation, Universiti Utara Malaysia, 2011).
- 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.
- Stefany, Z. (2012). *Books, clothes and electronics are the most-shopped categories online*. Retrieved from <https://www.internetretailer.com/2012/01/24/books-clothes-and-electronics-are-most-shopped-categories>
- Stern, H. (1962). The Significance of Impulse Buying Today. *Journal of Marketing*, 26(2), 59-62.
- Sternthal, B., & Dholakia, R. (1978). The persuasive effect of source credibility: Tests of cognitive response. *Journal of Consumer Research*, 4, 252-260.
- Syamsul Bahrin, Z. (2011). *Mobile game-based learning (mGBL) engineering model*. (Doctoral dissertation, Universiti Utara Malaysia, 2011). Retrieved from <http://etd.uum.edu.my/2807/>
- Syamsul Bahrin, Z., & Norshuhada, S. (2014). Instrument for Measuring the Applicability of Mobile Game-Based Learning Engineering Model, *Journal of Convergence Information Technology (JCIT)*, 9(1), 108-116.
- Teijlingen, E. R., & Hundley, V. (2001). *The importance of pilot studies. social research UPDATE*. Retrieved from <http://sru.soc.surrey.ac.uk/SRU35.html>
- Television Advertising Survey. (2011). *Datacenter*. Retrieved from <http://adage.com/datacenter/globalmarketers2011>
- Thawani, A., Gopalan, S. & Sridhar, V. (2004). *Context aware personalized Ad insertion in an interactive TV environment*. Paper presented at the workshop of Personalization in Future TV, Eindhoven the Netherlands.
- The Nielsen Company. (2009). *Global advertising: Consumers trust real friends and virtual strangers the most*. Retrieved from <http://blog.nielsen.com/nielsenwire/consumer/global-advertising-consumers-trust-real-friends-and-virtual-strangers-the-most/>

- The Sun Daily (2011). *Digital Malaysia to transform economy*. Retrieved from http://www.1malaysia.com.my/news_archive/digital-malaysia-to-transform-economy/
- Trochim, W., & Donnelly, J. P. (2007). *The Research Methods Knowledge Base*. Ohio, OH: Atomic Dog.
- Ulger, B. (2009). Packages with cartoon trade characters versus advertising. An empirical examination of preschoolers' food preferences. *Journal of Food Products Marketing*, 15, 104–117.
- Vaishnavi, V., & Kuechler, W. (2004). Design Research in Information Systems. Retrieved August 16, 2009, from Association for Information Systems website: <http://desrist.org/design-research-in-information-systems>
- Vaishnavi, V., & Kuechler, W. (2007). *Design science research methods and patterns: Innovating information technology*. New York: Auerbach Publications.
- Vakratsas, D & Ambler, (1999). How Advertising Works: What Do We Really Know. *Journal of Marketing*, 63(1), 26-43.
- Vecchi, T., Phillips, L. H. & Cornoldi, C. (2001). Individual differences in visuo-spatial working memory. In: M. Denis, R. H. Logie, C. Cornoldi, M. de Vega, & J. Engelkamp (Eds.), *Imagery, language, and visuo-spatial thinking*. Psychology Press, Hove
- Vennou, P., Mantzari, E., & Lekakos, G. (2009). Evaluating Program-embedded Advertisement Format in Interactive Digital TV. *Proceeding of EuroITV'9, Leuven, Belgium*. 145-154
- Veryard, R. (1985). What are methodologies good for data processing, 27(6), 9-12.
- Walls, J., Widmeyer, G., & El Sawy, O. (1992). Building an Information System Design Theory for Vigilant EIS. *Information Systems Research*, 3(1), 36-59. doi:10.1287/isre.3.1.36
- Wang, S. C., Chung, T. C., & Yan, K. Q. (2011). A new territory of multi-user variable remote control for interactive TV. *Multimedia Tools & Applications*, 15(3), 1013-1034.
- Weinberg, P. & Gottwald, W. (1982). Impulsive Consumer Buying as a Result of Emotions. *Journal of Business Research*, 10(1), 43-57.
- Wells, W., Moriarty, S. and Burnett, J. (2006). *Advertising: Principles & Practice*, 7th ed. Upper Saddle River: Pearson

- Wells., W. (1989). *Advertising: Principles and Practice*. Indiana University: Prentice Hall.
- Wicks, J., Warren, R., Fosu, I., & Wicks, R. H. (2009). Dual-modality disclaimers, emotional appeals, and production techniques in food advertising airing during programs rated for children. *Journal of Advertising*, 38, 93–105.
- Wiegers, K. E. (2002). Seven truths about peer reviews. *Cutter IT Journal*, 15(7),1-9.
- Wijaya, B. S. (2012). The Development of Hierarchy of Effects Model in Advertising. *International Research Journal of Business Studies*, 5(1), 1–7.
- Xiao, S. H., & Nicholson, M. (2013). A Multidisciplinary Cognitive Behavioural Framework of Impulse Buying: A Systematic Review of the Literature. *International Journal of Management Reviews*, 15(3), 333-356.
- Yin, R. K. (1994). *Case Study Research: Design and Methods* (2nd ed). Thousand Oaks: Sage.
- Yoo, C.Y., Kim, K., & Stout, P.A. (2004). Assessing the Effects of Animation in Online Banner Advertising: Hierarchy of Effects Model. *Journal of Interactive Advertising*, 4(2), 1-7
- Yu, E., & Cysneiros, L. M. (2002). Agent-oriented methodologies-towards a challenge exemplar. In Proceedings of the 4th International Workshop on Agent-Oriented Information Systems (AOIS'02). Toronto.
- Yu, J., Ha, I., Choi, M., & Rho, J., (2005). Extending the TAM for a TCommerce, *Journal of Information & Management*, 42(7), 965-976.
- Zanna, M. P., Kiesler, C. A., & Pilkonis, P. A. (1970). Positive and negative attitudinal affect established by classical conditioning. *Journal of Personality and Social Psychology*, 14(4), 321–328.
- Zhang, M. (2009). The application of design psychology in advertisement design. *Proceeding of the 10th International Conference on Computer-Aided Industrial Design & Conceptual Design*, 134-137. doi:10.1109/CAIDCD.2009.5375064
- Zulkarnain, Z. (2001). *Statistik pengurusan*. Sintok: Penerbit Universiti Utara Malaysia.