
Investors Perception Towards Smart-Phone App Based Investments: An Investigation in Indian Context Exploring Relationship Between Trust and Usage Attitude.

Arun Khatri, Fellow- MDI Gurgaon; Hriday Khatri, DCRUST Murthal

Abstract

The tsunami of 4G technology and the evolution of revolutionary 5G on the horizon has changed the way people use their mobile-phones. The high speed and availability of internet to the common person has led the companies compete to find their place on the users' mobile phone screens. The trust of the consumers seems to be a pivotal factor when it comes to making financial investments online using smart-phones applications. More than fifty financial companies are providing the services of financial investments including mutual funds, IPOs, secondary share market, life insurance, general insurance, debt instruments, corporate and bank deposits, recurring deposits, bank services, central gold schemes, etc. The focus of the research study is to observe the impact of trust as a factor in the usage attitude of investors for app based investments. This primary research was carried out among the young and earning, mostly are regular users of mobile phone apps as a faster alternative to financial investments. A total of 250 questionnaires were distributed for the study and random sampling technique was used in the study. This study confirms that trust plays an important role and have a positive relationship with the attitude when it comes to financial investments. The conceptual framework adopted from Keng and Ting model (2009), establishing relationship of aesthetic; playfulness; service excellence and consumer return-on-investment (CROI) to usage-attitude. This study adopts the established-model by 'Christine Ennew' and 'Harjit Singh Sekhon' (2007) 'Measuring trust in financial services: the trust index'.

Keywords: trust, aesthetic, playfulness, service excellence, customer return on investment (CROI), usage attitude, financial investments, mobile apps, app based financial investments

Introduction

A mobile Smartphone, or smart phone, is the term used for differentiating the mobile-phones with advanced smart features from the basic mobile feature-phones with static keypad. The first usage of the term mobile "Smartphone" surfaced in 1997, as Ericsson inc. described its GS-88 "Penelope" concept as a smart phone. The term Smartphone was coined in the market for state of the art mobile phones which provides integrated-services for the communication services; computing technology and mobile and technology sectors such as voice-communication services, messaging services, personal-information-management services and applications and a secure wireless-communication

potential. The Smartphone's today are equipped with all the features of a tablet or laptop, which includes web-browsing, Wi-Fi, third-party apps, camera, scanner, etc. The most-popular and emerging Smartphones platforms are: Google's mobile Android devices and Apple's Inc. iOS mobile-operating-systems. Demographically, the age class of 25-34 has the highest usage rate for Smartphone at 62%. Almost half of mobile Android-Smartphone users and approximately 43% of Apple iOS iPhone-users are less than 34 years of age. 53% users of Smartphone are male and a close 47% smartphone users are female.

Recently, India has evolved as the fastest-growing market globally for mobile-applications on both the platforms i.e. mobile Apple iOS and Google's mobile Android Play-Store, especially after the low cost data revolution by Reliance-Jio, with a significant rise in the revenue in last five years. The country also holds a leadership pole position for the highest number of the mobile-app downloads on smart devices across both the mentioned platforms, according to app-market-data and insights company 'App Annie'.



Image source: By J Vignesh, ET Bureau|Apr 13, 2018, 07.07 AM IST

The teenagers are currently leading the Smartphone market in India. This age-group using Smartphone have shown a significant rise. Interestingly, the users of mobile Smartphone are expected to get doubled in India, to a significant 859 million by 2022 from 468 million mobile smartphone-users in 2017; growing at a CAGR (compound-annual-growth-rate) of 12.9%, according to a joint study by ASSOCHAM-PwC. The mobile feature-phone ownership in India is decreasing from 701 million (2017) to a significant 504 million (2022), at a CAGR of negative 6.4%. As the ever increasing number of people opt for the smartphones, noted ASSOCHAM-PwC joint study on 'Video on Demand: Entertainment re-imagined'. Indians are already consuming maximum data-per-month in comparison to global consumption, at an average consumption of around 9.8GB per month and it is expected to double up to 18 GB per month by 2024 driven by high quality videos - Swedish telecom major 'Ericsson'.

With the significantly increasing users for the LTE-subscribers, enticing data-plans on the offer by Internet service Providers (ISPs), people's changing video and content viewing habits have fueled

the monthly-usage growth of the data consumption, Ericsson-Mobility-Report(June 2019).This report anticipates and predicts that the per month mobile data-traffic would grow at a CAGR of 23% from 4.6 Exabyte in 2018 to a massive 16 Exabyte in the year 2024. The users of mobile Smartphones in India would cross 1.1 billion by 2024, and the mobile subscribers are expected to grow from 610 million (2018) to 1.25 billion (2024).With ever increasing competition among organizations to acquire mobile screen real estate, the trust factor is playing the role of one of the critical success factors (CSF) in influencing the usage-attitude towards the app based financial investments among smart-phone users. This study attempts to explore further, the concept of trust and its influence on the usage-attitude towards the mobile-app based investments among smart-phone users in India.

The Literature-Review

Usage-Attitude: Attitude is used in the subject area of consumer-behavior. Birgelen et al. (2003) conceptualized the term attitude as a tendency (psychological) which is explained through evaluation of a particular entity with some extent/degree of disfavor or favor.

Trust factor: The value which stimulates the behavior of utilization is always been associated to the functional utility, conditional utility, social utility, emotional utility and epistemic utility (Sheth, Newman and Gross, 1991). Besides this holistic definition, several researchers have traditionally considered that value is more closer as the mechanism of exchange among quality and price (Dodds and Monroe, 1985).

Aesthetic: The term aesthetic is the creation of value from combined dimension between both the intrinsic-value as well as the reactive-value (Mathwick et al., 2001). Further, Veryzer (1993) conceptualized the value of aesthetic as a response or reaction to the unity of a physical object or performance.

Playfulness: It is creation of value from combined dimension among both the intrinsic value as well as the active-value, (Mathwick et al., 2001). The playfulness value is developed/generated by the consumers and it is entirely inner, initiative and self-oriented experience (Chou, 2009). The value of playfulness shows the worth of emotional factor and the potential amusement value of the shopping process (Mathwick et al., 2001). Further, the behaviour of playful exchange is regenerated in inner enjoyment which is generated from activities engagement which are fascinating, till a point of an escape from the demands of world (Day, 1981). Chou (2009) maintained that playfulness is a pleasure, or enjoyment, which is derived by individual assessing of a product or service.

Service Excellence: Service-excellence is the creation of value from the combined dimension among the extrinsic value as well as the reactive-value (Mathwick et al., 2001). Chou (2009) said that service-excellence is a customer experience that provides self-oriented, reactive value and extrinsic.

Consumer Return on Investment (CROI): Consumer Return On Investment is the creation of value from the combined dimension among the extrinsic value and the active value (Mathwick et al.,

2001). The customer may experience this RoI (return-on-investment) in terms of the economic-benefit that is a perception of affordable quality (Thaler, 1985; Grewel,)

The meaning of trust: Trust has its origination in the consumer behaviour literature related to business organizations and organizational-analysis. Trust has also received the interests of the psychologists, the sociologists, the economists and the management researchers; as a result, a variety of approaches to trust and definitions of the concept, within this body of research. Apparently, several there are certain key themes emerging out and appearing to be recognized definitions and approaches.

- a) Trust factor is dependent on the presence of risk.
- b) Trust is also dependent on interdependence among various other factors.
- c) Trust is also linked to vulnerability.
- d) Trust: Confident expectations are also involved, about the actors' future behaviors.
- e) Trust is likely to be inherent in relationships, characterized by the complete certainty or complete contracting.

'Trust can be understood around the willingness of an individual in acceptance of vulnerability for positive expectations regarding the intentions or behavior of another in any specific situation showing the interdependence and risk'. Some of the understandings on 'trust' imply, the willingness to be vulnerable or risk taking position may arise from the costs and benefits calculation, in the convention to trust, a comprehensive understanding and knowledge of the exchange partners and/or a faith in institutions and social systems. Therefore, the extent to which there is vulnerability or risk taking position, risk and the interdependence attached with the purchasing of the financial services, there would be a role for trust. From the view of retail-consumers, the process of buying the financial services is complex and there is a rise in the complexity of the products available. Fundamentally, several long-term savings and investment-products are very complicated; hence the development of the variants of product with a few differentiated characteristics or features may only increase the complexity. The challenges attached with understanding these products are also increased with inability to make decision that how their performance in the future would be. The consumer is able to assess the product only after it has been purchased and even after the investment, the terminal assessment might take for several years.

In case of the financial products for which performance could be assessed over a relatively shorter time period, the customer or consumer might find several problems in the assessment of the product performance. In case of some of the products, the performance of the product depends on the skills of the provider of the product as well as the economy- future-performance from a macro viewpoint. The output of a similar product type might vary significantly with assessment time period and the time of purchasing of the financial product. Low performance may be because of simply misfortune and wrong-timing. This might force the customer or consumer to depend majorly on the credence qualities – 'on trust and confidence' executed by the provider of the transaction. It may be suggested that the important function of trust is to minimize uncertainty and making risks much more manageable and with non-complex choices.

With a clear understanding of this explanation of purchasing-process, the conditions that signify trust and make it more important are evident in relation to financial services.

- **Risk:** in relation to savings and investment products, risk will be mostly evident, although relevant to most financial services. Risks is normally attached with poor product performance, which might be due to low quality product but it may also be due to the misfortune as well. Risk is integral in the financial product but it may be increased by the consumer's poor understanding of the fundamentals and the effects of the uncontrollable factors, if any.
- **Vulnerability:** a low performing financial product may show a high impact on specific customer as the financial services may have a significant impact on the consumer's well-being and life.
- **Interdependence:** the operation of the financial markets tells that generally, investors require the help from a specialized intermediary to invest and advice in their financial requirements. The variety and complexity of the product means that the customer or the consumer is dependent on some intermediary financial services organization for advisory and directly relates to customers understanding of financial services.

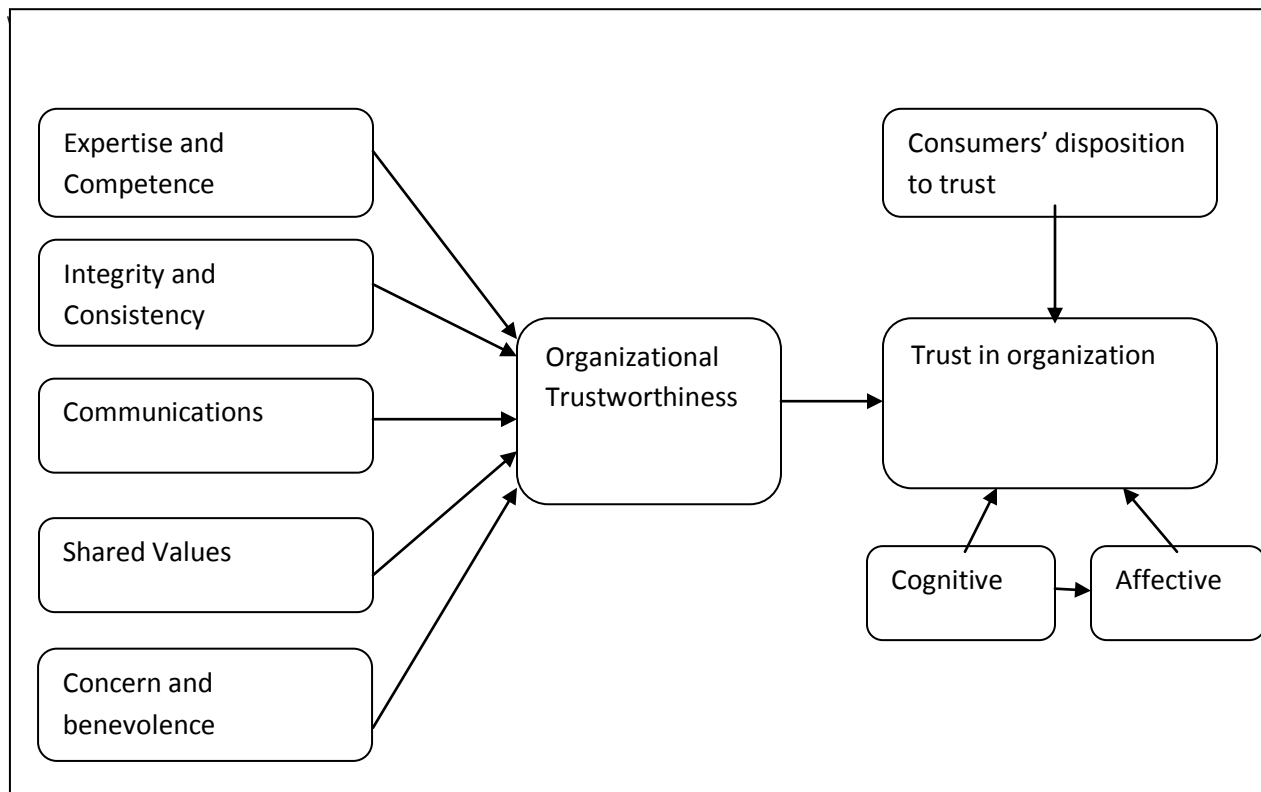
Developing the trust index

There is a significant recognition for the importance of trust, which tries to measure trust very often is relying on some of the simple measures, may be using singular statements and may be simple yes or no answers. The previous research in the domain of trust (and allied concept of trustworthiness) generally exhibits the richness and the complexity of the concepts. Hence, in an attempt to monitor and evaluate trust factor and trustworthiness in the financial services sector, the 'Financial Services Research Forum' is striving for developing a better, robust and rich measure which could be utilized. The measurement-framework, mentioned in Figure 1, proposes that consumer-trust in any organization may be low-level or cognitive, depending on the notions of reliability and dependability; or may be high-level or affective, depending on the convictions of having concerns regarding the intentions and expectations of the customer. Consumer trust depends on individual characteristics also, exhibiting the work in the domain of psychology, maintaining that the consumers have their own dispositions to trust. The other important determinant of trust is the organizational-trustworthiness, which is decided with expert knowledge and competency skills, integrity and consistency in behavior, effective communications, shared values and concern and benevolence. To measure each of the above concepts, multi item likert-scales were developed and used with the understanding of trust, trustworthiness, benevolence, integrity, ability/expertise, shared values and communications.

Trust: is a consumers characteristic, means Consumers' trust in a financial services/institution which vary from consumer to consumer due to the difference in their respective experiences and personality types even with similar perceptions for trustworthiness.

Trustworthiness: is a very important trait and is core to the of institution brand, which can be managed through the intrinsic policy/practice and external communications.

Figure1. Framework for the measurement of trust in financial services



Source: Ennew and Sekhon (2007)

Benevolence: is defined as the extent to which an FSI is concerned about its customer's interests from the perspective of a customer.

Integrity: is defined as the extent to which an FSI is honest and consistent in what it does from the perspective of a customer.

Ability/Expertise: is defined as the extent to which an FSI is seen as having the necessary skills and ability to deliver its services from the perspective of a customer.

Shared values: is defined as the extent to which consumers believe that an FSI has values similar to their own.

Communications: is defined as the extent to which an FSI communicates well/effectively from the perspective of a customer.

The important features of financial services and the role played by the front line staff exhibits that trust may be based in the organization, or may be on the brand or the individual. Conventionally, trust in the individual whether real as well as hypothetical has always been of significant value to the financial industry. With the changing methods of distribution, the significance of the brand as the basis for a relationships and a basis for trust is continuously increasing.

The Research Gap: Trust is a one of the most critical construct and is subject to change due to novel value-propositions offered by the plethora of emerging-technology based companies. Keng and Ting (2009) had done the relationship-study between the experiential-value and the usage attitude. Any study focusing on the conceptual-framework in context of “Evaluation of the impact of trust-factor on the usage attitude towards the mobile apps among the Smartphone users in India”, is still not conducted. By conducting this particular study, the findings might provide a better and clear view about the current customer trust factor towards the usage attitude of mobile apps among the Smartphone users (primarily the young college going customer-groups). The results might be used to embed the customer trust factor in designing new mobile apps.

Hypotheses of the study: An overview of the existing literature in the domain of mobile phone studies and trust factor, is reviewed and utilized for the development of the hypotheses for the research. Following are the hypotheses which are tested in this study:

H1: Aesthetic impacts usage-attitude positively.

H2: Playfulness impacts usage-attitude positively.

H3: Service Excellence impacts usage-attitude positively.

H4: Customer Return on Investment (CROI) impacts usage-attitude positively.

Proposed Conceptual Model

The conceptual framework for conducting this research was adapted from the Keng and Ting model (2009), is developed for this research and is illustrated by following figure:

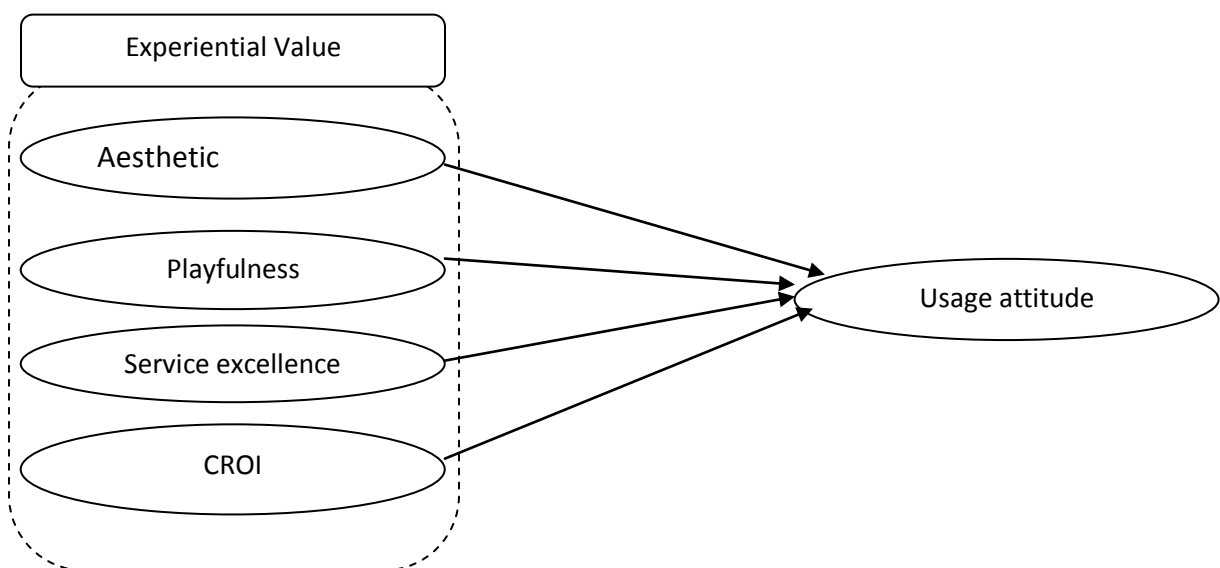


Figure2. The proposed conceptual framework developed for this research

Research Methodology

Research Design: Research positivism approach and descriptive research method is used for this research in order to study the relationship between the trust factor and usage attitude. Quantitative-study is carried out for conducting this study for the purpose of hypotheses testing, summarizing and generalizing that derived from the theory. Primary data is collected through a cross-sectional study due to the need to understand the current usage attitudes among the young college going consumer groups who are the users of mobile apps.

Questionnaire Design: The questionnaire used to conduct this particular study was divided into two sections: Section A and Section B. The variables that are studied in the Section A included demographic profiles: such as gender, age, and qualifications. The variables that are used to measure the constructs were used in Section B. The constructs and variables measuring service excellence; aesthetic; customer return on investment; playfulness were adapted from Keng et al. (2007). Usage attitude adapted from Keng and Ting (2009). A 5-point Likert Scale was used to measure the constructs coming from the data collected from the primary sources i.e through questionnaire method of primary data collection.

Sampling Design: The population under this research study is the full time college and university going students in India. Post-graduation/graduation and diploma students were chosen for this study as most of the students own smart phones. The technique of 'Non-probability sampling was adopted in this research. A total of 150 (one hundred and fifty) respondents were set as the sample size for conducting this research. Prior to the actual data collection, a pilot study was conducted to make sure that instrument of survey non biased and is free from errors. The survey was administered shortly after the pilot test and its analysis. The questionnaire method was used to make sure the non-obligation and confidentiality aspects of the participants in the study. The study was conducted in the college premises where the respondents returned the filled questionnaires to the surveyors in the field. Voluntary-participation was explained and was also indicated in the survey questionnaire. The respondents were requested to complete the anonymous survey-questionnaire that took approx. 20 minutes on an average, of their time to completely fill the questionnaire. A total of 180 (one hundred and eighty) questionnaires were distributed and 150 duly filled questionnaires were collected.

Data Analysis: SPSS version 24.0, the statistical program, is used in the study to perform the analysis of data collected. Descriptive-analysis, scale-measurement for reliability and validity tests and inferential analysis for multiple regression analysis was carried out for analyzing the data.

Research Results

Analysis of Respondents' Demographic Profiles: The analysis of the completely filled 150 valid collected questionnaires from the survey, indicated that 60% of the overall respondents were male and 40% of them were female. The age group analysis shows that the age group of less than 21 years old was 30% and the age group between 21-25 years old was 70%. The results of the data collected also revealed that most of the respondents who participated, a whopping 70% were currently pursuing their undergraduate degree-programs.

Reliability Test: ‘The degree to which the scale measurements are free from the errors which yields consistent result from the study’, (Bajpai, 2011). There are three types of reliability: stability reliability, representative reliability and equivalence reliability, Bernard (2000). Cronbach’s alpha was to evaluate this, which was found to be well above 0.60 for all the five constructs, Hair et al. (2003), in the range of 0.67 (for usage attitude) to 0.80 (for aesthetic).

Validity Test: ‘The ability of a scale to measure what was intended to be measured. There are three measurementsof validity i.e. the content validity, the criterion validity and the constructs validity, (Cavana et al., 2001). EFA (exploratory-factor-analysis) was done to measurethis validity, (Cavana et al., 2001). EFA result was supported by the value of Kaiser-Meyer-Olkin (KMO) at0.66 (between 0.5 and 1.0).With the values $p=0.000$; $df=77$; approx. Chi-Square=1716.216, ‘Bartlett test of sphericity’ was also found to be significant for all the correlations. Eigenvalues for all the tested constructs were greater than 1.0,ranging from 1.111 (for service excellence) to 3.276 (for playfulness) based on PCA (principal-components-analysis). The VARIMAX procedure in orthogonal-rotation which were adopted in the FA. The factor loadings were greater than 0.50, for all of the items within the constructs, in term of convergent validity. All items were allocated and the items supported respective constructs and were not overlapping.

Critical Values:

Approx. Chi-Square = 1718.816

$p = 0.000$ ($p < 0.05$); $df = 78$

KMO Measures of Sampling Adequacy = 0.664

Table1. Factors as identified by the principal components FA (factor analysis)

Factor’s Name	Variable	Factor Loading	Eigen Value	Percentage Variance	Cronbach’s ReliabilityCoeff
Playfulness	1	0.826	3.276	15.503	0.738
	2	0.812			
	3	0.760			
(CROI)	1	0.802	1.712	14.823	0.719
	2	0.755			
	3	0.750			
Aesthetic	1	0.908	1.400	12.924	0.802

	2	0.914			
Service	1	0.883	1.111	12.110	0.702
Excellence	2	0.853			
Usage	1	0.785	1.546	14.217	0.667
Attitude	2	0.728			
	3	0.746			

Source:Maghnati and Ling (2013), verified by this research

Multiple Regression Analysis:Multiple regression analysis was performed for hypothesis testing to find out the linear relationship between independent variables and dependent variables and then multiplied by estimating coefficients for the equation of a straight line in this research (H1, H2, H3, and H4).

Conclusion

Conclusion of Hypotheses: The result of the study through the testing of framework with statistical rigorexhibits that customer-return-on-investment (CROI) and playfulness have a positive relationship with the usage. Aesthetic and service-excellence do not have a significant positive relationship with usage attitude. The results show that the students are looking for more utility functions. It indicated that service excellence and aesthetic may not be acting as the significant factor(s) in influencing the usage of mobile-apps.

Implications: This study would guide the academician as well as practitioners to understand the relationship among various factors around trust and usage. The results of the study might provide some clue to the mobile-apps developers and producers of smartphones to have a better understanding of how the experiential-value contributes to the 'usage attitude' towards mobile apps among the young smartphone users.

Limitations of the Research: This study was conducted by adopting judgmental sampling technique method. Thus, the result may not support the generalization. Further studies could be conducted with more rigor and in different set up across the geographic areas to reach generalization.

Recommendations for the Future Research: Probability sampling method and longitudinal study is recommended for the future research to overcome the above limitations in the research.

References:

- Bernard, H. R. (2000). *Social research methods: Qualitative and quantitative approaches*. SAGE Publication Inc.
- Birgelen, M. V., Ruyter, K. D., & Wetzels, M. (2003). The impact of attitude strength on customer-oriented priority setting by decision-makers: An empirical investigation. *Journal of Economic Psychology*, 24(6), 763-783. [http://dx.doi.org/10.1016/S0167-4870\(03\)00052-7](http://dx.doi.org/10.1016/S0167-4870(03)00052-7)
- Burns, A., & Bush, R. (2003). *Marketing research: Online research application*. New Jersey: Prentice Hall.
- Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001). *Applied business research: Qualitative and quantitative methods*. Queensland: John Wiley & Sons.
- Chou, H. J. (2009). The effect of experiential and relationship marketing on customer value: A case study of international American casual dining chains in Taiwan. *Social Behavior and Personality*, 37(7), 998.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Hillsdale, NJ: Erlbaum.
- Day, G. S. (1981). The product life cycle: Analysis and applications issues. *Journal of Marketing*, 45(4), 60-67. <http://dx.doi.org/10.2307/1251472>
- Deighton, J., & Grayson, K. (1995). Marketing and seduction: Building exchange relationships by managing social consensus. *Journal of Consumer Research*, 21(March), 660-676. <http://dx.doi.org/10.1086/209426>
- Dodds, W. B., & Monroe, K. B. (1985). The effect of brand and price information on subjective product evaluations. *Advances in Consumer Research*, 12, 87-90.
- Driefus, C. (1997). Talking shop. A conversation with the men who brought you Neiman Marcus, Ikea and Virgin. *The New York Times Magazine*, 6, 82-86.
- Farris, W. P., Bendle, N. T., Pfeifer, P. E., & Reibstein, D. J. (2003). *Marketing metrics: Understanding market share and related metrics*. Pearson Prentice Hall.
- Gentile, C., Spiller, N., & Noci, G. (2007). How to sustain the customer experience: An overview of experience components that co-create value with the Customer. *European Management Journal*, 25(5), 395-410. <http://dx.doi.org/10.1016/j.emj.2007.08.005>
- Grewal, D., Monroe, K. B., & Krishnan, R. (1996). The effects of price-comparison advertising on buyers' perceptions of acquisition value and transaction value. Marketing Science Institute, Report No. 96-103, May, Cambridge, MA.
- Hair, J. F. J., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis*. New Jersey: Pearson Education.

Hair, J. F. Jr., Babin, B., Money, A. H., & Samouel, P. (2003). *Essential of business research methods*. John United States of America: Wiley & Sons.

Hassan, M. A., Samah, B. A., Shaffril, H. A. M., & D'Silva, J. L. (2011). Socio-demographic factors affecting attitude towards information and communication technology usage. *American Journal of Applied Sciences*, 8(6), 547-553. <http://dx.doi.org/10.3844/ajassp.2011.547.553>

Holbrook, M. B. (1994). The nature of customer value: An axiology of services in the consumption experience. In Roland T. Rust and Richard L. Oliver, (Eds.), *Service Quality: New Directions in Theory and Practice* (pp. 21-71). Newbury Park, CA: Sage.
<http://dx.doi.org/10.4135/9781452229102.n2>

Holbrook, M. B. (2000). The millennial consumer in the texts of our times: Experience and entertainment. *Journal of Macro marketing*, 20(2), 178-192.
<http://dx.doi.org/10.1177/0276146700202008>

Holbrook, M. B., & Corfman, K. P. (1985). Quality and value in the consumption experience: Phaedrus rides again. In Jacob Jacoby and Jerry C. Olson (Eds.), *Perceived Quality: How Consumers View Stores and Merchandise* (pp. 31-57). Lexington, MA: Lexington Books.

Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings and fun. *Journal of Consumer Research*, 9, 132-142.
<http://dx.doi.org/10.1086/208906>

Keng, C. J., & Ting, H. Y. (2009). The acceptance of blogs: using a customer experiential value perspective. *Internet Research*, 19(5), 479-495. <http://dx.doi.org/10.1108/10662240910998850>

Keng, C. J., Huand, T. L., Cheng, L. C., & Hsu, M. K. (2007). Modeling service encounters and customer experiential value in retailing: An empirical investigation of shopping mall customers in Taiwan. *International Journal of Service Industry Management*, 18(4), 349-67.
<http://dx.doi.org/10.1108/09564230710778137>

Lee, E. J., & Overby, J. W. (2004). Creating value for online shoppers: Implications for satisfaction and loyalty. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 17, 54-67.

Thaler, R. (1985). Mental accounting and consumer choice. *Marketing Science*, 4(Summer), 199-214. <http://dx.doi.org/10.1287/mksc.4.3.199>