

Journal of Asian Scientific Research ISSN(e): 2223-1331/ISSN(p): 2226-5724

URL: www.aessweb.com



# EXAMINE HOW DATA COLLECTION DIRECTLY AND INDIRECTLY, IMPACTS CRM DATA QUALITY AND CUSTOMER PERFORMANCE



Fakhraddin Maroofi<sup>1†</sup> --- Somayeh Amiri<sup>2</sup>

<sup>1</sup>Department of Management, University of Kurdistan, Sanandaj, Iran <sup>2</sup>Department of Business Management, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran

# ABSTRACT

The purpose of this research is to examine how the data collected from various acquisition points, directly and indirectly, impacts CRM data quality and customer performance. The method utilized was that suggested by McDonald, where the CFA is guided and informed by the EFA results. However, using AMOS, separate CFAs were conducted by the independent and dependent variables. Items from the survey were subjected to an exploratory factor analysis, followed by an item to total correlation analysis. Our findings support the idea that firms will pay a performance price process of customer touch point's data that is both efficient and effective. Moreover, the long life factor of the customer relationship is making an initial impression on a customer, but without an ongoing and private communication plan, the customer can finally switch to another product or firm. With updated data banks, firms can exactly profile customers and target their private communications to proper touch point data. As our model shows, this touch point data are finally lead to CRM System Quality and finally to CRM performance. Therefore, continued loyalty to a brand leads to increased market share and growing in a competitive market. Hence, the role of CRM System Quality is essential for firms to increase market insight and performance.

© 2016 AESS Publications. All Rights Reserved.

**Keywords:** Marketing analytics, Customer data, Integrated marketing communications (IMC), Customer relationship management (CRM), Iran.

#### **1. INTRODUCTION**

In a previous couple of decades, traders, promoters, and even customers, expected to enhance the idea and observe in integrated marketing communications (IMC) [1, 2]. Recently, the combining of advanced marketing and advertising channels with communication media has modified the structure of IMC [3] with regard to mensuration the time of interactive buyer–seller relationships [4, 5]. Interactive IMC has not solely wedged the traders with

customers, however, has additionally placed a price on gathering various data touch points, and messages to deliver personal marketing communications [6, 7]. This IMC has developed for making a consistent message to increasing the worth of media. To accomplish most worth, data analytics and marketing might construct synergies for rising customer loyalty and values [8, 9]. As a result, customer data suggest traders get a competitive advantage by developing a various channel to get in-depth relationships with customers. Due to the growth of the customer relationship management (CRM) systems and marketing metrics, firms are targeted on the worth of customer analytics as a key structure plus [10, 11].

However, a CRM strategy established on quality data and firms have to prepare and analyze each touch point, in order that the customer's worth to the firm could also be determined. By using customer identification, firms will interact IMC campaigns that maximize this worth over time [7]. Through resource allocation and marketing optimization [12] the expected outcomes of personal, data- determined IMC plans embody increased maintenance, customer lifelong value [13]. In some cases, technological progress has the ability to measure the effectiveness of IMC makes an attempt in today's various-channel; various touch point communication environments [14, 15]. Given the inadequate state of IMC metrics [16. 171 and rising connected data integration, analysis that develops mechanisms and methodologies for coming up with and mensuration effective cross-media campaigns [18]. Moreover, most firms don't have a clear vision for way data collected а from various touch points may be used foolishly together with personal marketing strategies [19]. Now, we've got the power to use period of time marketing analytics as a resource by combining customer data from various customer touch points [4, 5]. In line with this, the goal of the article is to develop and take a look at an investigatory IMC data integration and mensuration framework that focuses on using customer info to develop personal communication and marketing campaigns which will be administered via various interactive customer touch points. We tend to develop recent work by Zahay, et al. [20] and Peltier, et al. [21] to suggest an IMC data time. Our framework moves from data required to profile customers, to data required developing personal communications, and finally to data required to metricize however customers reply to marketing makes an attempt across various contact points. Our model says that the aggregation of basic customer data results in locating higher preference on aggregation different styles of data has got to be near customer's relationships. we tend to additionally estimate the impact that these interactive IMC i) the standard of the CRM info and ii) customer campaigns have two marketing metrics performance. The finding to the present literature by supplying a framework are for a how customer data can be used to design private and profitable communication strategies. Payne and Frow [22] justify CRM as a strategic method '...related to making improved shareholder worth through the event of relationships with key customers and customer segments to use data and data to each perceive customers and co-create worth with them. This data determined cross-functional integration of processes, people, operations and marketing skills that's enabled through info, technology and applications. Concerning to the current logic Even, et al. [23] and Verhoef, et al.

[24] state that the employment of CRM as a tool for developing effective data determined interactive marketing techniques that desire across various transactions and customer touch points. Therefore, we tend to focus on extending the [20, 25] work that are taken from interactive customer touch points, transactional data, psycho-demographics and customer lifelong value data .we tend to adopt Peltier, et al. [13] definition of customer data, that claims that info should be accumulated across various transactions, touch points and channels in order that it reflects the behavior and emotions of customers, both collectively and individually. Therefore, customer info becomes a resource that a firm will produce a customer data domain and create marketing choices. So, this paper neglects mass media from the analysis model. In regard to CRM and IMC, the IMC literature emphasis on two factors of the IMC construct: (i) the employment of varied communication media and (ii) the consistency of messages accomplished across these media. Recently, IMC has been ascertained as a chance for making and supporting the consumer trade negotiation by the employment of sophisticated databases [26]. In line with the construct of interactive IMC [21] this approach developed a communication strategies for delivering personal messages and suggest to customers a variety of double dialogue channels [27]. During this relation, IMC desires interactive marketing strategies determined by customer desires across the connection lifecycle, The through to customer analysis. consequence of high-quality CRM info is perceptive comparatively undisputed. Due to this uncertainty, making data analytic initiatives needs a corporate-wide commitment to accumulating customer info the least touch points of the connection through to customer evaluation [28]. Therefore, these points, target analytic competencies across various sources, together with customer touch points, dealings data, loyalty/ satisfaction data and customer lifelong value data. So, having higher data quality relates to every kind of data and, at last, is positively coupled with customer and business performance, [20, 29].

# **2. HYPOTHESES TESTED**

To extend the work of Zahay, et al. [20]; Zahay, et al. [25] our interactive IMC data integration and measure framework is shown in Figure one. Therefore to examining, however, the data accumulated from various accomplishment points, directly and indirectly, impacts CRM data and customer performance. As given in Figure one, to show the IMC data via a ordered process: (i) transactional and psycho-demographic data are first used to produce target segments and customer profiles (ii) personal data are used to deliver and track the efficacy of electronic communication and provide techniques targeted to positively different segments; and (iii) touch points represent target data and outcomes accumulated from various interactive communication channels. As recommended interactive IMC data analytic framework and to develop target and personal messages and marketing suggest delivered via interactive response channels. Similarly, our framework includes a variety of direct effects, and, therefore, interested in the most effective ordering of these different types of data and determining how they indirectly impact CRM data and customer performance. Transactional and RFM data -Direct effects

Transactional data are explaining customer segments that disagree in their contribution to the firm that are the governing mechanism employed by several interactive traders to estimate customer lifelong value [30]. Advanced info technology innovation has increased the power of firms for an increasing transactional data from positively different customer like customer lifelong value (CLV) and customer equity [31]. So, transactional data are investigated in terms of the impact that RFM (last purchase), Frequency (variety of transactions) and financial (worth of transactions) have on CLV. Thus, interactive traders and RFM data have predictive power in determining CLV, some research analyzes however it affects the standard of interactive CRM systems and these data inspire to form customer info for developing effective IMC initiatives [20]. Transactional and RFM data represent the bottom of our IMC model. We tend to, therefore, theorizes that:

Hypothesis 1: transactional data is positively associated with CRM system quality.

Whereas transactional data measures customer behavior, psychographic established data target customers worth, buying for motivations, positions, and lifestyles. Psychographic data merged with demographic data like age, gender, income, legal status and family size permits traders to request to the underlying motivations and lifestyles of various customers [32]. From a customer satisfaction Psycho-demographic data are internally created, and outwardly from commercially obtained info regarding customers and prospects, which might be added to internal data files. Though most of the studies have explained consumer behavior, few have searched customers' psycho-demographics for segmenting customers using data processing techniques. The rationale is that the psychographic data that are kept in customers' minds, and not well integrated with demographic info that is kept in a very grammatical IMC info. On the opposite hand, once psycho-demographics, coupled with CRM data, like dealings info are seen as static components, they will facilitate within the forming of a longitudinal view of the customer. In spite of the logical association between customer psycho-demographics and relative outcomes, analysis has through empirical observation tested that however their use impacts CRM data quality and customer performance. We assume

Hypothesis 2: psycho-demographic data is positively associated with CRM system quality.

Privacy is that the ability to individualize customer communications and marketing provider [25]. The creation and delivery of personal marketing provider and communications move off from a one-size-fits-all strategy to know that customers don't seem to be anonymous entities, however, rather distinguishable people with positively different behavioral and psychodemographic profiles [33]. Privacy is recognition and delivery of messages and provides no-hit, following of privacy makes an attempt is additionally necessary for a very quality CRM system [34]. These following measures extent customers receive and also the right suggest and messages at the proper time and place [35]. Though some researchers examine the connection between the number of privacy data a company collects and its performance, Zahay, et al. [20] find that the data used to take in person buyer–seller relationships have a control on perceived data quality. Therefore, we tend to theorize that: Hypothesis 3: message and provide privacy data is positively associated with CRM system quality. Hypothesis 4: privacy following data is positively associated with CRM system quality.

There are positively different definitions of customer touch points, principally agree that they seek advice from some extent of contact to the delivery and reception of communications and provide. During this relation, touch point designing is an in-depth approach for coming up with, delivering, managing and mensuration personal customer relationships across communication channels. Interactive customer touch point includes info captured via the net, email, phone and different channels present double direction communication. Research suggests that the impact of development and management valued customer relationships is collected by the firms and integrated behavioral data at the purpose of data delivery [36]. This worth is predicted to be higher communications add bicycle-built-for-two with once marketing different touch points to maximize customer connections, Moreover, the CRM systems are that the ability to trace wherever and the way communications /supply are delivered, that are allotted to individual customer files [37]. Additionally, as а final link within the IMC data method. the connected customer touch points can positively impact the standard of CRM systems.

Hypothesis 5: customer touch point data is positively associated with CRM system quality. Hypothesis 6: customer touch point data is positively associated with customer performance. Indirect hypotheses Zahay, et al. [20] conceptualized a customer data pyramid associated with the CRM system quality and customer performance. They maintain that the worth of a firm's customer data is tied and to be accumulated and used in CRM systems. The authors take into account that international data would be at rock bottom of the pyramid, followed by psycho-demographic data, privacy data and customer touch point data. Our IMC data framework states the present of an IMC data, with lower data on the pyramid resulting in increased aggregation of IMC data. Transactional and psycho-demographic data are not to develop customer segments. Zahay, et al. [25] suggest that psycho-demographic data are more powerful than dealings data and also because the transaction established segments as resources by making the profiles of the purchasers target. Thus:

Hypothesis 7: RFM/ dealings data is positively associated with the aggregation of psychodemographic data.

Directed electronic communication and uses provide privacy, data that are translated by behavioral segmentation and profiling models [28, 38]. The data of customer dealings and psychodemographic data are function inputs into the privacy method that desires an identical of what customers wish and what they provide [34]. In observing, from various touch points to a customer's behavioral and psycho-demographic profile, effective info managers are additionally add data assortment as a resource of furnishing a relationship. Thus, hypothesis follows us:

Hypothesis 8: RFM/transaction data are positively associated with the aggregation of privacy data. Hypothesis 9: transactional data is positively associated with the aggregation of customer Touch point data. Hypothesis 10: psycho-demographic data is positively associated with the aggregation of (i) provide and message privacy data, and (ii) privacy following data.

Figure one show, the extended work of Zahay, et al. [20] data pyramid by ever-changing the sequencing of privacy data and touch point data. As a result of a firm's personal message and provide are administered via designated touch points, touch point data logically hold the final position within the data framework [39].

Hypothesis 11: provide and message privacy data is positively associated with the aggregation of privacy following data.

Hypothesis 12: provide and message privacy, data; and privacy following data in positively associated with the aggregation of customer touch point data.

We estimate the connection between the standard of IMC data at intervals a CRM system and customer performance, that CRM data quality and customer performance closing the loop in our interactive IMC data framework. The analysis shows that effective CRM implementation and use contributes to improved customer performance [30]. Though CRM system and data quality accomplished customer performance, thus the hypothesis that:

Hypothesis 13: the standard of IMC data in a very CRM system is positively associated with customer performance.

#### 3. METHODOLOGY

From West of Iran, a complete of 1050 executives within the financial services trade was designated. The forms were sending by hooked up mail for finishing to the participant. Once one month a second mailing was sent to non-respondents. In total, 340 questionnaires came back. Eight respondents were removed owing to non-response, exploit a sample of 332 (%32) (Table 1). 48 % of business is B2B about thirty Approximately the and 7 % are B2C. The respondents reportable that 53 % of their business was directed at retail or branch banking locations and relied on outside sales personnel for 24 % of their business. The majority of the respondents (63 percent) were 38 years or older. On-line business was a touch over 13 % of their sales, in step with the trade average. Most of the firms (71.5 percent) are reportable a minimum of Rials 1250 million in sales/assets underneath management. Attainable biases of informer were controlled for by requiring informed to be: (i) data table in their field; (ii) have a business experience; and) iii) have a significant quantity of background in their trade. Moreover, a Harmon's one-factor take a look at shown that common methodology bias wasn't a difficulty within the data. According to the previous work of the CRM and structure learning literature, five independent variables were developed in our model. Therefore, all variables were calculable using various-item 5-point scales mensuration the proportion of your time that these data are collected for incorporation in their customer info (0 percent, twenty-five per cent, fifty per cent, seventy-five percent, and one hundred percent). A summarize average score was calculated for every. Transactional / RFM data  $(\alpha = 0.86)$  was measured by four items) i) Customers' last purchase date) ii) Revenue by product (iii) Frequency of purchase and (iv) total revenue from the customer. Psycho-Demographic data ( $\alpha$  = 0.72) were calculable by 2 items) i) customer psychographics and) ii) customer demographics. Message provide Privacy data ( $\alpha = 0.85$ ) was measured by 2 items i) Tailor marketing provide to customers ii) Tailor communications to customers. Privacy following data ( $\alpha = 0.82$ ) was measured by 3 items i) messages created to customers ii) customers skillful messages and iii) following the methodology of contact for marketing messages. customer touch point data ( $\alpha = 0.79$ ) was calculable by three points of contact items, i) Email communications (ii) Personal service contracts and iii) web sales. The model shows 2 dependent variables, CRM system quality, and customer performance. In our model, CRM system quality could be a proceeding of customer performance. Therefore, CRM System Quality ( $\alpha = 0.79$ ) was calculable by four Items associated with various touch point CRM system implementation, i) Quality of web and Email data, ii) Quality of Loyalty data iii) Quality of Management Data iv) Quality of CRM Data's skills. The size ranged from one = poor to five =wonderful. Customer performance ( $\alpha = 0.79$ ) was measured by two Items that reflect semi -permanent customer profitability i) Cross-Selling and ii) ROI on a customer basis. Customer performance for the past three years relative to the competition was calculable as  $\alpha$  = one lower to 5=higher scale. Items from the survey were investigated, followed by an item to total correlation analysis. The strategy used was recommended by McDonald [40] wherever the CFA is guided and informed by the EFA results. Items with the low item to total correlations were removed. Table two furnishes the dependableness and issue loadings for the final independent variables. The coefficient's a variety from 0.72 to 0.90, indicating satisfactory levels of dependableness for the measures. We tend to next direct a confirmatory correlational analysis. However, using AMOS, separate CFAs were directed to the independent and dependent variables. Because the average variance extracted (AVE) is bigger than the sq. of the construct's correlations with the opposite factors, square inter-item correlation (SIC) that is providing proof of discriminate validity within the constructs. The fit indices of the variable CFA indicate a decent fit, particularly for the small sample size, with  $x^2 = 51.35$  (DF= 11), normed fit index (NFI) = 0.948, incremental fit index (IFI)= 0.9961, comparative fit index (CFI)= 0.961, the Tucker-Lewis index (TLI)= 0.935 and also the root mean sq. error of approximation (RMSEA) = 0.11. The fit indices of the experimental variable CFA additionally indicated an inexpensive fit, and for the small sample size, with x2182.30 (DF=96), NFI= 0.880, IFI= 0.940, CFI= 0.940, the TLI= 0.916 and also the RMSEA= 0.076. Having guided these tests for discriminate validity, the final scales were created as summarize mean various the individual items. The matrix together with the resources and customary deviations of our summarize dimensions are reportable in Table three. Whereas the correlation matrix exhibits some of the primary relationships such as the strong relationship between both customer touch points, CRM data quality and performance, the SEM as fit exhibit the complex relationships of the variables.

# 4. ANALYSIS AND RESULTS

In a combined SEM model using AMOS 19 the hypothesized direct and indirect relationships were examined. Booth the Goodness of fit Index (GFI 0.993) and Adjusted Goodness of fit Index

(AGFI=0.984), that measure the fit of the combined measure and structural model to data (x2=2.64) were bigger than 0.91. The Root Mean Residual, that estimates the correlations between the remaining variance of the model items, and will be but 0.05 for an in-depth fit is 0.029. The Steiger-Lind RMSEA, a non-centrality measure the root of an estimate of the population discrepancy divided by the degrees of freedom that should be as near zero as attainable, is 0.001. CFI, a normed comparative fit index that should be as near one as attainable, was 0.96 [41]. The results of the hypotheses tested shown in table four. Alternate models were tested that removed variables and/or methods which reversed the hypothesized directional relationships. None of those alternate models fit higher than the model reportable in Figure one. As a result of the one-tailed take a look at is most acceptable for these data, all methods except RFM/transactional data to supply/message privacy data and psycho-demographic data to customer touch points were significant at P < 0.05. The trail from RFM/Transactional data to CRM system quality was significant at P < 0.055.

#### 4.1. Mediation Tests

In this analysis, many mediation tests were directed by using the approach supported by Zhao, et al. [42] via an SPSS manuscript file developed by Preacher and Hayes [43]. We expect from the finding that CRM system quality would be strengthened by these tests. Table five, shows that CRM system quality mediates the impact of the aggregation of, Psycho-demographic, Privacy, and Supply/Message Privacy on performance also as RFM/ transactional data and customer touch point data on customer business performance. Within the cases of those styles of data, the indirect impacts are larger than the direct effect and when the mediator is included in the equation, consistent with direct mediation the direct effect becomes insignificant. Through paying attention to CRM system quality the organization's business and customer, performance is accomplished directly from data aggregation. Therefore, the indirect methods from structure culture to performance are stronger than the direct, consistent with mediation, however, each the indirect and direct effects are significant. These results indicate that CRM system quality will mediate the trail from the aggregation of RFM/ transactional data and customer touch point data to perform. As well as, the organization's business and customer performance don't seem to be accomplished directly from data aggregation, but by using the information from data aggregation to enhance CRM system quality. Because the relationship isn't reflecting full mediation, there may be another issue to think about in future analyzes. Maybe thus, these constructs should be distended to extend comprehension of the mediating effects.

## 5. DISCUSSION

This model expands earlier work and shows the consequence of customer info and their final impact on equal worth, and in CRM system quality and customer performance. Our model shows that CRM System Quality results in increased customer performance, and showing that a strategic system is very important for personal communications and customer touch points. As

shown in Figure two, our findings emphasize that to gather customer data, impacts the higherlevel customer data are collected and used for obtaining close to customers. Our IMC model furnishes steerage for managers that are troubled to know 'big data' and the way to manage and integrate heterogeneous customer databases and a variety of media channels. During this context, in lightweight of the dynamic nature of technology like the social media, the digital area should be tightly integrated, so as to create them helpful for firms. Such cross-media campaigns will only be developed with segmentation and profiling data together with personal info. In recent years, the channels of sales have matured, giving the power to succeed in customers through just about via commerce and additionally through mobile environments [44]. Therefore, these channels permit integrated communications, additionally present a more pressing challenge for firms as they struggle to optimize and organize their customer info.

With such opportunities, there's a more pressing want for firms to stay watchful in following transactions and psycho-demographic data currently than ever before; because the model here shows, this data may be used to individualize delivery and track it and improve customer touch point. The model clearly suggests that firms through the aggregation of Psycho-Demographic data and each Message/Content Privacy and Privacy are following data and also the increase in CRM system quality which ends up that performance is accomplished during this context. Confirming this finding, current analysis within the space of digital advertising indicates that firms have bigger opportunities to individualize message content in interactive platforms. This study extends the Zahay and Griffin [45]; Debra [46] add that a link increased from privacy message in performance and was established, by that specialize in the role of CRM data quality in making the firm performance. This model additionally suggests that increased privacy message and content data delivery and increased customer touch point data. Our findings support the concept that firms performance method and customer touch points data each is efficient and effective [46]. Therefore, according to this idea, we find that advertising and promotion may be termed a 'metric that matters' and may result in progressive sales of a product. Moreover, the long life issue of the customer relationship is creating an initial impression on a customer, however while not a current and personal communication arrange, the customer will finally switch to a different product or firm. With updated data banks, firms will precisely profile customers and target their personal communications to correct touch point data. As our model shows, this touch point data result in CRM System Quality and to CRM performance. Therefore, we recommend that continuing loyalty to complete results in increased market share and growing in a very competitive market. Hence, the role of CRM System Quality is crucial for firms to extend market insight and performance.

## 6. LIMITATIONS AND FUTURE ANALYSIS

In line with this study, a more work must be done on larger sample sizes in various industries and to know however CRM quality will result in customer performance. As firms more and broader, future analysis should take a look at our model from a society perspective. Our model doesn't measure loyalty outcomes, the chance exists to any this kind of analysis on those lines. The analysis shows that customers are satisfied and their charges are handled in an acceptable manner; once keeping a customer is enhanced; thus to create easier such charges and handle customer communications, firms should have a high-quality CRM system. The link to customer loyalty that firms will create once they have high CRM System Quality allows them to continue relationships with customers, therefore making a feedback for our IMC model.

# REFERENCES

- G. F. Kerr, D. Schultz, C. Patti, and K. Ilchul, "An inside-out approach to integrated marketing communication: An international analysis," *International Journal of Advertising*, vol. 27, pp. 511– 548, 2008.
- [2] P. J. Kitchen, I. Kim, and D. E. Schultz, "Integrated marketing communication: Practice leads theory," *Journal of Advertising Research*, vol. 48, pp. 531-546, 2008.
- [3] D. Zigmond and H. Stipp, "Assessing a new advertising effect: Measurement of the impact of television commercials on internet search queries," *Journal of Advertising Research*, vol. 50, pp. 162–168, 2010.
- T. Hipperson, "The changing face of data insight and its relationship to brand marketing," *Journal of Database Marketing & Customer Strategy Management*, vol. 17, pp. 262-266, 2010.
- [5] O. Acker, F. Gro"ne, A. Blockus, and C. Bange, "In memory analytics strategies for real-time CRM," *Journal of Database Marketing & Customer Strategy Management*, vol. 18, pp. 129-136, 2011.
- [6] A. C. Micu, "Guest editorial: The shape of marketing research in 2021," *Journal of Advertising Research*, vol. 51, pp. 213-221, 2011.
- [7] A. G. Abdul-Muhmin, "CRM technology use and implementation benefits in an emerging market," *Journal of Database Marketing & Customer Strategy Management*, vol. 19, pp. 82-97, 2012.
- [8] S. Assael, "From silos to synergy: A fifty-year review of cross-media research shows synergy has yet to achieve its full potential," *Journal of Advertising Research*, vol. 51, pp. 42–58, 2011.
- D. W. Stewart and M. Hess, "How relevancy, use quantitative research," *Journal of Advertising Research*, vol. 51, pp. 195-204, 2011.
- [10] M. Reimann, O. Schilke, and J. S. Thomas, "Toward an understanding of industry commoditization: Its nature and role in evolving marketing competition," *International Journal of Research in Marketing*, vol. 27, pp. 188–197 2010.
- [11] P. LaPointe, "The dog ate my analysis: The hitchhiker's guide to marketing analytics," *Journal of Advertising Research*, vol. 52, pp. 395-396, 2012.
- [12] V. Kumar and M. George, "Measuring and maximizing customer equity: A critical analysis," *Journal of the Academy of Marketing Science*, vol. 35, pp. 157–171, 2007.
- [13] J. W. Peltier, D. Zahay, and D. R. Lehmann, "Organizational learning and CRM success: A model for linking organizational practices, customer data quality, and performance," *Journal of Interactive Marketing*, vol. 27, pp. 1–13, 2013.

- [14] J. Hallward, "Make measurable what is not so: Consumer mix modeling for the evolving media world," *Journal of Advertising Research*, vol. 48, pp. 339–351, 2008.
- [15] Y. Wind and B. Sharp, "Advertising empirical generalizations: Implications for research and action," *Journal of Advertising Research*, vol. 49, pp. 246–252 2009.
- [16] A. Wurtzel, "Viewpoint: Now or never an urgent call to action for consensus on new media metrics," *Journal of Advertising Research*, vol. 49, pp. 263–265, 2009.
- [17] E. G. Smit and P. C. Neijens, "The march to reliable metrics: A half-century of coming closer to the truth," *Journal of Advertising Research*, vol. 51, pp. 124–135, 2011.
- [18] R. Pettit, "The march toward quality: The ARF's quality-enhancement process," *Journal of Advertising Research*, vol. 50, pp. 120-124, 2010.
- [19] M. O'Regan, K. Ashok, O. Maksimova, and O. Reshetin, "Optimizing market segmentation for a global mobile phone provider for both targeting and insight," *Journal of Advertising Research*, vol. 51, pp. 571–577, 2011.
- [20] D. Zahay, J. Peltier, and A. S. Krishen, "Building the foundation for customer data quality in CRM system quality for financial services firms," *Journal of Database Marketing & Customer Strategy Management*, vol. 19, pp. 5–16, 2012.
- [21] J. W. Peltier, J. A. Schibrowsky, and D. E. Schultz, "Interactive IMC: The relational-transactional continuum and the synergistic use of customer data," *Journal of Advertising Research*, vol. 46, pp. 146–159, 2006.
- [22] A. Payne and P. Frow, "A strategic framework for customer relationship management," *Journal of Marketing*, vol. 69, pp. 167-176, 2005.
- [23] A. S. Even, G. Shankaranarayan, and P. Berger, "Inequality in the utility of customer data: Implications for data management and usage," *Journal of Database Marketing & Customer Strategy Management*, vol. 17, pp. 19–35, 2010.
- [24] P. C. Verhoef, R. Venkatesan, L. McAlister, E. C. Malthouse, M. Krafft, and S. Ganesan, "CRM in data-rich multichannel retailing environments: A review and future research directions," *Journal of Interactive Marketing*, vol. 24, pp. 121-127, 2010.
- [25] D. Zahay, J. Peltier, D. E. Schultz, and A. Griffin, "The role of transactional versus relational data in IMC programs bringing customer data together," *Journal of Advertising Research*, vol. 44, pp. 3-18 2004.
- [26] J. M. McGrath, "Using means-end analysis to test integrated marketing communications effects," *Journal of Promotion Management*, vol. 16, pp. 361-387, 2010.
- [27] J. S. Thomas and U. Y. Sullivan, "Managing marketing communications with multichannel customers," *Journal of Marketing*, vol. 69, pp. 239–251, 2005.
- [28] J. W. Peltier, J. A. Schibrowsky, and D. E. Schultz, "Interactive integrated marketing communication combining the power of IMC, the new media and database marketing," *International Journal of Advertising*, vol. 22, pp. 93–116, 2003.
- [29] D. Zahay, "Successful B2B customer database management," Journal of Business & Industrial Marketing, vol. 23, pp. 264–272 2008.

- [30] C. Homburg, M. Droll, and D. Totzek, "Customer prioritization: Does it pay off, and how should it be implemented?," *Journal of Marketing*, vol. 72, pp. 110–130, 2008.
- [31] R. Y. Du, W. A. Kamakura, and C. F. Mela, "Size and share of customer wallet," *Journal of Marketing*, vol. 71, pp. 94-113, 2007.
- [32] J. A. Smith, B. A. Boyle, and H. M. Cannon, "Surveybased targeting fine-tunes television media planning a case for accuracy and cost efficiency," *Journal of Advertising Research*, vol. 50, pp. 428– 439, 2010.
- [33] G. Chakraborty, V. Lala, and W. Warren, "What do customers consider important in B2B web sites?," *Journal of Advertising Research*, vol. 43, pp. 50–61 2003.
- [34] T. W. Jackson, "Privacy and CRM," *Journal of Database Marketing & Customer Strategy Management*, vol. 15, pp. 24-36, 2007.
- [35] S. Li, B. Sun, and A. L. Montgomery, "Cross-selling the right product to the right customer at the right time," *Journal of Marketing Research*, vol. 48, pp. 683–700, 2011.
- [36] S. Davis, "Marketers challenged to respond to changing nature of brand building," *Journal of Advertising Research*, vol. 45, pp. 198-200, 2005.
- [37] J. Romaniuk and C. Gugel, "The ARF 360 model update to a human-centric approach," *Journal of Advertising Research*, vol. 50, pp. 334–343 2010.
- [38] M. J. Dutta-Bergman, "The demographic and psychographic antecedents of attitude toward advertising," *Journal of Advertising Research*, vol. 46, pp. 102–112 2006.
- [39] A. Jenkinson, "Evolutionary implications for touch point planning as a result of neuroscience: A practical fusion of database marketing and advertising," *Journal of Database Marketing & Customer Strategy Management*, vol. 14, pp. 164–185, 2007.
- [40] R. P. McDonald, *Test theory, and Mahwah*. NJ: Erlbaum, 1999.
- [41] P. M. Bentler, "Comparative fit indexes in structural models," *Psychological Bulletin*, vol. 107, pp. 238–246, 1990.
- [42] X. Zhao, J. G. Lynch, and Q. Chen, "Reconsidering Baron and Kenny: Myths and truths about mediation analysis," *Journal of Consumer Research*, vol. 37, pp. 197–206, 2010.
- [43] K. J. Preacher and A. F. Hayes, "Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models," *Behavior Research Methods*, vol. 40, pp. 879–891, 2008.
- [44] M. Bui, A. Krishen, and M. Latour, "Kiosk retailing promotions: Effects of gender on ad credibility and product expectations," *Journal of Advertising Research*, vol. 51, pp. 1–18 2012.
- [45] D. Zahay and A. Griffin, "Customer learning processes, strategy selection, and performance in business-to-business service firms," *Decision Sciences*, vol. 35, pp. 169-203 2004.
- [46] Z. Debra, "A hierarchical IMC data integration and measurement framework and its impact on CRM system quality and customer performance," *Journal of Marketing Analytics*, vol. 1, pp. 32–48, 2013.

## **BIBLIOGRAPHY**

- J. Hair, W. Black, B. Babin, and R. Anderson, *Multivariate data analysis*. Upper Saddle River, NJ: Prentice-Hall, 2010.
- [2] P. J. Kitchen and D. E. Schultz, "IMC: New horizon false dawn for a marketplace in turmoil?," *Journal of Marketing Communications*, vol. 15, pp. 197–204, 2009.
- [3] G. Lekakos, "It's personal: Extracting lifestyle indicators in digital television advertising," *Journal* of Advertising Research, vol. 49, pp. 404-418, 2009.
- [4] D. Zahay and A. Griffin, "Information antecedents of privacy and customization in business-tobusiness service markets," *Journal of Database Marketing*, vol. 10, pp. 255–271 2003.
- [5] M. Zineldin, "The royalty of loyalty: CRM, quality and retention," *Journal of Consumer Marketing*, vol. 23, pp. 430-437, 2006.



Figure-2. Data pyramid

## Journal of Asian Scientific Research, 2016, 6(1): 9-23

Percentage of sales	Mean
B2B sales percentage	47.8
B2C sales percentage	37.2
Retail sales percentage	55.6
Online sales percentage	17.3
External sales percentage	24.6
Sales/assets under management	Per cent
<50 million	15.5
51–250 million	12.2
250.1 million-1 billion	23.2
1.1–5 billion	26.9
>5 billion	18.2
Respondent age	Percent
o32	12.5
32–40	24.5
41–50	39.1
51	23.9

Table-1. Demographic profile of respondents

Table-2. Reliability and factor loadi	ings for independent variables
---------------------------------------	--------------------------------

	Factor loading	
Transactional/RFM data (α=0.83)		
Customers' last purchase date	0.76	
Frequency of purchase	0.71	
Total revenue from customer 0.62		
Revenue by product or product line	0.60	
Psycho-demographic data ( $\alpha$ =0.75)		
Customer lifestyle data	0.85	
Customer psychographics/personality	0.81	
Customer demographics	0.62	
Message/supply privacy data ( $\alpha$ =0.82)		
Tailor communications to customers	0.87	
Tailor marketing supplys to customers	0.88	
Tailor marketing supplys to prospects	0.80	
Privacy tracking data ( $\alpha$ =0.9)		
Tracking marketing messages/supplys made to customers	0.80	
Tracking marketing messages/supplys customers responded to	0.74	
Tracking method of contact for marketing supply	0.65	
Customer Touchpoint data (a=0.76)		
Email communications	0.83	
Service contacts	0.75	
Internet communications/sales	0.75	

Table-3. Item	correlations	and reliabilities
---------------	--------------	-------------------

Variables	PSYCH	RFM	TOUCH	MESSAGE	PERS	CRM	PERF
Psycho-Demographic	1	-	-	-	-	-	-
RFM/Transactional	0.409**	1	-	-	-	-	-
Customer Touchpoint s	0.144*	0.245**					
Message/Supply Privacy	0.265**	0.204**	0.102	1			
Privacy Tracking	0.410**	0.316**	0.221**	0.530**	1		
CRM System Quality	0.446**	0.347**	0.260**	0.464**	0.456**	1	
Customer Performance	0.119	0.101	0.324**	0.062	0.1	0.221**	1
Mean	2.60	3.53	3.61	3.44	3.13	2.97	3.23
Standard Deviation	1.15	1.16	1.11	1.1	1.13	0.75	0.73

\* and \*\* indicate significance at 0.05 and 0.01, respectively; N=332.

#### Journal of Asian Scientific Research, 2016, 6(1): 9-23

		Standard coefficient	t-value
H1	RFM/Transactional→CRM System Quality	0.1121	1.50
H2	Psycho-Demographic $\rightarrow$ CRM System Quality	0.237***	3.40
H3	Supply/Message Privacy $\rightarrow$ CRM System Quality	0.133*	1.76
H4	Privacy Tracking $\rightarrow$ CRM System Quality	0.313***	4.25
H5	Customer Touchpoint s $\rightarrow$ CRM System Quality	0.128*	2.23
H6	Customer Touchpoint s $\rightarrow$ Customer Performance	0.282***	3.91
H7	$RFM/Transactional \rightarrow Psycho-Demographic$	0.411***	5.90
H8a	RFM/Transactional→Supply/Message Privacy	0.130*	2.01
H8b	$RFM/Transactional \rightarrow Privacy Tracking$	n.s.	n.s.
H9	RFM/Transactional $\rightarrow$ Customer Touchpoint s	0.204**	2.55
H10a	Psycho-Demographic $\rightarrow$ Supply/Message Privacy	0.255***	3.62
H10b	Psycho-Demographic $\rightarrow$ Privacy Tracking	0.220***	3.24
H11	Psycho-Demographic $\rightarrow$ Customer Touchpoint s	n.s.	n.s.
H12	Supply/Message Privacy $\rightarrow$ Privacy Tracking	0.442***	7.02
H13	CRM System Quality $\rightarrow$ Customer Performance	0.201***	3.91

#### Table-4. Results and hypothesis testing structural equation model

<sup>1</sup>P 0.10, \*P<0.05, \*\*P<0.01, \*\*\*P<0.001 (one-tailed tests).

Notes: Model fit: x<sup>2</sup> (332)=2.68, GFI=0.994, AGFI=0.984, CFI=0.96, RMSEA= 0.001.

Independent variable	Dependent variable	Mediator	Direct effect	Indirect effect	Result
RFM/	Customer	CRM system	0.1118 (0.0026)**	0.2350 (0.0122)*	Partial
Transactional	Performance	quality			Mediation
Psycho	Customer	CRM system	0.0819 (0.1006) ns	0.3057 (0.0045)**	Mediation
demographic	Performance	quality			
Customer	Customer	CRM system	0.1868 (0.0429)*	0.2373 (0.000)**	Partial
Touchpoint s	Performance	quality			Mediation
Privacy	Customer	CRM system	0.0700 (0.1817) ns	0.3344 (0.0027)**	Mediation
Tracking	Performance	quality			
Supply/Message	Customer	CRM system	0.0535 (0.2720) ns	0.3182 (0.0017)**	Mediation
Privacy	Performance	quality			

Table-5. Results mediation tests

\* and \*\* indicate significance at P<0.01 and P<0.05; ns: non-significant. All tests are two tailed.

Views and opinions expressed in this article are the views and opinions of the authors, Journal of Asian Scientific Research shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.