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An In-Depth Study Of Big Data Analytics And Managerial Support On CRM: Exploring Mediating Role Of Marketing Analytics

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ABSTRACT

There is fierce competition in the IT business, and CRM is crucial to the industry. Thus, the goal of this research was to investigate the connections among CRM, managerial support, competition pressure, big data analytics, and marketing analytics. This study also looked at marketing analytics' mediation role. This study used the PLS-SEM model to determine how these factors affected CRM. Simple random sampling was used to get the respondents' information. The study's response rate was 60.70 percent. The study's conclusions demonstrated the strong correlation between CRM capabilities and big data analytical capacity, managerial support, competitive pressure, and marketing analytics. It also confirms the mediating marketing analytics. The study's conclusions corroborate the notion that management support and big data analytics play a significant part in consumer happiness. Government agencies and IT decision-makers can utilize these findings to inform their customer strategies.

INTRODUCTION

Previous research has covered a variety of managerial strategies. One well-known strategy is customer relationship management, which is crucial for improving customer relationships and for creating and growing relationships with customers in order to increase shareholder value, organizational profitability, and customer value. Building relationships with consumers and other stakeholders has been increasingly crucial for managers in the previous century. The discipline of CRM has arisen as a result of the rise of IT. CRM's primary goal is to use IT to carry out marketing initiatives. The development of CRM can be attributed to the change in relationship marketing trends. It is the compromise made between providing value to customers and obtaining value from them. CRM [39].
The idea of marketing analytics has emerged as a result of the marketing field's rapid changes. The idea of marketing analytics has received a lot of attention from academics in recent years. Based on marketing statistics, marketing professionals can make more informed judgments. These choices have the potential to enhance an organization's performance. An important area of business analytics is marketing analytics, which is the idea of collecting, managing, and analyzing data to better use it to support marketing decisions. Using IT resources to incorporate market knowledge is the primary goal of data analytics [3].

Big data, social media, cloud computing, wireless sensor networks, and the internet of things are all part of this era. Given their connection to big data, all of these technologies are frequently utilized in our day-to-day activities. The broad use of digital technology has led to the application of big data business analytics, or BDBA. Giving firms greater tools to extract value from their vast data sets is a vital business competence. in order for the businesses to obtain a sustained competitive advantage. Researchers have examined BDBA from two angles in the past: big data and business analytics. The ability of an organization to handle data with characteristics like volume, diversity, and velocity is

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referred to as big data [16]. Since managing such massive data presents a significant barrier for organizations, decision-makers in those organizations as well as scholars have focused heavily on the notion of BDBA in recent years [40]. Relations between employees and managers are a problem that organizations all over the world have to deal with. Employees don't share this viewpoint, and businesses have moved their emphasis from people to strategy, even when the organization's cutting-edge technology are endangering the environment all around the world. It's also critical to note the connections between various organizations and stakeholders. Employers and managers have an obligation to assist staff members through any difficulties they may encounter in order to keep them motivated to deliver better work and stay loyal to the company. For the organization to succeed, each of these elements is crucial [29].

Employers and employees have a joint obligation to provide the necessary platforms so that workers can advance professionally by acquiring new knowledge and skills (Travaglione, Scott-Ladd, Hancock, & Chang, 2017).

In the current digital era, it is critical for the service industry to retain qualified employees. Organizations constantly attempt to defend themselves through competitive actions. The majority of these activities are connected to the marker actions that help set your firm apart from the competition [27]. The rival's acts are crucial for competitive actions. Organizations must thus create strategies that can aid in obtaining a competitive advantage as the competitive environment grows [42].

The purpose of this study was to investigate how CRM in the UAE's IT industry is impacted by big data analytics, managerial assistance, marketing analytics, and competitive pressure. The mediating function of marketing analytics in the suggested factors was also investigated in this study.

REVIEW OF LITERATURE

A. Analytical Marketing

Marketing analytics is the process of using data to assess the performance and efficacy of market efforts. Organizations can gain a better understanding of their customers and maximize marketing goals by integrating AI and marketing with their whole business plan. Better earnings are now achievable for enterprises as a result. In this case, the business should concentrate on the marketing's dynamic capabilities since they demonstrate the firm's capacity to participate in market research. and apply knowledge of market analysis and attaining long-term competitive advantages [26]. Marketing analytics benefits both consumers and marketers. Because these companies have a greater understanding of how to generate brand recognition and conversions, they are more equipped to help corporations achieve higher rates of return on investment and profits. Businesses are also able to play targeted advertisements to customers with the aid of analytics [32].

B. CRM

Customer data, made easier by IT use, is the cornerstone of customer relationship management (CRM). Academics noted that as CRM is a sophisticated and cutting-edge tool, customer data can be data mined with the help of the system's various points of communication. CRM is one of the essential elements of the organizational strategy to keep clients longer. The establishment of enduring relationships with clients is crucial in augmenting their worth to firms. But the idea of customer management is not new; it dates back to the 1990s, when information technology first emerged. This tactic, sometimes referred to as CRM in writing, is the process of attracting, retaining, and strengthening client relationships. The primary goal is to increase profitability by fostering greater customer loyalty, making the acquisition of new clients a secondary concern. [13]

C. CRM and Marketing Analytics

Researchers have previously indicated that companies will gain most from CRM if they can leverage data analytics to the fullest extent possible through marketing expertise. Additionally, businesses will be in a better position to build trusting relationships with prospective clients. By doing this, the company gains the capacity to establish rapport with potential clients and hold onto existing ones for an extended amount of time. The company can better grasp the demands and needs of its clients by feeling the market [14]. As a result, it will be able to establish enduring relationships with clients. Scholars have noted that an organization's capacity to sense the market can affect its capacity

to draw in new clients and enhance its reputation. As a result, a longer length of time is spent attracting and keeping new customers. Furthermore, businesses have effectively elevated themselves to the top of the competitive market by utilizing business analytics [22]. Additionally, there is proof that high-achieving companies employ business analytics to maintain their brand.

D. Analytics Using Large Data

Big data analytics is a very complicated procedure because it's crucial to using data processing to find information. This analysis includes hidden consumer preferences, market trends, correlations, and patterns that are crucial in assisting the company in making business decisions. Big data is a method of data analysis made possible by technological advancements bolstered by data velocity, analysis, and storage. Data created by sensors, output from mobile devices, and emails with no data restrictions are just a few examples of the types of data that are frequently stored in ways other than the organization's standard database [28]

Over the past few decades, researchers have been working on the idea of big data. If an organization can collect the data, it can use analytics. Through the analysis of these data, organizations can obtain vital information. Artificial intelligence is one of the more advanced methods for analyzing data that has been collected [41]. Big data analytics has several advantages, including speed and efficiency. A few years back, organizations conducted information gathering and obtained crucial data on their stakeholders. Currently, companies are able to gather data in real time and analyze it right away to make better, more informed decisions. Big data analytics gives organizations the capacity to operate quickly and effectively [11].

E. Marketing analytics and big data analytics

According to research, businesses need two different kinds of competencies or procedures in order to extract useful information from data. Data management and analytics are these two processes. In this context, academics noted that big data are just large amounts of data without any analysis. In a similar vein, big data analytics would only consist of mathematical and statistical tools and applications [25]. However, because companies have relatively little capacity to analyze the collected data, it is difficult for them to realize the full value of the data they have. In addition, organizations struggle with data analysis. As a result, experts said that using big data makes it possible for businesses to leverage information for marketing analytics. This is crucial in order to extract valuable knowledge and insights from the gathered data. Big data can be interpreted, analyzed, and modelled in the case when it is combined with marketing analytics. Researchers that evaluated the benefits of big data for the company also noted these same outcomes [30].

F. Assistance from Managers

Managers are crucial in helping employees feel satisfied in their jobs. Managers are primarily responsible for gathering pertinent data and giving feedback on employees' work performance. Consequently, one derives job satisfaction. Support from managers can serve as a sanitary component and foster an environment where employees are given opportunities for career advancement, responsibility, simulation, recognition, and achievement inside the firm. Scholars have shown that when supervisors assist staff members with their jobs, employee performance improves. As a result, this idea has drawn a lot of interest from a variety of industries. From an employee perspective, immediate managers agree with the perception of support from supervisors. As a result, both businesses and employees profit from supervisor assistance.

G. Support and Marketing Analytics; Managerial

According to their research, [15] found that marketing analytics is a necessary tool for organization managers. Managers of a business will guarantee data availability and employ marketing analytics for data analysis if they view data as a strategic asset. This tactic aids managers in making wise decisions and differentiating their offerings. Utilizing marketing analytics has a wide range of deeper and indirect benefits in addition to its immediate effects.

H. Competitive Pressure

According to [34], competitive pressure is the degree of industry competition that a firm must contend with. Studies have demonstrated that a firm will implement an innovation strategy if there is fierce rivalry in the industry. Researchers also suggested that a relationship is feasible and crucial for resource distribution in order to provide cutting-edge services and goods as a response to rivals in a market that is highly competitive. Numerous empirical investigations have demonstrated that when industry competition is increased, novel techniques can be used. In a study on electronic company conducted in the same context, Sin et al. (2016) discovered that adopting innovative methods is significantly influenced by competitive pressure. In a similar vein, it was noted that firms in Thailand dealing with fierce competition employ creative techniques [34].

I. Marketing analytics and competitive pressure

Numerous investigations have been carried out to investigate the correlation between business analytics and competitiveness [36]. When investigating the impact of competitive pressure on business analytics, [15] carried out a similar study. Because rivals are using the same system, businesses will choose to adopt marketing intelligence solutions. The degree to which suppliers, customers, and organizations are competing with one another through the use of marketing analytics for data collection, management, and analysis in order to derive actionable insights is known as competitive pressure.

Fig 1. Framework III. METHODS OF RESEARCH

This study's research approach involved a number of steps. We used a survey design that was cross-sectional. Priority was given to the validation and design of the cross-sectional instruments. The information was gathered from UAE workers in the IT industry. Simple random selection was used to distribute the questionnaires to the respondents. Afterwards, a number of pertinent statistical tests were used to validate the respondents' responses.

Several introspective items in the survey questionnaire were scored on a Likert 7 scale. The scale had a range of 1 to 7. A score of 1 indicates "strongly disagree," and a score of 7 indicates "strongly agree." The questions for this study were developed using previous research. We modified big data analytics components from [33]. The things related to competitive pressure were taken from [8], the items related to managerial assistance were taken from [37], the items related to marketing analytics were taken from [3], and the items related to CRM were taken from [17]. A group of professionals validated this questionnaire. Subsequently, a pilot test was carried out in order to confirm the validity of the questionnaire that was utilized to gather responses from the participants.

The distribution of the study's questionnaire took place through direct communication with the respondents. There were 537 respondents who received the questionnaires. The respondents provided 326 complete and functional surveys. 60.70% of the responses were usable [19]. We utilized SPSS version 25 and smart PLS 3.3.9 for additional data analysis. Smart PLS 3.3.9 was employed for respondent descriptive analysis while it was also utilized for questionnaire validation and hypothesis testing.

Examining the respondents' demographic profiles is crucial before delving into the study's factors. In this study, men made up 59.4% of the respondents, with women making up the remaining 40.6%. Furthermore, of the respondents, 64.5% were married, while only 35.5% were single. In terms of age, 24.6% of the respondents were between the ages of 18 and 30, 36.2% were between the ages of 30 and 40, while the rest respondents were older than 40.

RESULTS

According to earlier research, PLS-SEM, which is recommended for SEM software based on covariance, is better for prediction (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017). The fact that PLS-SEM is less sensitive to sample size is one of its benefits. As a result, a normal sample size is not necessary for PLS data analysis [24].

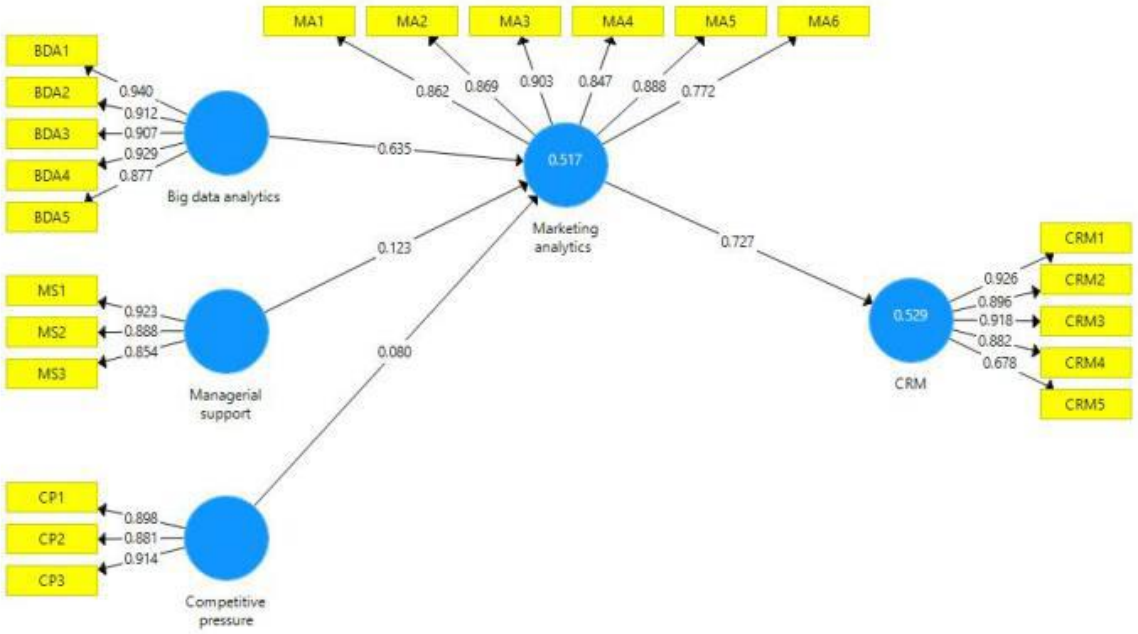

Fig 2: Measuring Model

Note: BDA stands for big data analytics; CRM for customer relationship management; MS for managerial support; CP for competitive pressure; and MA for marketing analytics

A measurement methodology that includes assessing the quality of variables served as the basis for the study's analysis. Factor loading was investigated for this reason. According to suggestions from [21], the numbers in Table 1 demonstrate that the factor loading values are adequate because they above the threshold level of 0.60.

TABLE I. FACTOR LOADING

	BDA	CP	CRM	MA	MS
BDA1	0.940				
BDA2	0.912				
BDA3	0.907				
BDA4	0.929				
BDA5	0.877				
CP1		0.898			
CP2		0.881			
CP3		0.914			
CRM1			0.926		
CRM2			0.896		
CRM3			0.918		
CRM4			0.882		
CRM5			0.678		
MA1				0.862	
MA2				0.869	
MA3				0.903	
MA4				0.847	
MA5				0.888	
MA6				0.772	
MS1					0.923
MS2					0.888
MS3					0.854

Note: BDA stands for big data analytics; CRM for customer relationship management; MS for managerial support; CP for competitive pressure; and MA for marketing analytics.

Afterwards, rho-A, composite reliability, and Cronbach Alpha were used to assess the items' internal reliability. [35] said that rho-A, composite dependability, and Cronbach Alpha must all fall within an acceptable range of more than 0.70. This study's achievement of the threshold level is demonstrated by the values in Table 2. Furthermore, [23] suggested that the AVE cut-off value be greater than 0.5. All of the AVE values are more than 0.50, as shown by the numbers in Table 2 [9].

TABLE II. RELIABILITY AND VALIDITY

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
BDA	**0.950**	**0.952**	**0.962**	**0.834**
CP	**0.882**	**0.914**	**0.926**	**0.806**
CRM	**0.913**	**0.923**	**0.936**	**0.749**
MA	**0.928**	**0.931**	**0.943**	**0.736**
MS	**0.866**	**0.869**	**0.918**	**0.790**

has a
0.12
CP a

Note: CP stands for competitive pressure; BDA stands for big data analytics; MA is for marketing analytics; CRM stands for customer relationship management.

It is crucial to assess discriminant validity at the conclusion of the measurement model using the Hetrotrait Monotrait correlations (HTMT) technique and [18] criterion. It is advised that the values at the diagonal (square root of AVE) must be greater than the remainder values by applying the [18] criterion. These requirements are met, as shown in Table 3 [31].

TABLE III. FORNELL AND LARCKER (1981)

	BDA	CP	CRM	MA	MS
BDA	0.913				
CP	0.532	0.898			
CRM	0.762	0.520	0.865		
MA	0.705	0.442	0.727	0.858	
MS	0.225	0.193	0.254	0.281	0.889

Note: CP stands for competitive pressure; BDA stands for big data analytics; MA is for marketing analytics; CRM stands for customer relationship management.

Subsequently, the acceptable range for the HTMT criteria, which evaluate discriminant validity, should be smaller than 0.90 [23]. Table 4 also indicates that these requirements must be met.

TABLE IV. HTMT

	BDA	CP	CRM	MA	MS
BDA					
CP	0.575				
CRM	0.816	0.579			
MA	0.748	0.475	0.788		
MS	0.245	0.213	0.288	0.314	

Note: CP stands for competitive pressure; BDA stands for big data analytics; MA is for marketing analytics; CRM stands for customer relationship management.

The suggested direct and indirect hypotheses were examined using the structural model. As a result, we used a 500-person sample using the bootstrapping method. The findings of the study's direct hypothesis are shown in Table 5. Based on t=8.436 and beta=0.635, the results show that the BDA significantly influences MA in a positive way. Consequently, the study's H2 is validated. Additionally, with Beta=0.727 and t=15.951, the data demonstrate a positive and significant association between MA and CRM. Thus, the suggested H1 is approved. Furthermore, the statistical results indicate that MS has a noteworthy impact on MA, supporting H4 with t=2.198 and Beta= 0.123. However, the findings disprove H6 by showing that CP and MA do not have a statistically significant positive connection.

TABLE V. DIRECT RESULTS

HYP		Beta	SD	T value	P Values	Results
H1	MA -> CRM	0.727	0.046	15.951	0.000	Accepted
H2	BDA -> MA	0.635	0.075	8.436	0.000	Accepted
H4	MS -> MA	0.123	0.056	2.198	0.014	Accepted
H6	CP -> MA	0.080	0.081	0.987	0.162	Rejected

Note: CP stands for competitive pressure; BDA stands for big data analytics; MA is for marketing analytics; CRM stands for customer relationship management.

Table 6 presents the indirect results of the investigation, which confirm H5 (Beta=0.462, t=6.467) by demonstrating that MA mediates between BDA and CRM. Furthermore, evidence that MA mediates significantly between MS and CRM (Beta= 0.090, t=2.336) supports the study's hypothesis H6. But MA doesn't act as a go-between for CRM and CP. As a result, the current study rejects H7 of the investigation.

TABLE VI. INDIRECT RESULTS

HYP		Beta	SD	T value	P Values
H5	BDA -> MA -> CRM	0.462	0.071	6.467	0.000
H6	MS -> MA -> CRM	0.090	0.038	2.336	0.010
H7	CP -> MA -> CRM	0.058	0.059	0.982	0.163

Note: CP stands for competitive pressure; BDA stands for big data analytics; MA is for marketing analytics; CRM stands for customer relationship management.

When the R square values are finally analyzed, it is found that 52.9% (CRM) and 51.7% (MA) of the study's dependent variables are impacted.

TABLE VII. R SQUARE

	Original Sample (O)
CRM	0.529
MA	0.517

Note: CRM stands for customer relationship management; MA stands for marketing analytics.

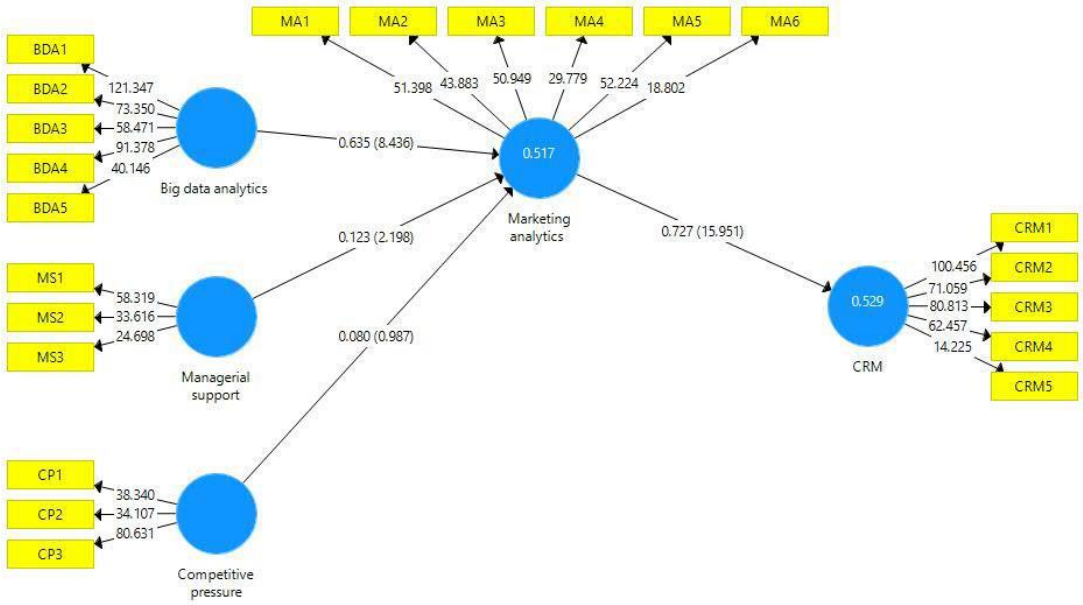

Fig 3: Structural Model

Notes: CP stands for competitive pressure; BDA is for big data analytics; MA stands for marketing analytics; CRM stands for customer relationship management.

DISCUSSION AND CONCLUSION

The management of consumers is critical to an organization's ability to survive. The global IT market is becoming more and more competitive, with the UAE's IT sector in particular. The purpose of this study was to assess the various factors—competitive pressure, management support, and big data analytics—that can affect CRM. It also looked at how marketing analytics mediated the relationship between CRM, big data analytics, managerial support, and competitive pressure. The study's conclusions show that big data analytics directly improve marketing analytics. These outcomes resemble the conclusions of [30]. The results also show that managerial support plays a significant role in marketing analytics prediction. These outcomes agree with the conclusions of [15]. Similarly, the results show that IT

organizations' marketing analytics capabilities also rise in the face of competitive pressure. This is consistent with [36's] findings.

The study's findings also demonstrate the significance of marketing analytics skills for CRM's commercial success in the IT sector. In a similar vein, the research conducted by [22] revealed the same conclusions. The importance of marketing analytics as a mediator between big data analytics, management support, competitive pressure, and CRM is further supported by these findings. Furthermore, these results bolster the study's use of marketing analytics as a mediating factor. Furthermore, the study's findings demonstrate that businesses with big data analytical skills will be better able to evaluate the market. CRM will help the IT sector's organization serve consumers more effectively in this scenario. Additionally, firms will be able to do better marketing analyses when they have managerial support. Similar to this, the push from competitors is crucial for enhancing marketing analytics capabilities.

REFERENCES

[1] Aboelmaged, M. (2018). The drivers of sustainable manufacturing practices in Egyptian SMEs and their impact on competitive capabilities: A PLS-SEM model. Journal of Cleaner Production, 175, 207-221.

[2] Ali, J., Perumal, S., & Shaari, H. (2020). Application of the stimulus-organism-response model in the airline industry: examining mediating role of airline image in repurchase intention. Int. J. Supply Chain Manag, 9(2), 981-989.

[3] Aljumah, A. I., Nuseir, M. T., & Alam, M. M. (2021). Traditional marketing analytics, big data analytics and big data system quality and the success of new product development. Business Process Management Journal.

[4] Alsghaier, H., Akour, M., Shehabat, I., & Aldiabat, S. (2017). The importance of big data analytics in business: a case study. American Journal of Software Engineering and Applications, 6(4), 111-115.

[5] Badwan, J. J., Al Shobaki, M. J., Abu-Naser, S. S., & Abu Amuna, Y. M. (2017). Adopting technology for customer relationship management in higher educational institutions.

[6] Cambra-Fierro, J. J., Centeno, E., Olavarria, A., & Vazquez-Carrasco, R. (2017). Success factors in a CRM strategy: technology is not all. Journal of Strategic Marketing, 25(4), 316-333.

[7] Cao, G., & Tian, N. (2020). Enhancing customer-linking marketing capabilities using marketing analytics. Journal of Business & Industrial Marketing

[8] Aboelmaged, M. (2018). The drivers of sustainable manufacturing practices in Egyptian SMEs and their impact on competitive capabilities: A PLS-SEM model. Journal of Cleaner Production, 175, 207-221.

[9] Ali, J., Perumal, S., & Shaari, H. (2020). Application of the stimulus-organism-response model in the airline industry: examining mediating role of airline image in repurchase intention. Int. J. Supply Chain Manag, 9(2), 981-989.

[10] Aljumah, A. I., Nuseir, M. T., & Alam, M. M. (2021). Traditional marketing analytics, big data analytics and big data system quality and the success of new product development. Business Process Management Journal.

[11] Alsghaier, H., Akour, M., Shehabat, I., & Aldiabat, S. (2017). The importance of big data analytics in business: a case study. American Journal of Software Engineering and Applications, 6(4), 111-115.

[12] Badwan, J. J., Al Shobaki, M. J., Abu-Naser, S. S., & Abu Amuna, Y. M. (2017). Adopting technology for customer relationship management in higher educational institutions.

[13] Cambra-Fierro, J. J., Centeno, E., Olavarria, A., & Vazquez-Carrasco, R. (2017). Success factors in a CRM strategy: technology is not all. Journal of Strategic Marketing, 25(4), 316-333.

[14] Cao, G., & Tian, N. (2020). Enhancing customer-linking marketing capabilities using marketing analytics. Journal of Business & Industrial Marketing.

[15] Chen, D. Q., Preston, D. S., & Swink, M. (2015). How the use of big data analytics affects value creation in supply chain management. Journal of management information systems, 32(4), 4-39.

[16] Choi, T. M., Wallace, S. W., & Wang, Y. (2018). Big data analytics in operations management. Production and Operations Management, 27(10), 1868-1883.

[17] Chuang, S.-H., & Lin, H.-N. (2013). The roles of infrastructure capability and customer orientation in enhancing customer-information quality in CRM systems: Empirical evidence from Taiwan. International Journal of Information Management, 33(2), 271-281.

[18] Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics: Sage Publications Sage CA: Los Angeles, CA.

[19] Hair, J. F. (2011). Multivariate data analysis: An overview. International encyclopedia of statistical science, 904-907.

[20] Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. Journal of the academy of marketing science, 45(5), 616-632.

[21] Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. European business review.

[22] Hallikainen, H., Savimäki, E., & Laukkanen, T. (2020). Fostering B2B sales with customer big data analytics. Industrial Marketing Management, 86, 90-98.

[23] Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. Industrial management & data systems.

[24] Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modeling. Computational statistics, 28(2), 565-580.

[25] Krishnamoorthi, S., & Mathew, S. K. (2018). Business analytics and business value: A comparative case study. Information & Management, 55(5), 643-666.

[26] Liu, X., & Burns, A. C. (2018). Designing a marketing analytics course for the digital age. Marketing Education Review, 28(1), 28-40.

[27] Mendi, P., & Costamagna, R. (2017). Managing innovation under competitive pressure from informal producers. Technological Forecasting and Social Change, 114, 192-202.

[28] Najafabadi, M. M., Villanustre, F., Khoshgoftaar, T. M., Seliya, N., Wald, R., & Muharemagic, E. (2015). Deep learning applications and challenges in big data analytics. Journal of big data, 2(1), 1-21.

[29] Ogbonnaya, C., & Babalola, M. T. (2021). A closer look at how managerial support can help improve patient experience: Insights from the UK's National Health Service. human relations, 74(11), 1820-1840.

[30] Oztekin, A. (2018). Creating a marketing strategy in healthcare industry: a holistic data analytic approach. Annals of Operations Research, 270(1), 361-382.

[31] Perumal, S., Ali, J., & Shaarih, H. (2021). Exploring nexus among sensory marketing and repurchase intention: Application of SOR Model. Management Science Letters, 11(5), 1527-1536.

[32] Petrescu, M., & Krishen, A. S. (2017). Marketing analytics: from practice to academia (Vol. 5, pp. 45-46): Springer.

[33] Shahbaz, M., Gao, C., Zhai, L., Shahzad, F., Abbas, A., & Zahid, R. (2020). Investigating the impact of big data analytics on perceived sales performance: the mediating role of customer relationship management capabilities. Complexity, 2020.

[34] Sin, K. Y., Osman, A., Salahuddin, S. N., Abdullah, S., Lim, Y. J., & Sim, C. L. (2016). Relative advantage and competitive pressure towards implementation of e-commerce: Overview of small and medium enterprises (SMEs). Procedia Economics and Finance, 35, 434-443.

[35] Straub, D., Boudreau, M.-C., & Gefen, D. (2004). Validation guidelines for IS positivist research. Communications of the association for information systems, 13(1), 24.

[36] Tan, C. L., Zailani, S. H. M., Tan, S. C., & Shaharudin, M. R. (2016). The impact of green supply chain management practices on firm competitiveness. International Journal of Business Innovation and Research, 11(4), 539-558.

[37] Torres, F. V. C., Barreto, K. S., & Jara, S. Z. (2021). Managerial support and innovative work behaviour in B corps: Examining the effect of female employee work engagement and corporate reputation. Journal of Sustainable Finance and Investment.

[38] Travaglione, A., Scott-Ladd, B., Hancock, J., & Chang, J. (2017). Managerial support: Renewing the role of managers amidst declining union support for employees. Journal of General Management, 43(1), 24-32.

[39] Tsou, H.-T. (2022). Linking Customization Capability with CRM Technology Adoption and Strategic Alignment. Service Science, 14(1), 60-75.

[40] Wamba, S. F., Gunasekaran, A., Papadopoulos, T., & Ngai, E. (2018). Big data analytics in logistics and supply chain management. The International Journal of Logistics Management.

[41] Zakir, J., Seymour, T., & Berg, K. (2015). Big Data Analytics. Issues in Information Systems, 16(2).

[42] Zucchini, L., Böhmer-Horländer, S., & Kretschmer, T. (2019). Competitive pressure: competitive reactions at the group-level. Industry and Innovation, 26(6), 643-666.