A Bibliometric: e-CRM Business Review

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Abstract. Creating value for the customer is the model and soul purpose for a business. Business companies need to understand how to please customers by meeting their needs. The ability of e-CRM enable companies to help manage their relationship with their customers through electronic media and or the internet. This research aims to review the main contributions in the e-CRM field using the bibliometric approach. VOSviewer software is used to map the research trend. Research related to banking, tourism, and SMEs becomes the dominant research area. Exploration related to e-CRM has the potential for future research development as internet customers are increasingly growing.

Keyword: Bibliometric, VOSviewer, e-CRM NYUSIM

1   Introduction

A study of e-CRM (Electronic Customer Relationship Management) in 2002 by Feinberg and Kadam concluded that the relationship between e-CRM and satisfaction was shallow, why only a few relatively insignificant e-CRM features were related to customer satisfaction and why e-CRM was not related to sales and profit [1]. Maybe because e-CRM is not the first choice for consumers, this is influenced by technological developments that are still limited. At this time, the electronic customer relationship system has experienced development and shows the quality of service, trust, and privacy that leads to customer satisfaction [2].

The theoretical implications obtained from previous research studies have contributed to marketing, e- business, and SMEs (Small and Medium Enterprises). SMEs reap the benefits of marketing in facing business challenges dominated by large-scale business people [3]. The integration of marketing and technology innovationthrough e-CRM contributed significantly to the development of theory. The view of the difficulty of changing face-to-face relationships in operations requires the integration of marketing strategic planning for SMEs [4][5].

The emergence of sophisticated technologies such as the internet and platform applications has allowed large or small companies to compete cost-effectively from the previous way. Effective customer relationships development through technology platforms can help improve customer satisfaction, loyalty, and retention [6].

Jacob Joju, Vasantha, and Sony Joseph using five dimensions of e-CRM program, namely: tangibility, Assurance, Reliability, Responsiveness, Empathy in selected banks that measured using the Delivery Gap Score [7]. Ab Hamid and McGrath describe 12 dimensions of E-CRM program namely: information quality, ease of navigation, consumer service quality, fulfillment, integrated marketing channels, online community, rewards, personalization level, site security, value-added services, perceived trust and price attractiveness [8]. Tsikriktsis, Lanzolla, and Frohlich using the anticipated benefit, access to market, external pressure, internal barriers, and

customer barriers[9].

2   Methods

Alan Pritchard introduced bibliometrics term as a "statistical bibliography" in "the journal of documentation" December 1969 [10]. Next three years, Pritchard explained the definition of bibliometrics as "quantitative analysis of gross bibliographical units such as books, journal articles, and the like." During its development, Alan Prichard redefined the process as bibliometric then conceived as "Bibliometrics is the quantitative study of physical published units, or bibliographic units, or the surrogates for either."[10].

A software tool for constructing and visualizing bibliometric networks used to include individual publications orjournals, researchers, and they can be constructed based on citation, bibliographic coupling, co-citation, or co- authorship relations in an instant[11]. We used the VOSviewer software tool that can be used text mining functionality that also offers to construct and visualize co-occurrence networks of important terms extracted froma body of scientific literature.

2.1   Data source

In July 2020, a search was carried out with the Scopus online literature database to identify publications with thefollowing search strategy: TOPIC "e-CRM" in the business context. This strategy looks for related papers that contain the word in the title, abstract, or keywords.

2.2   Data extraction

This publication resulted from literature research that evaluated and recorded: (1) affiliation, (2) Country, (3) themost cited author (4) year of publication, (5) article by source. Full notes and cited manuscript references are imported into the VOSviewer software for bibliometric analysis[12], such as showing excerpts from specific topics, institutions, countries/regions, and journals. It allows us to examine further how the most productive writersin the field of e-CRM cite each other work. Bubble size indicates the number of publications[13]. The bubble color shows the average year of publication. Two bubbles are closer if the two writers quote each other more often.

3   Result and Discussion

3.1   Result

Scopus has published 155 documents until July 2020, taking into account 103 articles, 31 conference papers, 12 book chapters, four reviews, three conference reviews, one erratum, one retracted. This theme has 155 patents, among them 90 United States Patent & Trademark Office, 11 World Intellectual Property Organization, Japan Patent Office 42, and 12 from others. Figure 1 shows the source by affiliation, documents that have been issued by Scopus regarding e-CRM, with Ulster University, who has contributed most published by 14 articles.

Source by Affiliation	Total Document	Business Theme
Ulster University	14	4,3%
University of Southampton	4	1.9%
Bina Nusantara University	4	20.7%

Jesuit Historical Institute in Africa	3	42.9%
Purdue University	3	2.5%
Asian Institute of Technology Thailand	3	4.8%
University of KwaZulu-Natal	3	1.8%
Middle Tennessee State University	3	8.5%
Athens University of Economics and Business	3	13.8%

Figure 1. Source by Affiliation

Figure 2 on the left-hand side is documented by type table that shows the article is the most published with 103 published followed by 31 conference papers. Figure 2 on the right-hand side is documented by the country table, which shows America is the most publisher to contribute to e-CRM document with 24 published followed by UK18 and Iran 13 published.

Document by Type	Total	Document by Country	Total
Article	103	United State	24
Conference Paper	31	United Kingdom	18
Book Chapter	12	Iran	13
Review	4	China	12
Conference Review	3	India	11
Erratum	1	Indonesia	9
Retracted	1	Greece	8

Figure 2. Document by Type and Document by Country

Figure 3 presents the most cited documents in the e-CRM. Feinberg, R., Kadam, R. has been quoted as many as 112, Adebanjo, D. has been quoted as many as 86, Lee-Kelley, L., Gilbert, D., Mannicom, R. has been quoted as many as 83. Some large documents cited are documents written in the range of 2001-2020. The documents cited are largely based on the theory of relationship marketing.

Author	Year	Total Citation	Field Weight Citation Impact	Citation Indexes
Feinberg, R., Kadam, R.	2002	112	4.31	83
Adebanjo, D.	2003	86	4.09	58
Lee-Kelley, L., Gilbert, D., Mannicom, R.	2003	83	1.10	56
Wu, I.-L., Wu, K.-W.	2005	76	2.14	61
Kim, C., Zhao, W., Yang, K.H.	2008	75	1.13	38
Feinberg, R.A., Kadam, R., Hokama, L., Kim, I.	2002	73	4.71	51
Tsikriktsis, N., Lanzolla, G., Frohlich, M.	2004	72	6.08	51

Figure 3. Most Cited by Author

Figure 4 shows a number of articles published each year. The year 2007 is the start of e-CRM article trend amid the growth of e-commerce, since then there are more e-CRM published
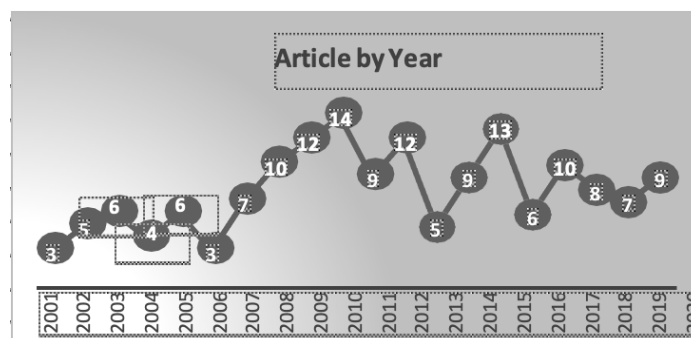
to almost twice yearly.

Figure 4. Article by year

Figure 5 shows the most widely released journals of e-CRM themes between 2001 and 2020. International JournalOf Electronic Customer Relationship Management was the most widely released journal, with 14 published. H index is SCImago Journal Rank indexes the number of publications for which an author has been cited by anotherauthor at least that same number of times. Cite Score 2019 measures average citation received per document published in the serial, score referend from Scopus. SJR 2019 measures weighted citations received by the serial; citation weighting depends on subject field and prestige (SJR) of the citing serial. SNIP 2019 is a source normalized impact per paper measures actual citations received relative to citations expected for the serial's subject field.

Source Detail	Total Article	H Index	Cite Score 2019	SJR 2019	SNIP 2019
International Journal Of Electronic Customer Relationship Management	14	11	1.7	0.247	0.584
International Journal Of E Business Research Ijebr	4	20	1.8	0.215	0.604
Marketing Intelligence And Planning	3	64	3.5	0.616	1.172
Ekonomska Istrazivanja	2	21	2.3	0.490	1.226
Industrial Management And Data Systems	2	96	7.9	1.390	2.502
Information Resources Management Journal	2	40	1.2	0.227	0.418
International Journal Of E Business Research	2	20	1.8	0.215	0.604
International Journal Of Information Science And Management	2	10	0.6	0.166	0.235

Figure 5. Article by Source

Figure 6 shows the VOSviewer output associated with Co-occurrence analysis involving the author's keyword entry. The joint analysis shows the frequency of occurrence of general keywords in many documents. After recording data sourced from Scopus, VOSviewer found that there were 44 items and 3 clusters. The explanation of the picture can be seen from 3 color categories. The red cluster represents Customer Satisfaction (Total Link Strength 152) with the highest relation to customer satisfaction, loyalty, and effect. Blue clusters represent the Company with the highest relation to implementation and product. The green cluster represents

Marketing with the highest relation to area and level. The relationship is a scientific study related to research in theory and practice suggested for researchers in the future for better understanding in the conceptualization of e-CRM.
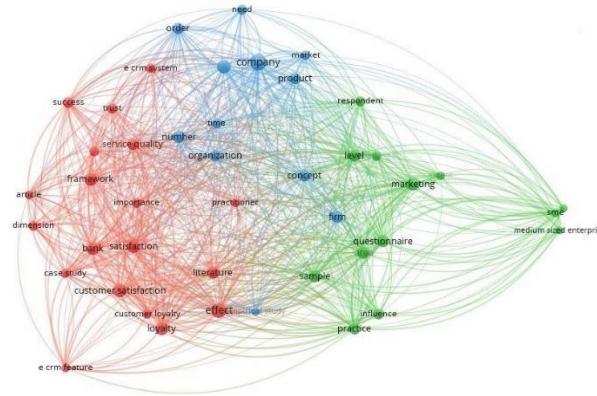

Figure 6. e-CRM VOSviewer Visualisation

3.2 Discussion
RM CRM And e-CRM

Professor Leonard Berry in 1983 introduced the term of Relationship Marketing (RM). He assumed it as attracting, maintaining, and – in multiservice organizations – enhancing customer relationships [14]. In development to facilitate improved retention and lifetime profitability, companies need to use the appropriate technology tools and are adopting the CRM concept approach. Wherein relationship marketing lack of technology utilization in the management of customers, CRM uses information technology (IT).

Relationship marketing is a concept that underlies e-CRM. According to Gilbert, 1996, are five incremental steps to maximize customer retention as follows identity, improve, inform, tempt, and maintain [15]. Identity can be interpreted as measuring the reaction of account holders when they receive an offer so that information can be compiled about the interests and desires of buying as well as profile data from consumers. Improve can be interpreted to collect behavioral data needed for better service in the future and call back consumers who have not purchased in a period. Information is described through the publication of bulletins about the appearance of new products, services, offers, and benefits, e.g., a list of addresses and locations of new agents. This information was done to increase the knowledge of customers and enhance loyalty [15].

Persuade customers to tempt to try new services, products, or more by personalizing contact through special offers, voucher distribution, upsell, and cross-sell. Retain is the last thing, according to Gilbert, who is a pillar of customer retention and can be interpreted as a loyalty development scheme that aims to maintain and strengthen relationships with customers. For example, through making a magazine and its membership, making events and invitations to these events, and so forth [15]. The next person to lay the foundation for e-CRM is Sarah Cobb. In 1996 Cobb and her management team decided on the need for a new ERP (Enterprise Resourcing Planning) model at Moss Products (Plastics), Ltd. Although large capital is needed to invest in making the system, Cobb believes the transaction volume to be generated will cut costs. This requires integrating shop floor data collection (by SSA, Inc.), advance planning and scheduling (ePBCS by oracle, Corp), and e-Commerce and CRM. At the end of 1997, the Company implemented SOP (Sales Order Processing), stock replenishment, etc at its two largest

distribution sites. With modules (SOP, purchasing, billing, account, picking, shipping, production planning, and scheduling).Finally, Moss completed the system upgrade all in May 2000 with eBPCS v6.1-SSA. Later in the year, the firm expects to go live with the intelligent version of its web catalog with 'search and select' and decision tree-based product matching [16].

Kim et al. 2008, propose the Theory of Reasoned Action (TRA) as the theoretical foundation of e-CRM [17]. Refer to Kim in the 2008 development model discusses Oliver's four stages of the cognitive-affective-conative- action model [18], the theory is implemented in the Expectation Confirmation Theory (ECT), and the Commitment Trust Theory (CTT) [17]. The first stage in this model is cognitive loyalty. At this stage, for reasons of compelling, a consumer can continue to patronize a store [19]. However, loyalty at this stage is solely driven by functional characteristics, and consumer commitment to the store may not be too strong [18]. The next step is affective loyalty, which is stronger than cognitive loyalty because affective customer loyalty is a function of the two previous attitudes about the store, followed by satisfaction. The third stage is conative loyalty. In this phase, the consumer commits to buy. This stage is exemplified by repurchase intentions and actions, such as recommendinga store to others. The final stage is action loyalty, where customers buy goods from the store on an ongoing basis[18]. Cognition can also be described as awareness, knowledge, or trust that may or may not originate from previous shopping experiences [20].

According to TRA [20] [21], a person's performance determined by their behavioral intention. Behavioral intention influenced by both cognitive factors, which are attitudes and subjective norms. As an expanded model of TRA, Theory Planned Behavior (TPB) is derived by adding perceived behavioral control as determinants of behavior [21]. Davis (1986) proposed a Technology Acceptance Model (TAM) [22], based on TRA and TPB, toexplain and predict user acceptance of information systems or Information Communication Technology (ICT). In TAM, cognitive beliefs such as perceived usefulness and perceived ease of use are counted as key factors for technology acceptance. TRA, TPB, and TAM have been widely validated and widely used to predict or explain cognitive behavior is social psychology. ECT has suggested that satisfaction is the primary motivation for the ongoing purchase of a product or service [18]. Satisfaction depends on the extent to which customers perceive their previous expectations of a product or service to be confirmed during actual use [23].

The majority of previous research regards satisfaction as an affective response to confirmation of expectations involving cognitive processes [24] [25] [19] [26]. Anderson and Srinivasan (2003) [27] suggested that customer satisfaction must be evaluated as positive, indifferent, or negative feelings after the customer's initial experience with the service [28]. This affective evaluation is identical to the notion of attitude in the IS-use literature (Melone,1990), and the association-intentioned relationship validated in IS-use research provides additional support for therelationship between satisfaction and choice or sustainable use [29] [30] [31]. Geyskens, Steenkamp, Steenkamp, Scheer, and Kumar (1996) describe commitment as a long-term customer orientation towards business relationships. Morgan and Hunt (1994), Kalafatis and Miller (1997), and Wu and Cavusgil (2006) consider commitment as an essential factor in determining long-term customer retention. Morganand Hunt's (1994) empirically endorsed and widely accepted the CTT, claiming that long-term relationships are built based on mutual trusts, which is similar to the process of creating long-term traditional buyer-seller relationships [32] [33]. Because of the relationship between customer commitment and buyer-seller relations, encouraging customer commitment is an important issue that is crucial for the development and implementation of e-CRM strategies.

Based on CTT, several researchers have analyzed the importance of trust in online relationships as a conative response to cognitive beliefs and affective experiences (Lee & Turban, 2001; McKnight & Chervany, 2002). Lackof trust has been considered as one of the biggest factors hampering online business [34]. On the other hand, Business Week (2001) reports that customers are willing to buy repeatedly from the most trusted sites. As such, online retailers rely on strong trust to build committed and conative customer behavior.

Researchers from the east have dominated research on e-CRM in the last decade. The banking research field is still a favorite ([35],[36],[37],[38],[39],[40],[41],[42],[43],[44], 45],[46],[47],[48],[49],[50]. Areas of research related to SMEs ([51],[52],[3],[4],[53],[5]) and tourism ([54],[55],[56],[57],[58],[59],[60]) has the second and third highest number of published documents. The willingness and openness of the Company to provide research data related to e-CRM may be one-off the reason. On the other hand, the confidentiality of consumer data owned by the Company may be an obstacle to researchers for the Company providing data. The level of competition and sustainability makes the Company hide the formulation of marketing strategy. Transportation and education are fields that have the potential to be further developed. With the new trend of studying and working remotely (Working From Home) due to the pandemic (COVID 19), it causes consumers tostay at home and receive goods using delivery services. Likewise, the education field studied using online applications is a suitable research theme.

4 Conclusions

To examine e-CRM themes is an opportunity for future research and expected to be an advantage. The lack of research on the issue of e-transactions, shopping websites, sports, agriculture, retail, medical, food industry, paved the way for researchers, making this writing the basis for supporting the material for his writing in the future. The theoretical perspective that is still limited regarding the theme of e-CRM research can also continue to be developed from various perspectives. For example, UTAUT Theory or Theory of UX Design can provide anew perspective that will later enrich the repertoire of e-CRM research.

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Reference

[1] R. Feinberg and R. Kadam, "e-CRM Web service attributes as determinants of customer satisfaction with retail Web sites," *Int. J. Serv. Ind. Manag.*, vol. 13, no. 5, pp. 432–451, 2002, doi: 10.1108/09564230210447922.

[2] H. Dehghanpouri, Z. Soltani, and R. Rostamzadeh, "The impact of trust, privacy and quality of service on the success of E-CRM: the mediating role of customer satisfaction," J. Bus. Ind. Mark., 2020, doi: 10.1108/JBIM-07- 2019-0325.

[3] P. Harrigan, E. Ramsey, and P. Ibbotson, "Entrepreneurial marketing in SMEs: The key capabilities of e-CRM," J. Res. Mark. Entrep., vol. 14, no. 1, pp. 40–64, 2012, doi: 10.1108/14715201211246760.

[4] E. Ardyan and G. Sugiyarti, "The influence of e-CRM capability and co-information sharing activity on product competitiveness and marketing performance of small and medium-sized enterprises," Int. J. Electron. Cust. Relatsh. Manag., vol. 11, no. 2, pp. 158–178, 2018, doi: 10.1504/IJECRM.2018.090208.

[5] M. Lecerf and N. Omrani, "SME Internationalization: the Impact of Information Technology and Innovation," J. Knowl. Econ., vol. 11, no. 2, pp. 805–824, 2020, doi: 10.1007/s13132-018-0576-3.

[6] N. Ab Hamid, A. Cheng, and R. Akhir, "Dimensions of E-CRM: An Empirical Study on Hotels' Web Sites," J. Southeast Asian Res., 2011, doi: 10.5171/2011.820820.

[7] J. Joju, Vasantha, and S. Joseph, "E-Leveraging e-CRM for future," Indian J. Sci. Technol., vol. 9, no. 32, 2016, doi: 10.17485/ijst/2016/v9i32/98649.

[8] N. Raihan, A. Hamid, and G. M. Mcgrath, "The Diffusion of Internet Interactivity on Retail Web Sites : A Customer Relationship Model," Communications, 2005.

[9] N. Tsikriktsis, G. Lanzolla, and M. Frohlich, "Adoption of e-processes by service firms: An empirical study of antecedents," Prod. Oper. Manag., vol. 13, no. 3, pp. 216–229, 2004, doi: 10.1111/j.1937-5956.2004.tb00507.x.

[10] R. N. Broadus, "Toward a definition of 'bibliometrics,'" Scientometrics, 1987, doi: 10.1007/BF02016680.

[11] N. J. van Eck and L. Waltman, "Software survey: VOSviewer, a computer program for bibliometric mapping,"

[12] Scientometrics, vol. 84, no. 2, pp. 523–538, 2010, doi: 10.1007/s11192-009-0146-3.

[13] N. J. van Eck and L. Waltman, "Software survey: VOSviewer, a computer program for bibliometric mapping,"

[14] Scientometrics, 2010, doi: 10.1007/s11192-009-0146-3.

[15] N. J. van Eck and L. Waltman, "Visualizing Bibliometric Networks," in Measuring Scholarly Impact, 2014.

[16] J. Sinisalo, J. Salo, H. Karjaluoto, and M. Leppäniemi, "Mobile customer relationship management: Underlying issues and challenges," Bus. Process Manag. J., 2007, doi: 10.1108/14637150710834541.

[17] D. C. Gilbert, "Relationship marketing and airline loyalty schemes," Tour. Manag., 1996, doi: 10.1016/S0261- 5177(96)00078-7.

[18] B. Tinham, "Moss grows on rolling e-commerce and CRM," Manuf. Comput. Solut., 2000.

[19] C. Kim, W. Zhao, and K. H. Yang, "An empirical study on the integrated framework of e-CRM in online shopping: Evaluating the relationships among perceived value, satisfaction, and trust based on customers' perspectives," J. Electron. Commer. Organ., vol. 6, no. 3, pp. 1–19, 2008, doi: 10.4018/jeco.2008070101.

[20] R. L. Oliver, "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," J. Mark. Res., 1980, doi: 10.2307/3150499.

[21] R. L. Oliver, Satisfaction: A Behavioral Perspective on the Consumer. 1997.

[22] M. Fishbein, "A consideration of beliefs and their role in attitude measurement," in Readings in attitude theory and measurement, 1967.

[23] D. E. Schifter and I. Ajzen, "Intention, Perceived Control, and Weight Loss. An Application of the Theory of Planned Behavior," J. Pers. Soc. Psychol., 1985, doi: 10.1037/0022-3514.49.3.843.

[24] F. D. Davis, Jr., "A technology acceptance model for empirically testing new end-user information systems: Theory and results [Dissertation]," Dr. Diss. Massachusetts Inst. Technol., 1986, doi: 10.1016/S0378-7206(01)00143-4.

[25] X. Zhang and V. R. Prybutok, "A consumer perspective of e-service quality," IEEE Transactions on Engineering Management. 2005, doi: 10.1109/TEM.2005.856568.

[26] N. P. Melone, "A Theoretical Assessment of the User-Satisfaction Construct in Information Systems Research,"

[27] Manage. Sci., 1990, doi: 10.1287/mnsc.36.1.76.

[28] G. C. Pascoe, "Patient satisfaction in primary health care: A literature review and analysis," Eval. Program Plann., 1983, doi: 10.1016/0149-7189(83)90002-2.

[29] S. A. Taylor, "Distinguishing service quality from patient satisfaction in developing health care marketing strategies," Hospital and Health Services Administration. 1994.

[30] R. E. Anderson and S. S. Srinivasan, "E-SatisfactAnderson, R. E., & Srinivasan, S. S. (2003). E-Satisfaction and E- Loyalty: A Contingency Framework. Psychology and Marketing, 20(2), 123–138. https://doi.org/10.1002/mar.10063ion and E-Loyalty: A Contingency Framework," Psychol. Mark., 2003, doi: 10.1002/mar.10063.

[31] R. E. Anderson and S. S. Srinivasan, "E-Satisfaction and E-Loyalty: A Contingency Framework," Psychol. Mark., 2003, doi: 10.1002/mar.10063.

[32] S. Taylor and P. A. Todd, "Understanding information technology usage: A test of competing models," Inf. Syst. Res., 1995, doi: 10.1287/isre.6.2.144.

[33] K. Mathieson, "Predicting user intentions: Comparing the technology acceptance model with the theory of planned behavior," Inf. Syst. Res., 1991, doi: 10.1287/isre.2.3.173.

[34] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," MIS Q. Manag. Inf. Syst., 1989, doi: 10.2307/249008.

[35] G. Pan, S. L. Pan, M. Newman, and D. Flynn, "Escalation and de-escalation of commitment: A commitment transformation analysis of an e-government project," Inf. Syst. J., 2006, doi: 10.1111/j.1365-2575.2006.00209.x.

[36] F. Wu and S. T. Cavusgil, "Organizational learning, commitment, and joint value creation in interfirm relationships," J. Bus. Res., 2006, doi: 10.1016/j.jbusres.2005.03.005.

[37] S. Marti and H. Garcia-Molina, "Taxonomy of trust: Categorizing P2P reputation systems," Comput. Networks, 2006, doi: 10.1016/j.comnet.2005.07.011.

[38] G. Mao-Qin, G. Ling, and X. Qi, "RETRACTED ARTICLE: The critical success factors for the banks implementing e-CRM," 2011 Int. Conf. E-bus. E-Government, ICEE2011 - Proc., pp. 1700–1703, 2011, doi: 10.1109/ICEBEG.2011.5881851.

[39] P. Sivaraks, D. Krairit, and J. C. S. Tang, "Effects of e-CRM on customer-bank relationship quality and outcomes: The case of Thailand," J. High Technol. Manag. Res., vol. 22, no. 2, pp. 141–157, 2011, doi: 10.1016/j.hitech.2011.09.006.

[40] N. El Essawi and R. Abd El Aziz, "Determining the main dimensions that affect e-customer relationship management readiness in the Egyptian banking industry," Int. J. Electron. Cust. Relatsh. Manag., vol. 6, no. 3–4, pp. 217–234, 2012, doi: 10.1504/IJECRM.2012.051874.

[41] P. Sivaraks, D. Krairit, and D. B. Khang, "The effects of e-CRM on customer-bank relationship: The case of Thailand," Int. J. Electron. Cust. Relatsh. Manag., vol. 6, no. 2, pp. 113–134, 2012, doi: 10.1504/IJECRM.2012.048719.

[42] F. A. Azimi, A. A. Jalali, and A. Farahi, "Comparison of multiple criterion decision making methods for evaluation Parsian banks E-readiness for ECRM implementation," Aust. J. Basic Appl. Sci., vol. 6, no. 9, pp. 251–263, 2012.

[43] A. Shahin, M. Gharibpoor, S. Teymouri, and E. B. Iraj, "Studying the influence of e-CRM on web-based brand personality - The case of Mellat Bank," Int. J. Bus. Inf. Syst., vol. 13, no. 4, pp. 453–470, 2013, doi: 10.1504/IJBIS.2013.055301.

[44] A. Al-Refaie, M. D. A. L. Tahat, and N. Bata, "CRM/e-CRM effects on banks performance and customer- bank relationship quality," Int. J. Enterp. Inf. Syst., vol. 10, no. 2, pp. 62–80, 2014, doi: 10.4018/ijeis.2014040104.

[45] S. Salehi, M. Kheyrmand, and H. Faraghian, "Evaluation of the effects of e-CRM on customer loyalty (case study: Esfahan Branch's of Sepah Bank)," 2015, doi: 10.1109/ECDC.2015.7156314.

[46] E. Abu-Shanab and L. Anagreh, "Impact of electronic customer relationship management in banking sector," Int. J. Electron. Cust. Relatsh. Manag., vol. 9, no. 4, pp. 254–271, 2015, doi: 10.1504/IJECRM.2015.074196.

[47] M. Safari, M. Forouzandeh, and N. Safahani, "An empirical model to explain the effects of electronic customer relationship management on customer e-satisfaction and e-loyalty: Evidence from Iranian service shopping websites," J. Internet Bank. Commer., vol. 21, 2016.

[48] J. Joju, S. Vasantha, and P. K. Manoj, "Electronic CRM & ICT-based banking services: An empirical

study of the attitude of customers in Kerala, India," Int. J. Econ. Res., vol. 14, no. 9, pp. 413–423, 2017.

[49] E. E. Mang'unyi, O. T. Khabala, and K. K. Govender, "The relationship between e-CRM and customer loyalty: A Kenyan commercial bank case study," Banks Bank Syst., vol. 12, no. 2, pp. 106–115, 2017, doi: 10.21511/bbs.12(2).2017.11.

[50] I. A. Markina, O. A. Bilovska, O. I. Yakovenko, and R. I. Shevchenko-Perepyolkina, "Analysis of technology acceptance on the effectiveness of the electronic supply chain management and inventory systems in Ukrainian Banking Industry," Ind. Eng. Manag. Syst., vol. 17, no. 4, pp. 719–729, 2018, doi: 10.7232/iems.2018.17.4.719.

[51] C. Hendriyani and S. J. Raharja, "Analysis building customer engagement through e-CRM in the era of digital banking in Indonesia," Int. J. Econ. Policy Emerg. Econ., vol. 11, no. 5, pp. 479–486, 2018, doi: 10.1504/IJEPEE.2018.094820.

[52] H. Ongowarsito, B. W. Djojo, and F. Ferino, "The Impact of e-CRM Implementation to Bank Performance Through e-Service Quality," 2018, pp. 550–553, doi: 10.1109/ICIMTech.2018.8528093.

[53] A. A. Rastgar, E. Esmaili, R. Naderi, and A. Hemmati, "Clarifying the effect of customer knowledge management to improve business performance of banks: Considering the role of electronic customer relationship management," Int. J. Electron. Cust. Relatsh. Manag., vol. 12, no. 2, pp. 108–123, 2019, doi: 10.1504/IJECRM.2019.104019.

[54] K. Sophonthummapharn, "Segmenting small and medium manufacturing enterprises for electronic customer relationship management industry: The case of Thailand," Int. J. Electron. Cust. Relatsh. Manag., vol. 5, no. 1, pp. 75–96, 2011, doi: 10.1504/IJECRM.2011.039801.

[55] P. Harrigan, E. Ramsey, and P. Ibbotson, "Critical factors underpinning the e-CRM activities of SMEs," J. Mark. Manag., vol. 27, no. 5–6, pp. 503–529, 2011, doi: 10.1080/0267257X.2010.495284.

[56] T. Nabarian, Y. G. Sucahyo, A. Gandhi, and Y. Ruldeviyani, "What do customers really need in ride-hailing applications? : signaling electronic service quality via E-CRM features," 2019, pp. 511–516, doi: 10.1109/ICITISEE48480.2019.9003778.

[57] N. R. Ab Hamid, A. Y. Cheng, and R. Md Akhir, "Consumers' perceived important features and dimensions of E- CRM: An empirical study on hotels' web sites," 2011, vol. 4, pp. 1884–1895.

[58] J. Dubihlela and P. Molise-Khosa, "Impact of e-CRM implementation on customer loyalty, customer retention and customer profitability for hoteliers along the Vaal Meander of South Africa," Mediterr. J. Soc. Sci., vol. 5, no. 16, pp. 175–183, 2014, doi: 10.5901/mjss.2014.v5n16p175.

[59] A. Kapoulas and D. Ratkovic, "E-CRM dilemmas in developing markets: The case of a tourism company in Serbia," Eur. J. Tour. Res., vol. 9, pp. 24–40, 2015.

[60] G. Mastorakis, N. Trihas, E. Perakakis, and I. Kopanakis, "E-CRM in tourism exploiting emerging information and communication technologies," Anatolia, vol. 26, no. 1, pp. 32–44, 2015, doi: 10.1080/13032917.2014.902767.

[61] J. Tian and S. Wang, "Signaling Service Quality via Website e-CRM Features: More Gains for Smaller and Lesser Known Hotels," J. Hosp. Tour. Res., vol. 41, no. 2, pp. 211–245, 2017, doi: 10.1177/1096348014525634.

[62] W. Mekhum, "Relating technology-based CRM, market orientation and service innovation in Thai hotels," Int. J. Innov. Creat. Chang., vol. 11, no. 7, pp. 596–614, 2020.

[63] W. Sittisom, "Examining the combined effect of E-CRM and sensory marketing, on customer satisfaction and hotel image in Thailand: The moderating role of anxiety," Int. J. Innov. Creat. Chang., vol. 11, no. 7, pp. 5