Integrated Information System for Customer Care

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Abstract. The application of customer Facing and Ecosystem Facing is implied as computerization of customer data. The goal is to understand customers' needs and expectations to establish good relationships with customers. This study aims to determine Customer Facing and Ecosystem Facing services in the digital transformation business. The research method used a descriptive research method with a qualitative approach. Customer Facing and Ecosystem Facing is a technology that can increase the production process for business. Salespeople are faster to create and send offers to clients because it provides CRM information.

1. Introduction

Technological developments allow automation in almost all fields. Industrial Revolution 4.0 is also the latest technology trend with a significant impact due to the growing development of artificial intelligence, electronic commerce, big data, financial technology, and the sharing economy, aiming to make human life and the environment better.

Technology cannot be separated from problems, because in essence, technology is born and developed to solve problems faced by humans. Therefore, technology has a role in expanding and enlarging human potential to meet practical needs [1].

The use of technology in companies should be balanced with digital literacy so that the benefits of technology itself can be absorbed optimally. Companies that have implemented or adopted technology will find it easier to carry out their company operations provided. Using technology, users must understand how to use it so that the tool or service's benefits can be maximally felt [2]. It shows that innovation in information technology and information systems has changed. Gartner defines digitization as "the use of digital technology to transform business models and provide new revenue and value-generating opportunities; it is the process of moving to a digital business" [3]. It means the use of digital technology must contribute to company performance [4].

Customer Relationship Management (CRM) is an organizational strategy that is customer-focused and customer-driven. It is an organization that concentrates on assessing customer requirements for products and services, then providing responsive and high-quality services [5]. CRM is not a process or technology; it is a customer-centered way of thinking and acting. CRM builds sustainable long-term customer relationships that create value for the company and the same customers [6].

Dealing with customers refers to the way customers experience or perceive business service features. CRM is a crucial component of customer-facing solutions designed to satisfy user experience through all customer contact points. Many customer-facing processes and technologies are significant business investment components with a strong influence on revenue generation [7].
CRM applications deal with customers, sales representatives, field, service, and customer interaction centers to interact directly with customers. These applications include customer service and support, sales force automation, marketing, and campaign management. One service data ecosystem uses areas and natural energy sources and spatial planning [8].

This study can also serve as an extension of previous research. The gaps found are related to the following: work stress caused by changes in the work system itself, intended to make the system more accessible and effective (1). However, if the company does not implement the strategy correctly, employees will experience work stress which resulted in a hitch. (2). Radical changes can affect employees to become stressed in their work environment (3).

The application of Customer Facing and Ecosystem Facing in fulfilling the needs of Digital Transformation examines the importance of strengthening good relationships between customers and employees to create expected work efficiency and service awareness using the Customer Facing Ecosystem Facing system. The research shows that due to the recent transformation of the digital era, this study explores the main challenges of digital change in good customer Facing and Ecosystem Facing services that will affect enormous consumer loyalty.

2. Method

Research methods can be interpreted as a scientific way to obtain valid data to find, develop, and be used to understand, solve, and anticipate problems in education [9]. The method used a descriptive research method with a qualitative approach [10]. The qualitative research method is a research method based on the philosophy of postpositivism, which was used to examine a natural object's condition (as opposed to an experiment).

3. Results and Discussion

By using the customer management system, salespeople are faster to create and send offers to clients, which allows a quick follow-up without waiting for someone else to provide the information needed for the bid and make transactions in CRM. The indicators faced by customers are contact centers, sales force automation, and field service. It is called customer-looking because sales representatives, field service representatives, and contact centers are indicators that interact directly [11].

1. Contact Center

Contact Centers are a network of contact centers maintained by network management servers that allow contact centers (which can be run independently of one another) to register via the internet or an intranet. Applications that use the telephone to support the CRM process include marketing, sales, and services. These applications include telemarketing and telemarketing [12]. Through customer relationship management applications, it is possible to manage their existing customer base and use these contacts to build an even larger group of potential clients. With CRM, customer information is in one centralized system. Selling to existing clients is much more effective than selling to new clients.

2. Sales Force Automation (SFA)

Applications in SFA help companies carry out sales force activities, manage prospects, and customers in the sales process. A salesforce automation system that integrates an intelligent, computerized sales force supports multiple sales process phases [13]. Through a cloud-based CRM system, sales professionals will be able to complete their work wherever they are as long as there are Wi-Fi and a device to access the internet. This software helps the business relationship between the company and the client and the salesperson's daily tasks.

3. Field Service Automation (FSA)

The FSA application supports the service efforts of field service departments and service managers. Effective service logistics can reduce costs and increase service value by increasing
customer satisfaction and loyalty. This application manages services from customer requests, orders, contracts, schedules, and calls. [14]. Automation is a technique or system that runs or controls fully automatic tools with electronic means to reduce human labor use.

3.1. Facing the Ecosystem

Many companies started to transform into collaborative information technology ecosystems for survival - especially the traditional offline manufacturing and service industries. Business models are constantly changing and evolving. The business model from World War II to 1980 was a combination of operations across industries. Since the 1980s, companies have been experts focusing on only one sector. In the future, as the collaborative ecosystem grows, industry boundaries are blurred. Physical products can be connected to the online world through the Internet of Things. Traditional manufacturing and service industries can now access their product data. Apart from that, customers can also purchase this product through an access method that was never thought of before. With access to large and diverse amounts of data, existing companies can create value-added products and forge partnerships across multiple industries. Therefore, a new ecosystem model was developed for incumbents who previously only ran their business offline.

Digital ecosystems are gaining momentum in the business landscape, ushering in a new value chain evolution era. The challenges are significant, but the companies who face them and seize the power of platforms will be rewarded with the keys to future markets. All over the world, digital ecosystems are growing and flourishing, fundamentally changing what it means to add value. The ascendancy of native platform companies demonstrates this perfectly: by shaping new business ecosystems around themselves, they create transformative benefits for both their partners and the markets they serve.

Ecosystem nowadays belongs to the digital world with the customer-focused model, where users can enjoy an end-to-end experience. The ecosystem will consist of various participants providing multi-industry solutions that are digitally accessible. This ecosystem relationship will enable the company to meet customer expectations better. The internet, advanced data analysis functions, and the maturity of Artificial Intelligence (AI) allow consumers to find the best solution in just a few milliseconds. These dynamics are taking place in the high tech, media, and telecommunications industries and are supported by tech giants who have built platforms that can destroy entire ecosystems. To meet the growing trend of customer expectations, the company is expanding its product and service range in an unprecedented way. They also form alliances with other companies (even with their competitors) to create complementary products and services.

Customer-facing ecosystems are interconnected corporate networks within the company. Accenture identifies five different options for organizations to develop and launch ecosystems [15,16]:

1. The live moment of the orchestra
   With this type of ecosystem, banks can organize the ecosystem around specific life moments, offering partners access to their customer base in exchange for a fee.

2. Market regulators
   This type of ecosystem allows the bank to operate as a market orchestrator through white labeling or co-branding. Market authors sell non-financial products to customers.

3. Participants of the third-party ecosystem
   Third-party ecosystems are where banks can join third-party platforms to offer banking products to third-party customers.

4. Open the company platform
   An open banking platform allows bank partners to incorporate specific products, data, or processes into their value proposition. With this ecosystem, partners can take advantage of open Application Programming Interfaces (APIs).

5. Reference platform
   This ecosystem directs customers to other providers, such as large banks that send small businesses to designated online financial platforms. However, this ecosystem is not hosted on third-party platforms.
4. Conclusion
The concept of ecosystem services was initially developed to illustrate the benefits that natural ecosystems generate for society and raise awareness for biodiversity and ecosystem conservation. Customer Relationship Management (CRM) is an integrated information system used to schedule, control, and plan pre-sales and post-sales activities in an organization/company. CRM itself is closely related to Customer-Facing and Ecosystem Facing services to meet the needs of digital transformation. Thus, this research contributes to comprehensive results that connect the customer-face and ecosystem faced to fulfill digital transformation if carried out with good strategy and implementation in the work environment. However, good service to customers affects the company's image. The customer and the ecosystem's face is a significant tool/relationship to convey an impression for the tool/system.

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References
[1] Anatan, L., & Ellitan, L. 2009. *Manajemen Inovasi (Transformasi. Menuju Organisasi Kelas Dunia)*. Bandung: CV. Alfabeta.
[2] Legner, C. et al. 2017. Digitalization: opportunity and challenge for the business and information systems engineering community. *Business & information systems engineering*, 59(4), pp. 301-308.
[3] Gartner Digitalization Retrieved 18.11.2018 from https://www.gartner.com/itglossary/digitalization/
[4] Riedl, R., Benlian, A., Hess, T., Stelzer, D., Sikora, H. 2017. On the relationship between information management and digitalization. *Business & Information Systems Engineering*, 59(6), pp. 475-482.
[5] Schwertner, K. 2017. Digital transformation of business. *Trakia Journal of Sciences*, 15(1), pp. 388-393.
[6] Rababah, K., Mohd, H., & Ibrahim, H. 2011. Customer relationship management (CRM) processes from theory to practice: The pre-implementation plan of CRM system. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 1(1), pp. 22-27.
[7] Riqqi, A., Hendaryanto, H., Safitri, S., Mashita, N., Sulistyawati, E., Norvyani, D. A., & Afriyanie, D. 2019. Pemetaan jasa ekosistem. In *Seminar Nasional Geomatika 3*, pp. 237-246.
[8] Sugiyono. 2016. Memahami Penelitian Kualitatif. Bandung: Alfabeta.
[9] Johnson, J. S., Matthes, J. M., & Friend, S. B. 2019. Interfacing and customer-facing: Sales and marketing selling centers. *Industrial Marketing Management*, 77, pp. 41-56.
[10] Delaney, P. J. 2005. U.S. Patent No. 6,937,715. Washington, DC: U.S. Patent and Trademark Office.
[11] Johnson, J. D., Lundberg, D. R., & Krebsbach, M. P. 2009. U.S. Patent No. 7,516,088. Washington, DC: U.S. Patent and Trademark Office.
[12] Cheung, C. F., Chan, Y. L., Kwok, S. K., Lee, W. B., & Wang, W. M. 2006. A knowledge-based service automation system for service logistics. *Journal of Manufacturing Technology Management*.
[13] https://www.fintechmagazine.com/banking/new-digital-age-banking-ecosystems
[14] https://www.techopedia.com/definition/23325/customer-facing
[15] Introduction to Information Systems, 5th Edition Int’l Student Version
[16] http://blogs.msdn.com/b/domc/archive/2008/04/28/customer-facing-application-design-a-paradigm-shift.aspx