

## PAPER NAME

**6.The Effect of Performance & Conformance Innovation Towards Product Life Cycle Through Customer Rel**

## AUTHOR

**KRISNAWURI HANDAYANI**

## WORD COUNT

**2898 Words**

## CHARACTER COUNT

**17797 Characters**

## PAGE COUNT

**5 Pages**

## FILE SIZE

**473.8KB**

## SUBMISSION DATE

**Mar 4, 2024 1:15 PM GMT+7**

## REPORT DATE

**Mar 4, 2024 1:16 PM GMT+7**

● **18% Overall Similarity**

The combined total of all matches, including overlapping sources, for each database.

- 11% Internet database
- 2% Publications database
- Crossref database
- Crossref Posted Content database
- 12% Submitted Works database

● **Excluded from Similarity Report**

- Bibliographic material
- Small Matches (Less than 15 words)
- Manually excluded sources

# 11 The Effect of Performance & Conformance Innovation Towards Product Life Cycle Through Customer Relationship Management

Erna Setijani Sumartono  
University of Merdeka Malang

Krisnawuri Handayani\*  
University of Merdeka Malang  
krisnawuri.handayani@unmer.ac.id

1 **Abstract.** The research on The Effect of Performance Innovation, Conformance Innovation with the mediation of Customer Relationship Management (CRM) toward Product Life Cycle (PLC) on Batik Madura SMEs is intended to analyze the linkage of those research variables. The research population is all Batik Madura SMEs at Madura Island. The sampling technique uses a proportional sampling technique in 4 (four) districts on Madura Island, namely, Sumenep, Pamekasan, Sampang, and Bangkalan District as many as 200 respondents. While the analysis technique uses Partial Least Square. Based on the results of primary data analysis, it was revealed that both performance and conformance innovation significantly affect the product life cycle and also mediate the effect of Customer Relationship Management (CRM) toward the product life cycle. However, customer relationship management does not affect directly the product life cycle. Of course, it is necessary to synergize those innovations to extend the product life cycle of Madura Batik.

**Keywords:** *product life cycle, performance, conformance innovation*

## INTRODUCTION

During this time, batik is attached as part of the culture of some areas such as Solo, Yogyakarta, Pekalongan. In East Java, Madura Island, besides being known as a salt island, has a wealth of cultural sites in the form of batik. Batik products produced from Madura have a specificity starting from the motifs, striking colors, and the production process. Variety motifs owned by Madura batik include spear buds, rhombus, knitting, machetes, and various flora and fauna. Batik Craft Centers-Each district in Madura has artisans with their unique characteristics. However, the most numerous are in Bangkalan and Pamekasan Regencies. Some places include the Tanjung Bumi batik center in Bangkalan, the Banyumas Klampar batik center, Pamekasan, and

the Pakandangan Sumenep batik center. The Government of Pamekasan Regency stipulates the village of Banyumas Klampar, Proppo district as a batik village. The uniqueness of Madura batik is the manufacturing process. Batik Gentongan is one of the most famous batik traditions in Madura. Batik Gentongan is quite widely known for its color strength. A longer manufacturing process makes batik gentongan more exclusive [1].

As a brand that represents Madura, Madura batik can show the supreme aspects of its motifs, manufacturing processes, and philosophical meaning. This can make batik not only as a cultural product but also a legacy that needs to be preserved. Indonesia as part of ASEAN has the potential of heritage tourism with the most market share. From a marketing perspective, this legacy management can be used professionally and comprehensively to maintain and preserve the authenticity of cultural heritage for future generations. On the other hand, it can attract suppliers, distributors, regulators, and consumers [2].

The Madura batik brand as one of the cultural attractions plays an important role in the development of creative industries with positive economic and social impacts. The number of Madura batik craftsmen in Sumenep 200, Pamekasan 592, Sampang 44, and Bangkalan 1503 craftsmen [3]. Unfortunately, the marketing of Madura batik products still fluctuates. In fact, in the last three years, it has stagnated and declined downward. The results of preliminary studies indicate that Bangkalan Regency, as the producer of quality batik such as Batik Gentongan, continues to experience declining sales. Even the existence of Batik Gentongan begins to be disrupted by the spread of batik printing that can be produced quickly with more innovative and varied designs. While Madura batik mostly relies only on striking colors and is far from being innovative, which should be dug out continuously from the motifs of the Madurese civilian heritage. The urgency of research on innovation especially the synergy of incremental innovation and customer relationship management in Madura batik is undeniable, with the hope of finding an adaptive innovation and customer relationship management synergy model, which when

applied contributes to the product life cycle (PLC) of Madura batik.

Further, the objectives of this study are (a) to analyze the effect of customer relationship management toward product life cycle, (b) to analyze the indirect effect of customer relationship management toward product life cycle through performance innovation and (c) to analyze the indirect effect of customer relationship management toward product life cycle through conformance innovation.

It is stated that the product life cycle describes the different stages of product sales. These stages relate to opportunities and problems different about marketing strategies and potential profits [2]. By identifying the different stages of the challenge with the different stages of a product being, or the stage to be achieved, the company can formulate a marketing plan better. The stages of the product cycle include introduction, growth, establishment, and setback. Further, incremental innovation includes modification, refinement, simplification, consolidation, and improvement of existing products, processes, services, and production and distribution [4].

Also, it is elaborated that incremental innovation as an improvement and expansion of an established design that results in substantial prices or functional benefits [5]. It should be noted, customer relationship management is a consolidation of customer management and creates a flurry of activity between companies. Customer relationship management is a double-edged sword, presenting opportunities and challenges to the company given its adoption and implementation. Customer relationship management is seen as rooted strongly in the concept of relationship marketing, aiming at increasing long-term profitability by moving from transaction-based marketing to customer retention [6].

In recent times, it has been recognized that the company's relationship with customers can be improved by using information technology. It will facilitate and enhance customer relations in various ways but especially allows the company to achieve adjustments, which is the core of a customer-centric organization. In this context, customer relationship management has emerged as an ideal vehicle for implementing relationship marketing within companies, with some practitioners suggesting that customer relationship management provides a platform for operational manifestations of relationship marketing [7].

The most appropriate way to implement this management is through the use of software applications in the form of electronic customer relationship management technology. This type of

customer relationship management software provides functionality that enable companies to make local points of customers from all organizational decisions and such technological and Internet innovations are just a few of the factors that now make relationships through one-on-one initiatives a reality [8]. The internet has allowed new patterns of intermediation to emerge, enabling companies to adopt customer relationship management to focus on effective customer relationship management as well as utilizing the application of on-line technology to facilitate customer-supplier relationships [9].

Empirically, innovation is one approach to extend the product life cycle [10]. Then, in a research article on absorptive capacity, technological innovation, and product life cycle: a system dynamics model revealed that innovation influences the product life cycle [11]. Further, it is explained that competitive advantage through innovation: the case of Nespresso revealed that innovation can build business continuity. Besides, innovation affects the life cycle of a product [12]. A model for the development of sustainable innovations for the early phase of the innovation process revealed that incremental innovation impact on organizational survival [13].

Also, the research results of Apple Products: A Discussion of the Product Life Cycle revealed that incremental innovation as a media extends product life [14]. The article Sustainability and Innovation in the Automotive Sector: A Structured Content Analysis shows that the importance of incremental innovation in increasing competitiveness as well as in the product life cycle [15]. Also, the results of his research on the relationship between customer relationship management, customer satisfaction, and customer loyalty, demonstrated that customer relationship management positively relationship with customer satisfaction and loyalty. This means that electronic-based customer management can indirectly extend the product's life cycle [16].

Meanwhile, the impact of customer relationship management implementation on customer loyalty, customer retention, and customer profitability for hoteliers along the Vaal Meander of South Africa further reinforces previous findings that e-customer relationship management (e-crm) can indirectly extend the product life cycle period [17].

An empirical study of online shopping stated that e-crm directly affects customer satisfaction [18]. Another research article of examining customer relationship management from a management fashion perspective, explains that electronic-based customer management influences customer satisfaction [19]. The benefits of electronic customer relationship management to the banks and their customers revealed that one of the benefits of electronic

customer service management is that it can increase customer satisfaction [20]. The implementation of information technology-based customer management contributed to the product's competitive advantage [21].

Implementation of crm in Macedonian Companies found in her research activities that the implementation of IT-based customer relationship management contributed to the increase in sales [22].

Then, the relationship between e-crm and customer loyalty: a Kenyan Commercial Bank case study found that e-customer management relationships significantly affected customer loyalty [23]. Further, successful factors of implementing customer relationship management on e-commerce companies revealed that e-crm implementation succeeded in increasing customer satisfaction impact on the longer period of the product life cycle [24]. An empirical article also stated the impact of the customer relationship management on organizational productivity, customer trust and satisfaction by using the structural equation model: A study in the Iranian hospitals, revealed that there was an interrelation between IT-based customer management and customer trust as well as customer satisfaction [25].

Customer relationship management in the agricultural machinery market found that electronic-based customer relationship management was superior to conventional customer management in boosting sales [26]. Furthermore, it is also stated that customer relationship management-complications and implementation in an organization revealed that customer relationship management applications have benefits in increasing product market share. Interestingly, current research stated that incremental innovation affects customer relationship management, incremental innovation affects product life cycle, customer relationship management affects product lifecycle [27]. This research finding was also supported other researcher that migratory culture and information acquisition support entrepreneurship [1].

**METHOD**

This research uses a survey & participatory approach. The research variable consist of four, namely performance innovation and conformance innovation are the activity of innovation which includes modification, refinement, simplification, consolidation and multiplying existing products, processes, services, and production as well as distribution activities.

Third, customer relationship management as about identifying the company's best customers and maximizing the value of customers by satisfying and maintaining them using information technology

media. Four, the product life cycle describes the different stages in the history of selling a product. These stages relate to different opportunities and problems regarding marketing strategies and potential profits in terms of the stages of introduction, growth, maturity, and setback.

The population of this research is 2,239 units of Madura Batik SMEs in the Bangkalan, Sampang, Pamekasan & Semenep districts. The sampling technique is purposive sampling. Namely, Madura Matik SMEsin Bangkalan Regency, Sampang Regency, Pamekasan Regency & Sumenep Regency. Further, 50 craftsmen from each district were assigned as informants and focus group discussion participants. Further, all primary data was analyzed by the Partial Least Square technique analysis.

**RESULT**

Based on the primary data analysis, the linkage of customer relationship management (CRM), performance innovation (PI), and conformance innovation (CI) & product life cycle (PLC) is demonstrated at the path diagram below.

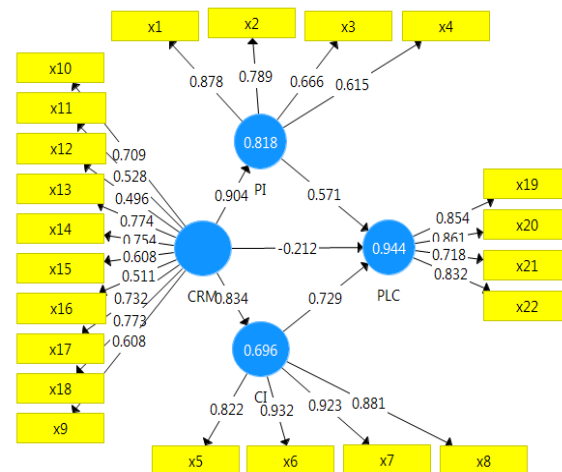


Figure 1. Path Diagram  
Source Primary Data Processed, 2020

As seen in figure 1, loading factors of x11, x12, and x16 are not valid. This is due to the coefficients are less than 0.600. That is why those loading factors have to be dropped and after that, it must be recalculated. The results are demonstrated in figure 2 below.

As shown in figure 2, all loading factors have been valid. This is due to the coefficients of more than 0.600. Therefore, it can be continued to calculate with bootstrapping analysis and the result can be seen at table 1 (path coefficients)

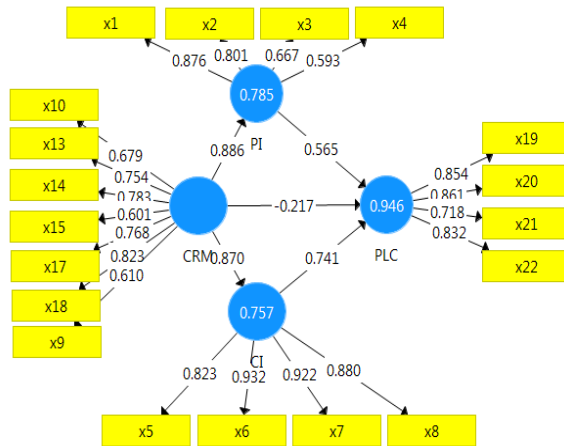


Figure 2. Path Diagram (Second Calculation)  
Source: Primary Data Processed, 2020

Table 1. Path Coefficient

	Original Sample	Standard Deviation	P. Values
CRM->PI->PLC	0.645	0.653	0.000
CRM->CI->PLC	0.501	0.500	0.000
CRM->PLC	-0.217	-0.223	0.058

Source: Primary Data Processed, 2020

Based on table 1, customer relationship management indirectly affects toward product life cycle through performance innovation. Also, customer relationship management indirectly affects toward product life cycle through conformance innovation. However, customer relationship management does not affect directly the product life cycle. It means, all hypotheses are supported and the only hypothesis that customer relationship management affects the product life cycle is rejected. Of course, these research findings can enrich management science. That is due to several previous research result always stated that customer relationship management affects significantly toward the product life cycle.

**CONCLUSION**

Based on the results data analysis and discussion, it was revealed that both performance innovation and conformance innovation affect the product life cycle and also mediate the effect of Customer Relationship Management toward the product life cycle.

However, customer relationship management does not affect directly the product life cycle of Madura handmade batik products. Of course, this information

is extremely necessary to combinethose innovations to extend the product life cycle of Batik Madura.

**REFERENCES**

[1] P. Sugito & Kamaludin, "Supporting entrepreneurship through migratory culture and information acquisition," *International Journal of Engineering and Advanced Technology (IJEAT)*, vol.9, no.1, pp. 2587-2591, 2019.

[2] P. Kotler, *Marketing Management*, Millenium Edition, New York: Prentice-Hall, 2014.

[3] Central Bureau of Statistics, 2018.

[4] H. Chesbrough, *Open Innovation-The New Imperative for Creating and Profiting from Technolgy*, Boston: Havard Business School Press, 2003.

[5] T. Rayna & L. Striukova, "The curse of the first-mover: When incremental innovation leads to radical change," *International Journal of Collaborative Enterprise*, vol. 1, no.1, pp.4-21, 2014.

[6] A. Payne, *Handbook of CRM: Achieving Excellence in Customer Management*, Oxford: Routledge Press, 2005.

[7] N. Kampani & D. Jhamb, "Analyzing the role of e-crm in managing customer relations: A critical review of the literature," *Journal of Critical Review*, vol.7, no.4, pp.221-226, 2020.

[8] V. Cherapanukorn, "Development of eCRM success: A case study of hotel industry," *International Journal of Trade, Economics, and Finance*, vol.8, no. 2, pp. 90-95, 2017.

[9] R. Wyne, et al, "Customer relationship management-complications and implementations in an organization," *International Journal of Humanities and Social Science*, vol.7, no. 3, pp. 202-206, 2017.

[10] Restuccia, et al, "Product life-cycle management and distributor contribution to new product development," *The Journal of Product Innovation Management*, vol. 33, no.1, pp. 69-89, 2015.

[11] Zou, et al, "Absorptive capacity, technological innovation, and product life cycle: A system dynamics model," *Springer Plus Journal*, vol.5, no.1, pp. 1-12, 2016.

[12] Matsumoto et al, "Sustainability through innovation in product life cycle design", *International Journal of Innovation*, vol. 6, no. 5, pp. 25-34, 2017.

- [13] Stock et al, "A model for the development of sustainable innovations for the early phase of the innovation process," *Procedia Manufacturing*, vol. 8: pp.215 – 222, 2017.
- [14] Janka, et al, "Apple products: A discussion of the product life cycle, advances in economics," *Business and Management Research*, vol.31, pp. 159-164, 2017.
- [15] Vaz, et al, "Sustainability and innovation in the automotive sector: A structured content analysis," *Journal of Sustainability*, vol. 9, pp.1-23, 2017.
- [16] K.M. Bashir & K.F. Khawaja, "The relationship of crm, customer satisfaction, and customer loyalty. the moderating role of anxiety," *Middle-East Journal of Scientific Research*, vol.16, no. 4, pp. 531-535, 2013.
- [17] J. Dubihlela, "Impact of e-crm implementation on customer loyalty, customer retention and customer profitability," *Mediterranean Journal of Social Sciences*, vol.5, no. 16, pp 175-186, 2014.
- [18] G.S Saini & S. Kumar, "The effect of e-crm on customer satisfaction: An empirical study of online shopping," *Journal of Management*, vol.5, no.2, pp. 31-40, 2015.
- [19] D. Madsen & D. Johanson, "Examining customer relationship management from a management fashion perspective," *Cogent Business & Management Journal*, vol.3, no.1, pp. -20, 2016.
- [20] Z. Bezhovskii & F. Hussain, "The benefits of the electronic customer relationship management to the banks and their customers," *Research Journal of Finance and Accounting*, vol.7, no. 4, pp.: 112-116, 2016.
- [21] Quresy, et al, "E-crm for competitive advantage," *International Journal of Core Engineering & Management (IJCEM)*, vol. 2, no.12, pp 1-18, 2016.
- [22] Janezka, et al, "Implementation of e-crm in macedonian companies," *Economy Series*, vol.4, pp.12-20, 2016.
- [23] E.E. Mang'anyi, O.T. Khabala, & K.K. Govender, "The relationship between e-CRM and customer loyalty: A Kenyan Commercial Bank case study," *Banks and Bank Systems Journal*, vol.12, no.2, pp. 106-115, 2017.
- [24] T.L. Lan, "Successful factors of implementation electronic customer relationship management (e-crm) on e-commerce company," *American Journal of Software Engineering and Applications*, vol.6, no.5, pp 121-127, 2017.
- [25] M. Yahoubi & M. Yavadi, "The impact of the customer relationship management on organizational productivity, customer trust and satisfaction by using the structural equation model: A study in the Iranian hospitals," *Journal of Promotion and Health Education*, vol.6, no.6, pp 10-17, 2017.
- [26] A.S. Nunes, et al, "Customer relationship management in the agricultural machinery market, Ciência Rural," *Santa Maria Journal*, vol.47, no.7, pp. 2-9, 2017.
- [27] E. Setijani, Sumartono, & P. Sugito, "Mediating customer relationship management on the effect of incremental innovation on product life cycle," *International Journal of Scientific & Technology Research*, vol.8, no.9, pp. 59-64, 2019.

## ● 18% Overall Similarity

Top sources found in the following databases:

- 11% Internet database
- 2% Publications database
- Crossref database
- Crossref Posted Content database
- 12% Submitted Works database

### TOP SOURCES

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	<b>scite.ai</b> Internet	3%
2	<b>Amity University on 2018-03-06</b> Submitted works	2%
3	<b>repository.out.ac.tz</b> Internet	2%
4	<b>Universitas Merdeka Malang on 2021-05-20</b> Submitted works	2%
5	<b>ijstr.org</b> Internet	2%
6	<b>docslib.org</b> Internet	1%
7	<b>Postgraduate Schools - Limkokwing University of Creative Technology ...</b> Submitted works	1%
8	<b>Universiti Teknologi Malaysia on 2011-05-02</b> Submitted works	1%

9	<b>core.ac.uk</b> Internet	<1%
10	<b>University of Macau on 2021-03-08</b> Submitted works	<1%
11	<b>doc-pak.undip.ac.id</b> Internet	<1%
12	<b>businessperspectives.org</b> Internet	<1%



● Excluded from Similarity Report

- Bibliographic material
- Manually excluded sources
- Small Matches (Less than 15 words)

---

EXCLUDED SOURCES

<b>download.atlantis-press.com</b>	<b>97%</b>
Internet	
<b>lppm.unmer.ac.id</b>	<b>47%</b>
Internet	
<b>researchgate.net</b>	<b>41%</b>
Internet	
<b>ijstr.org</b>	<b>40%</b>
Internet	
<b>atlantis-press.com</b>	<b>13%</b>
Internet	
<b>New England College on 2013-03-17</b>	<b>8%</b>
Submitted works	
<b>moam.info</b>	<b>5%</b>
Internet	
<b>docplayer.net</b>	<b>5%</b>
Internet	
<b>m.moam.info</b>	<b>5%</b>
Internet	

<b>findarticles.com</b>	<b>5%</b>
Internet	
<b>1library.net</b>	<b>5%</b>
Internet	
<b>lppm.unmer.ac.id</b>	<b>4%</b>
Internet	
<b>University of Pretoria on 2023-10-30</b>	<b>4%</b>
Submitted works	
<b>jurnalfti.unmer.ac.id</b>	<b>3%</b>
Internet	
<b>seminar.unmer.ac.id</b>	<b>2%</b>
Internet	
<b>seminar.unmer.ac.id</b>	<b>2%</b>
Internet	
<b>solidstatetechnology.us</b>	<b>1%</b>
Internet	