Constructing Service Innovation Model for SMEs in Automotive Service Industries: A Case Study of Auto Repair Motorcycle in Makassar City

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Constructing Service Innovation Model for SMEs in Automotive Service Industries: A Case Study of Auto Repair Motorcycle in Makassar City

Muhammad Farid, Jen-der Day

***Abstract*—**The purpose of this study is to find the service innovation model construct for small and medium-sized enterprises (SMEs) in automotive service industries. A case study of repair shop of motorcycle at Makassar city illustrates measure innovation implementation, degree of innovation, and identifies type of innovation by the service innovation model for SMEs. In this paper, we interview 10 managers of SMEs and analyze their answers. We find that innovation implementation have been slowly; only producing new service innovation 0.62 unit average per year. Incremental innovation is present option for SMEs, because they choose safer roads to improve service continuously. If want to create radical innovation, they still consider the aspect of cost, system, and readiness of human resources.

***Keywords*—**Service innovation, Incremental innovation, SMEs, Automotive service industries.

I. Introduction

INNOVATION is progressively approved as having an important impact to make to organizational performance, success, and survival [1]. Pressure from the external environment often encourages innovation, containing factors such as customer demand, deregulation, competition, resource shortage, and that it is related with adaptive behavior that changes the organization in order to maintain or improve its performance [2].

The implementation of a new or significantly improved product, process, a new marketing method, a new organizational method in business practices, workplace organization or external relations is an innovation. Product is mean not only good but also service to make satisfied customer. The importance of the services sector's contribution to economic growth is increasingly recognized and has directed to a number of studies on innovation in services [3].

The automotive service industry has an important role to support manufacture industry to serve customers after sales service. Especially in SMEs such as repair shops of motorcycles provide service to maintenance and repair vehicle of customer. So that ensure be able to utilize for long time according manufacturer's references. Innovation in this industry is needed in providing services. In addition, ensure the maintenance and repair of vehicles follow standard operating procedures (SOP) also provide comfort to the customer during visit to repair shops.

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II. Concept and Models of Service Innovation

A. Concept of Service Innovation

Service innovation generally has accentuated the emergement of new service contributions and concepts, including how to produce new ideas for service contributions and improve customer-oriented options [4]. Key points such as transfer innovation, technological innovation, organizational innovation, process innovation, product innovation, and market innovation are a general of the service innovation [5].

The reference of services innovation are: process of service, business use new ideas and new technologies to improvement and modification existing services processes, improve the existing service quality and service efficiency, produce new value for clients, and eventually form the competitive advantage of service activities [6].

This study using service innovation is how to enterprise generate new ideas and technologies for service offering, improve the existing service quality, and create new value for customers.

B. Service Typology

In 2004, Schmenner [7] published his paper describe service typology based on level of labor intensity and client interaction customization by four quadrants qualification of service industry: mass service, service factory, service shop, and professional service.

Industries those are included in category of service shop such as hospital, restaurant, and repair shop. Automotive service industries are part of repair shop and into the service shop quadrant. Farid and Wiratmadja [8] develop service quality model in automotive service industry, which is application of service typology quadrant.

Previous research about service innovation in this quadrant can help to enrich this study. Baregheh et al. [1] measure innovation in food sector SMEs. Their research presents a profile of innovation SMEs, exploring specially the type and degree of innovation working, and arrangement with activities that encouragement innovation orientation, or organizational innovativeness.

C. SMEs in Automotive Industries

The growth of SMEs in automotive industries in line with the extent of public demand for after-sales service to maintenance and repair their cars or motorcycles. In general, if we pay attention to the service process in motorcycle repair shop more inclined to provide services in accordance with the operational standards recommended by main dealer or according customer needs while it comes to shop.

When we look at a glance, repair shop conducted by routine activities by remaining customers. Furthermore, provide services in accordance with customer demand. Increasing the number of motorcycle users in Indonesia, especially those in the city of Makassar indicate the number of repair shop increased significantly.

Generally authorized repair shop to carry brand, which has been famous: Honda, Yamaha, Suzuki, Kawasaki, and Vespa. This has been a discussion of whether to implement service innovation for SMEs in automotive industry or is there enough only continuous improvement.

D. Model of Innovation

Many innovation models used to measure innovation performance. McAdams *et al.* [9] developing a model of innovation implementation for UK SMEs. The Model can be used a decision support tool and diagnostic model for accessing service innovation ideas, evaluating performance of ongoing service innovations, allocating resources, and improving success rate of service innovations. Decisions makers can use the measure develop in this study as a checklist to identify their strengths in delivering service quality to their own customers as well as areas of improvement.

Based on that model, the contributory constructs postulate from the literature and exploratory case-based studies are summarized to measure innovation implementation as follows Table 1.

TABLE 1
CONSTRUCT OF INNOVATION IMPLEMENTATION

No	Construct	Explanation
1	Leadership innovation	The entrepreneur or leader's opinion of the significance of innovation will upset the acceptance of innovation practices and development of innovative product
2	People and culture-based	A culture of innate flexibility and responsiveness to environmental changes within SMEs is likely to foster innovation beyond that continuous improvement,
		esses and product
3	Product and process	Key focus for directing innovation efforts resulting from leadership and people and culture construct
4	Total quality	Based tools and techniques such as lean and techniques such as lean manufacturing contributed to innovation implementation by moderating the costs in new product
5	Knowledge and information	Leader in SMEs could utilize systematic knowledge management practices in relation to market intelligence to develop more effective product innovation

Source: McAdams *et al.* [9]

E. Innovation Degree and Type

Innovation type classifications are based on the innovation process result. Many categorizations of innovation types have been suggest over the years. Baregheh *et al.* [1] adopted combination the categorization: 1) Service innovations, as the overview of new services to the existing or new customers and
fer of existing services to new customers. 2) Process innovation, modifications in the way in which things are created and delivered. Enhancing efficiency and effectiveness of the internal organizational processes to facilitate the services to the customers to become an internal focus purpose of innovations process. Technological process innovations are new elements introduced into an organization's service
peration for rendering its services to the customers. 3) Position innovation, modifications in the perspective in which services are initiated, and 4) Paradigm innovation, transformations in the basic mental models which frame what the company performs.

F. Conceptual Model of Service Innovation For SMEs Automotive Industries

The Figure 1 below illustrates the conceptual model of innovation implementation for SMEs; we adopted combination basic models of McAdam et al. [9], in accordance with the objectives of this study were to constructing service innovation in the automotive industry. Then the variable product and process from basic model customized by variable service and process, concerning support that used variable service quality refers to research Farid and Wiratmadja [8]. Furthermore, measurement of the degree and identify type of innovation draws on research developed by Baregheh et al. [1]. Thus conceptual model used in this study measurement of innovation based on innovation implementation, degree and type of innovation.

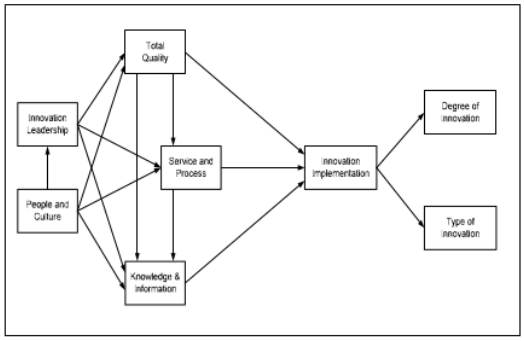

Fig. 1 Conceptual Model of innovation implementation for SMEs in Automotive Service Industries

III. METHODOLOGY

A. Case Study

Cases were selected by motorcycle repair shop of 10 service companies in Makassar city to explore service innovation within the automotive sector.

According to Yin [10] sample selection should be guided by replication logic instead of a statistical one. Each case should be considered as an experiment in itself, subsequent cases being used either to confirm or refute previous findings. Cases should therefore be selected if they are expected to yield similar results (literal replication) or different results (theoretical replication) according to theory. We took the target of identifying 1 to 3 companies in each brand, knowing that time and resources may limit our investigating of more than 10 cases in full.

B. Data collection

Interview appointments were arranged by visiting to companies. We visited 15 firms; however four firms not willing to be interviewed and one firm had merged. After a concise introduction of the research idea, 10 key persons who had been involved in the development of service innovations were enthusiastic to receive our request for a discussion.

A structured interview method with a qualitative method was used questions were designed based on conceptual model and literatures, and every interviewer asked the same questions, and followed the same sequences. This method was used in order to focus on research topics, and avoid varied responses from different interviewees.

The questions included: innovation implementation, degree of innovation, and type of innovation. Every interview keeps going for around 75-100 min. The researcher prepared a quick record of the verbatim interview transcript after each interview. Data collection was conducted according to a strict procedure, th[2] assuring reliability [11].

Prior to conducting interviews, a draft survey was pilot tested on two SMEs. Taking the feedback into consideration, some modifications were made before the final version of the interview checklist was rolled out [12]. Overall, 10 key [2]ersons at SMEs were interviewed in February 2016. In Table 1 provides the distribution of SMEs interviewed by industry and location.

C. Data analysis

Process of data analysis through two parts: field interview and content analysis. The field interviews assist to validate our theoretical outline, gains a richer accepting of feasible performance results, and produces detailed items for process development scale [11]. Content analysis contained of systematic analyses of degree of innovation, type of innovation, and innovation implementation.

The respondents' main [1]demographic features are summarized in Table 2. First, data were entered and coded in [3]xcel and then secondly, continue for descriptive analysis. The process of analysis consisted of three simultaneous flows of activity: data reduction, data display and conclusion drawing/verification. The data obtained were summarized and simplified with the intention of condensing it while data display was concerned with organizing and assembling information, which finally enabled us to reach our conclusions.

Data result based on Table 1 presents the number of employee's rate was 40 percent at 6-10 occupies and the smallest number of employees 11 to 20 and >50 respectively rate was 10 percent. Approximately half of firms have been establishment above 20 years, indicating that SMEs have long been doing business and managed to maintain the market and their consumers. Of the 14 districts in the city of Makassar, our research was conducted amounted to six districts, two of them by the highest number namely Tamalate and Wajo, respectively by 30 percent. In accordance with the original plan, we managed to visit and retrieve the data five motorcycle's brands with the greatest number of Honda and Yamaha, respectively by 30 percent. Finally, the numbers of innovation that have been produced in the last five years were 50 percent amount 3-4 unit of innovation with an average 3.1. It shows each year, the company is only able to produce 0.62 unit of service innovation.

TABLE 2
RESPONDEN PROFILE

Profile	Criteria	%
Size (number of employees)	Less than 5	20
	6 to 10	40
	11 to 20	10
	21 o 50	20
	>50	10
Year of establishment	Less than 5	10
	6 to 10	10
	11 to 20	30
	>20	50
Location (districts)	Tamalate	30
	Rappoccini	10
	Wajo	30
	Makassar	10
	Bontoala	10
	Mamajang	10
Brand	Honda	30
	Yamaha	30
	Suzuki	20
	Kawasaki	10
	Vespa	10
Number of innovation	1 to 2	40
	3 to 4	50
	4<	10

IV. RESULT

The findings of this study are resulted in three sections: Innovation implementation, degree of innovation, and types of innovation.

A. Innovation Implementation

Innovation orientation basically measured on the foundation of inputs and outputs organizational. This study used a reference that the level of organizational involvement with a number of innovations in performance often perceived as main to effective innovation by using innovation orientation framework of Siguaw *et al.* [13]. Firms indicated some commitment to encouraging new ideas, and to the

encouragement and support of innovative employees. Overall, the firms demonstrated a reasonable level of innovation orientation.

1) Leadership innovation

Leadership had been through the selection process by the HRD (human resource development) team amount 40 percent and whilst 60 percent by owner, however still consider the aspect of competence. In general, the function of the owner of SMEs in determining the manager is still very excessive. Firms already established which has considered the role of HRD in choosing a manager. Leadership in organization is very important to encourage employees to generate new ideas in the development of service innovation

2) People and culture

The interactions between leaders and employees have been established. Cultural organizations such as: honesty, discipline, and cleanliness have been socialized to all employees and are able to be applied in providing services. Employees give chance equal opportunity to develop them.

3) Service and process development

Services provided to consumers has been better in accordance with the concept of service quality include: ease of access, adjustment of the layout, the comfort of the lounge, the response of employees, procedures maintenance /repair, handling complaints, provision of guarantees, and communication with customers after service delivery. The nine points of service provided has shown very good attention; however there are 20% who do not give care lounge comfort. 4) Total quality management

The application of total quality are carried out simultaneously with the company's strategy and integrated. Always encourage quality in general in dealing with process and service changes and innovations.

5) Knowledge and information

Periodically improve the competence of employees, provide product knowledge about new technologies, new services system to employees and consumers. Utilize information technology and social media to communicate with fellow employees. It is not yet maximizing the potential.

B. Degree of innovation

This study resulted that generally SMEs focus on incremental innovation [14]. Also, the rate of organizational engagement with: almost all companies choose incremental innovation rather than radical innovation; it is because they choose safer roads to improve continuously. If want to create radical innovation, they still consider the aspect of cost, system, and readiness of human resources.

C. Types of innovation

Automotive industries SMEs in this study exhibit a level of innovation in: 1) service and process innovation, 2) position innovation, and 3) paradigm innovation. Each type will identify level condition by comparing based on company and brand.

Firstly, observe types of innovation. It is important thing that the level of commitment with improvement service quality and service innovation is similar. Therefore, in the automotive sector important consider the type of innovation to include service quality improvement. Overall, these result show that firms are more affianced with incremental service innovation than with radical service innovation, arguably because this innovation require significant investment such as cost, human resource, and system.

Secondly, process innovation. This study resulted that SMEs of automotive industry in their processes service are committed to the incremental improvement, and quite involved with all the activities of other related processes, containing information technology development. On the other side, they are a little in allocating resource for process innovation. Especially utilizing online media-based companies, they still tend to depend on a main dealer. Finally, paradigm innovation is lower than other types of innovation; this could be as the result of SMEs leaders needed to improve capability in viewing their organizations strategically. This is due to allocation resources involvement for strategic development is at low level.

V.CONCLUSION

The main goal of the current study was to evaluate profile innovation implementation automotive industry SMEs in Makassar city; this study discuss on the level of companies' commitment with many innovation activities, processes and types on the basis of the responses of the leaders of repair shop motorcycle SMEs.

In this study main focus tends to be, variously on degree, type, and implementation of service innovation. Furthermore, considers engagement with a range of innovation orientation activities in automotive industries SMEs' commitment with service, process, position and paradigm innovation.

This research is still limited use of qualitative methods by combining the three previous models. For further research can test the model by using SEM to confirm the relationship between variables manifest and latent variables.

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