



# Dilemma of innovation in silver craft SMEs in Gianyar Regency of Bali Province, Indonesia

## Dilema de la innovación en la artesanía de Plata Regencia de la Provincia de Bali, Indonesia

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#### ABSTRACT:

The purpose of this study was to determine the effect of innovation on competitive advantage and business performance in silver craft SMEs in Gianyar Regency. Data were collected by questionnaire. Data analysis was performed using the SEM-PLS approach. The results of data analysis show that innovation directly has a positive and significant effect on competitive advantage, but direct innovation does not have a significant effect on business performance.

**Keywords:** silver crafts SMEs, innovation, competitive advantage, business performance

#### RESUMEN:

Las PYMES en Gianyar Regency tienen una ventaja competitiva y un rendimiento empresarial en la industria de la plata. Los datos fueron recolectados por cuestionario e instrumentos de entrevista en profundidad. El análisis se realizó utilizando el enfoque SEM-PLS. Los resultados del análisis de datos muestran que Direct Innovation no tiene un efecto significativo en el rendimiento del negocio.

**Palabras clave:** Artesanía en plata Pymes, innovación, ventaja competitiva, desempeño empresarial

## 1. Introduction

The Province of Bali is famous as the Island of the Gods and is a world tourist destination. As a support for the tourism sector, a variety of craft industries typical of Balinese culture have developed. One of them is the jewelry/gem craft industry which is also included in the five leading export commodities of Bali Province. However, data from the Department of Industry and Trade of the Province of Bali estimates that in the last five years (2012-2016) there has been a decline in jewelry/gem exports by 14.08%.

Most jewelry/gem in the Bali Province come from the silver craft industry and is based in Gianyar Regency. Preliminary observations indicate that the condition of the silver craft industry in Gianyar Regency has decreased. This can be seen from the many silver craft

shops and silversmith choosing to close their businesses and switch functions to other business sectors.

There are a number of major complaints from silver craft SMEs such as the lack of visitors and increased prices of raw materials. In addition, silver craft SMEs also complained about the government's lack of attention to design protection or design patents, as well as technological advancements in the field of silver craft production (the process of casting silver).

Silver craftsmen also complain about the entry of silver-like raw materials on the market, at lower prices, one of which is the alpaca. Alpaca is the result of an engineered blend of elements between copper, zinc, and nickel so that it can produce metals that resemble silver. Since the entry of the alpaca which has relatively low prices, silver producers are encouraged to be able to compete with prices by saving raw material costs. The savings are carried out by modifying production raw materials. The basic ingredients of silver, which are relatively expensive, are mixed with other ingredients to resemble alpaca, thus producing products at lower prices. This condition in the long term caused a decline in the quality of silver craft products, so many customers complained and had a negative impact on the image of Balinese silver.

One of the strategies to win the competition among SMEs is to innovative to make new products. Innovation is done by observing consumers to find and satisfy customers by providing new products, creating innovations to have a strategic position in the market and resisting attacks from competitors with the main goal of meeting market demand. Innovation is also a major source of competitive advantage for businesses (Chen et al., 2009).

Porter (1985) states that the development of industry consist of several stages, namely the stage of introduction, growth, maturity, and decline. Each stage of development can be influenced through product and process innovations, so as not to experience a setback in the stages of industrial development. Innovation requires creativity, dynamic ability, knowledge creation, and new skills (Partharathy et al, 2011; Escribá-Esteve & Montoro-Sánchez, 2012; Urbancova, 2013). It can be said that innovation is indispensable for silver craft SMEs to be able to survive while creating competitive advantage in the industrial market.

Silva (2017), who researched about the small and médium-sized business in Mexico, concluded that enterprises need to divest themselves of the paternalism and unsystematic managerial practices that have thwarted growth in the past. Aziz & Samad (2016) also state that SMEs face obstacles to innovation, such as lack of internal funds, inadequate managerial skills, lack of work skills, and knowledge and lack of market access compared to large companies that have strong financial resources and are equipped with adequate infrastructure to support innovation activities. This is also supported by the results of research conducted by Väyrynen et al. (2017) found that large companies are more open externally to innovate than SMEs and large companies also value open dialogue and share more knowledge. In fact, SMEs seem to rely more on the development of their internal practices to support innovation. Therefore, large companies have more competitive advantages than SMEs. That condition is a gap that needs to be further investigated, about the application of innovation in silver craft SMEs so that later it can provide the competitive advantage. All obstacles faced by SMEs if not immediately resolved would certainly have an impact on the competitiveness of companies and affect the business performance of SMEs.

Silver craft SMEs are currently in a difficult position because they have to determine whether to innovate or survive conventionally. Innovation can be a blunder, but it is very necessary for the existence of SMEs. This study aims to analyze the effect of innovation on competitive advantage and business performance of silver craft SMEs in Gianyar Regency, Bali Province.

## **1.1. Concept of innovation**

The purpose of innovation for companies is to be able to remain competitive in the market and be able to achieve a sustainable competitive advantage (Kuhl et al., 2016). Innovation is also defined as the ability to apply creativity in order to solve problems and opportunities to

improve and enrich life (Suryana, 2003: 10). Weerawardena (2003) states that innovation is the application of new ideas and creates added value for the company, both directly and indirectly for its customers, regardless of whether the novelty and addition of values are realized in products, processes, work organization systems, or marketing systems.

Innovations can be grouped into two namely product innovation and process innovation (Chatzoglou & Chatzoudes, 2017; Al-Sa'di et al., 2017). Product innovation is an idea or finding to produce goods or services that can be marketed and can produce value. Process innovation is a method, process, stage, to produce, develop and implement real from innovative ideas (Chatzoglou & Chatzoudes, 2017). Product innovation can include changes in design which, in turn, cause important changes in the use or features of a product. The main objective of the company to carry out product innovation is to increase product value and achieve a higher level of efficiency. Product innovation can be achieved either by using technology, and new knowledge, or by using a combination of existing technologies and new knowledge (Al-Sa'di et al., 2017). Process innovation is an improvement in production methods and logistics or repairs that cover several activities such as accounting, computing, purchasing, and maintenance. Organizations that use process innovation aim at producing innovative products and new products as well. This may require the adoption of new methods that have never been used before (Al-Sa'di et al., 2017).

## **1.2. Competitive advantage**

Competition is the essence of a company's success or failure. Competition determines the accuracy of company activities that can support its performance, including innovation, cohesive culture, or good implementation. In any industry, both domestic and international in producing products or services, competitive advantage is determined by five competing forces, namely: (1) the entry of new competitors, (2) the threat of substitute products (substitution), (3) the bargaining power of buyers, (4) the bargaining power of suppliers, (5) competition among existing competitors. These five factors will determine the profitability of the industry because it affects prices, costs, and requires company investment in industry (Porter, 1994: 4).

In this study competitive advantage was measured using dimensions developed by Ward et al. (1998), Kumarawadu (2008), Kuncoro and Suriani (2017) namely efficiency, product uniqueness, quality, competitive prices, flexibility.

## **1.3. Business performance**

Tseng & Lee (2014) stated that performance is the level of target achieved by an organization or as an evaluation of the effectiveness of individuals, groups, or organizations. At the individual level, this refers to job satisfaction, achieving goals, and personal adjustments; At the group level, this refers to enthusiasm, cohesion, efficiency, and productivity; and at the organizational level, this is about profit, efficiency, productivity, absence rates, turnover rates, and adaptability. Fahmi (2011: 2) explains that performance is a result obtained by organizations, both profit-oriented organizations, and non-profit oriented organizations.

Rahman & Ramli (2014) state that measuring the success of an organization using accounting data is widely practiced. However, measuring the company's performance by only using financial data has limitations. Accounting-based financial measurement systems are no longer sufficient to measure a company's performance. Therefore, many companies have adopted several new approaches that combine financial and non-financial measures to better assess their performance.

Measurement of organizational performance will be better if done more holistically, by combining aspects of measurement of financial and non-financial performance. By using non-financial measures, managers will be able to track progress on actionable steps that lead to the success of the company in the market with the company's values and preferences to produce decisions about the actions needed (Rahman & Ramli, 2014). This research business performance variable is measured using four dimensions, namely: (1)

## 2. Methodology

Based on the literature and previous research review, a conceptual framework can be drawn up as shown in Figure 1.

Figure 1 shows that there are three main variables in this study, namely: innovation, competitive advantage, and business performance. Each variable is described again in its dimensions and indicators. Based on the conceptual framework, the hypothesis can be formulated in this study as follows.

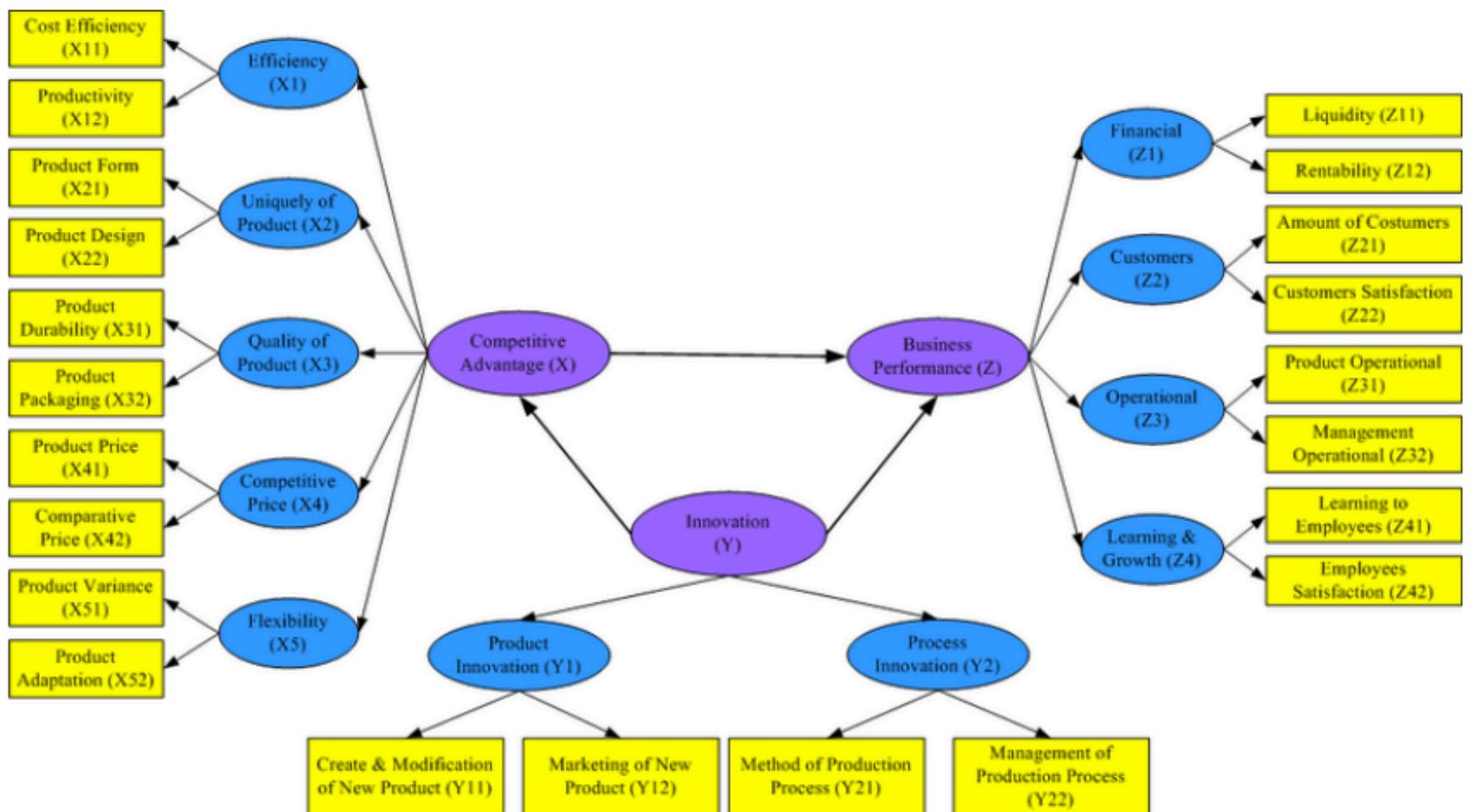
H1 : Innovations have a positive and significant effect on competitive advantage.

H2 : Innovation has a positive and significant effect on business performance.

H3 : Competitive advantage has a positive and significant effect on business performance.

H4 : Competitive advantages significantly mediate the effect of innovation on business performance.

**Figure 1**  
Conceptual Framework



As previously explained, the object of this research is silver craft SMEs in Gianyar Regency, so the population are 235 units of silver craft SMEs in Gianyar Regency. Furthermore, based on Isaac and Michael's formula, a sample of 146 units was obtained. The sampling technique used was purposive sampling. Data is collected through questionnaire. Then the data was analyzed by SEM-PLS technique.

## 3. Results and discussion

### 3.1. Results of data analysis

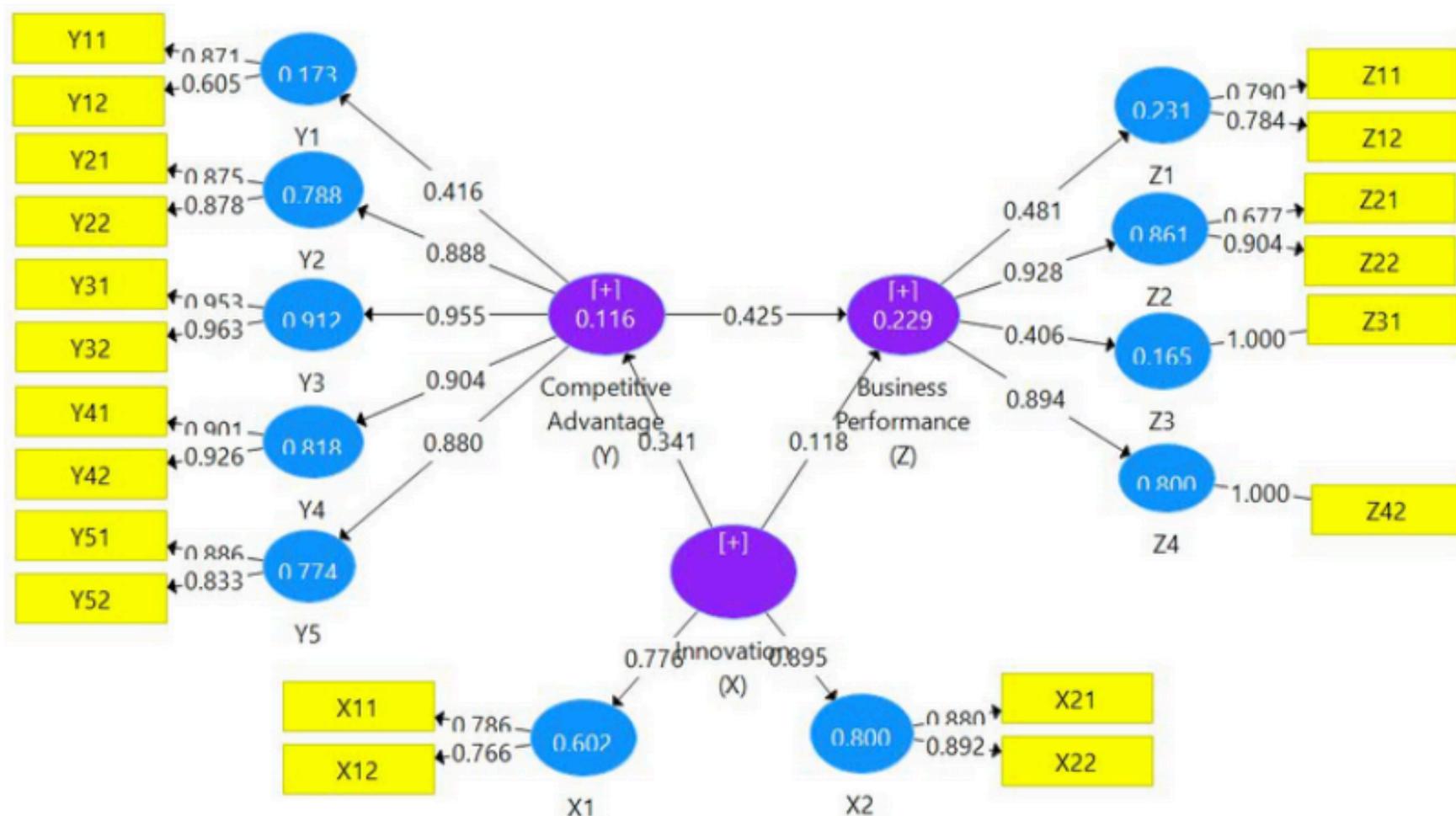
There are two stages in the analysis with the SEM-PLS approach, namely testing the outer model and inner model. Testing the outer model aims to test the validity and reliability of indicators in constructing dimensions, as well as dimensions in constructing each variable. While the inner model testing is to find out the relationship between research variables.

The test results of the outer model show that there are two indicators on business performance variables that are invalid, so it needs to be eliminated from the model. These

indicators are operational management and learning for employees. Then testing the outer model again until the results obtained show that the model is valid and reliable. The outer loading on each indicator can be shown in Figure 2.

Then the inner model test is done by considering the R-square value on endogenous variables (business performance). It is known that the R-square value is 0.229 which means that 22.9% of the variation in the value of the business performance of silver craft SMEs in Gianyar Regency can be explained by variations in innovation and competitive advantage, while the remaining 77.1% is explained by other factors outside the research model.

**Figure 2**  
Outer Loading



The next inner model test step is to evaluate the path coefficient both directly and indirectly, as presented in Table 1.

**Table 1**  
Path Coefficient (Direct and Indirect Effect)

Path	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
X à Y	0.341	0.341	0.061	5.551	0.000
X à Z	0.118	0.096	0.073	1.619	0.106
Y à Z	0.425	0.498	0.101	4.204	0.000
X à Y à Z	0.145	0.171	0.048	3.016	0.003

Note: X = competitive advantage, Y = innovation, Z = business performance

### 3.2. Hypothesis testing results

Hypothesis testing is done by considering the regression coefficient, t-value, and p-value in each path. If the regression coefficient is positive then it has a positive effect. Furthermore,

if the t-value is greater than 1.96 and the p-value is smaller than 0.05 then the effect is declared significant. Based on the data analysis output as Table 1, the results of the research hypothesis testing can be obtained as follows.

H1 : Hypothesis accepted (Innovations have a positive and significant effect on competitive advantage).

H2 : Hypothesis rejected (Innovation haven't a significant effect on business performance).

H3 : Hypothesis accepted (Competitive advantage has a positive and significant effect on business performance).

H4 : Hypothesis accepted (Competitive advantages significantly mediate the effect of innovation on business performance).

### **3.3. Discussion**

The results of data analysis showed that there was one research hypothesis that was rejected, where it was found that direct innovation turned out to have no significant effect on the business performance of silver craft SMEs in Gianyar Regency. This means that the ability of innovation in silver craft SMEs is not able to directly improve the company's business performance in the silver craft industry.

Wang and Wang (2012) conducted research on technology companies in China, finding that innovation is very important to achieve operational efficiency while improving service quality. Companies with greater innovation will be more successful in responding to customer needs and in developing new capabilities that enable them to achieve better performance or superior profits.

This study is inconsistent with the results of the study of Kuhl et al., (2016) stating that organizations are able to have sustainable business performance if they are able to create innovation, while organizations lack sustainable business performance, if they lack innovation. Research results from Migdadi et al. (2017) state that managers must have the ability to innovate because it is an important element in achieving better corporate performance and sustainable competitiveness. Companies that have a clear understanding of the exact nature of innovation will help companies prioritize their market strategy, production, and technology, which must be followed by the next appropriate action plan.

The process of producing new products in silver craft SMEs is not easy, it requires creativity and huge costs. In addition, there is also the risk of innovation failure. If the products produced from innovation have high quality, there is still a possibility that they cannot be accepted by the market. If the product is accepted by the market, there is a tendency for the product to be quickly replicated by competitors, moreover, the products produced by the silver craft SMEs tend not to have Intellectual Property Rights (IPRs). This is considered as an innovation dilemma in silver craft SMEs in Bali today.

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## **4. Conclusions**

Based on the results of the study, it can be concluded that innovation has a positive and significant effect on competitive advantage, but innovation directly has no significant effect on business performance. Given that it turns out that competitive advantage has a positive and significant effect on business performance, and is able to significantly mediate the indirect influence of innovation on business performance, so it is called full mediation.

Silver craft SMEs must be careful in deciding to innovate because innovation in silver SMEs requires high costs. If innovation is successful, then the benefits of innovation are only obtained once because of the vulnerability of competitors. But if the silver craft SMEs does not innovate, it will be left behind by its competitors. So that the innovation of SMEs in silver should be directed at creating products that have a value of competitiveness.

Therefore it is recommended that the government be more incentive in socializing and facilitating IPR so that it can protect the innovation of SMEs. Silver craft SMEs are also advised to innovate in terms of marketing, in addition to innovating in processes and

products. Because marketing in the digital and global era can be done effectively and efficiently online and through special techniques, such as celebrity endorsement, or by intensely participating in exhibitions and fashion shows.

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