

## Determinants of operational performance of pharmaceutical wholesalers' companies in Bali province

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### ABSTRACT

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Pharmaceutical distribution companies or also known as Pharmaceutical Drug Wholesalers (PBF) play a significant role in the distribution of pharmaceutical products in Indonesia. Without the role of PBF, the drug will not reach the patients from the manufacturer. The PBF appointed by the manufacturer to distribute the product, has operational performance targets that must be achieved. However, like other businesses, PBF operational performance is also affected by external factors, such as the COVID-19 pandemic, government regulations and competition intensity. The impact of internal factors such as limited company resources is also investigated in this research. This research tries to explore the impact of external factors, those are: the pandemic of COVID-19, government regulations, competition intensity and internal factors that are the company's limited resources to PBF operational performance. Sales strategy is also used as mediating variables from external and internal factors to operational performance, thus operational control as moderating variable from sales strategy to operational performance respectively. Data collection was obtained by questionnaires and interviews with 44 PBF operational leaders in Bali, Indonesia. Data analyzing using SmartPLS 3.0. The COVID-19 pandemic, government regulations, competition intensity and company's limited resources have a negative impact on the company's operational performance. Sales strategy serves as a mediating variable from external and internal factors to operational performance. Operational control plays a significant role in moderating sales strategy and the performance of operational. The theoretical implication of this research is to enhance The Contingency Theory, which claims that the business environment, strategy, and control are three major contingency elements that are linked. The findings of this study also strengthen the concept of Transaction Cost Theory, which states that the relationship between the parties in a transaction is associated with rights and obligations that are poured into a very detailed agreement. The operational performance required by the principal to PBF is also included in the agreement and PBF should strive to achieve that operational performance.

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### 1. Introduction

All companies related to drug distribution in Indonesia must follow the flow of pharmaceutical products based on the Minister of Health's Regulation Indonesian Republic (Permenkes No. 1779/Menkes/Per/XII/2010), as shown in Fig. 1.



**Fig. 1.** Flow of Products from Producers to Consumers According to Minister of Health Regulation No. 1779/Menkes/Per/XII/2010

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Pharmaceutical Drug Wholesaler (PBF) carries out an intermediary function from the drug manufacturer / manufacturer (or often referred to as the principal) to the health service facility before finally the product reaches the patient / final consumer. PBF carries out the function of distributing drugs based on the appointment given by the principal. The appointment is usually accompanied by a cooperation agreement that contains the rights and obligations of both parties. One of the principal's goals in appointing PBF as an extension of an area is so that the products produced by the principal can be distributed optimally by the appointed PBF so that maximum sales can also be achieved. Many distributions, customer growth and achieving sales targets are some of the principal performance indicators against PBF as their distributor (Jagun, 2018; Frohlich & Westbrook, 2001).

Indonesia's pharmaceutical industry performance is not as big compared to other countries or is still smaller than other industrial sectors. Yunus et al. (2016) said that Indonesia's pharmaceutical market is only the fifth largest in Asia. This value when compared to the food sector for example, the size of the pharmaceutical business is only slightly adrift from the business of one of the players in the food sector in Indonesia, namely PT. Indofood Sukses Makmur Tbk whose sales reached IDR 65.5 trillion in the same year. The pharmaceutical industry's performance that has not been maximized is due to problems that occur both on the upstream and downstream sides. On the upstream side, the pharmaceutical industry still relies on imports of around 90% of raw materials for medicines used in the drug manufacturing process (Tito, 2020). The import value reaches USD 2.5 billion to USD 2.7 billion per year. China and India are the two largest exporters of pharmaceutical raw materials to many countries, including Indonesia. The COVID-19 pandemic, which forced China and India to lock down several times, disrupted the supply of pharmaceutical raw materials to many countries, including Indonesia (Herdady & Muchtaridi, 2020). The COVID-19 pandemic has not only created a supply of raw materials, especially for prevention and treatment purposes due to the COVID-19 pandemic, but also decreased patient visits to health care facilities, such as health centers, clinics, hospitals and doctoral practices at pharmacies, resulting in demand for these products. Pharmaceutical products other than the need for the COVID-19 pandemic also decreased.

The tourist industry has suffered as a result of the epidemic and has an impact on other sectors in Bali (Paramita & Putra, 2020). Pharmaceutical Wholesalers (PBF) whose main activity is the sale and distribution of pharmaceutical products also felt the impact. From the results of interviews with 6 (six) PBF leaders in Bali, they said that during the pandemic their average sales decreased between 30 percent to 50 percent. This is due to distribution difficulties (many health facilities are closed such as polyclinics, especially in the early days of the pandemic, restrictions on customer operating hours, restrictions on interaction with order decision makers at customers), decreased sales levels (many doctors did not practice and/or limit practice hours), resulting in decreased interaction between doctors and medical representatives who promote drugs to doctors), and it was more difficult to obtain product supplies, especially for products needed during pandemic. Other external factors that have an impact on PBF's operational performance apart from the COVID-19 pandemic studied in this study are government regulations and the intensity of competition. These external factors are suspected to have a negative influence on the operational success of the firm (Giantari et al., 2022; Telagawathi et al., 2022)

For this reason, the company needs to implement appropriate strategy, both from the corporate level to the functional level to anticipate the impact of these external factors and the impact from the internal factor (Ariyani et al., 2016; Yasa et al., 2016; and Muna et al., 2022). The functional level strategy that can be carried out by PBF is a strategy in the sales division. The sales strategy will be more effective if the operational activities are well controlled. This study aims to determine how the external factors, in this case the COVID-19 pandemic's influence, government regulations, the intensity of competition and internal factors, that is limited resources, affect the company's operational performance. The study also examines the role of sales strategy in communicating the impact of these external and internal factors on operational performance as well as the moderating function of sales strategy on the company's operational performance.

## 2. Literature Review and Hypothesis Formulation

The Contingency Theory based from Ghozali (2020, p. 81) in the book entitled "25 Grand Theory; 25 The Big Theory of Management, Accounting and Business" states that the business environment, strategy, and control are three important contingency factors that have a correlation between them. Higher performance can be realized by adjusting or matching these three factors. Research that examines business performance has been carried out by many previous researchers, including: Wijaya et al. (2019), Yasa et al. (2020a); Yasa et al. (2020b), Yasa et al. (2021), Setini et al. (2020), Setini et al. (2021); Winarsana et al. (2022), Wjaya & Rahmayanti, 2023, Mitariani et al. (2023). Business performance can be improved through the selection and implementation of the right strategy.

Transactional Cost Theory states that if a company can obtain resources and produce its own products, then the company does not necessarily have to make cooperation and agreements with other companies. This is not usually the case, and it is often more profitable for a company to enter into a trading or other type of agreement with another company (Miles, 2012, p. 329). The transaction is the fundamental unit of study in transaction cost theory. When an item or service is moved across organizational borders, a transaction has happened. Jambulingam and Kathuria (2020) state that pharmaceutical wholesalers rely on pharmaceutical manufacturers for product supply and face fierce rivalry, resulting in decreased profit margins. Given

the stringent regulation of the pharmaceutical sector, the wholesaler assists the manufacturers' compliance with regulations in the distribution process by cooperating with them.

In the pharmaceutical industry in Indonesia, transactions occur when there is transfer of goods from the principal (manufacturer) to PBF or from national PBF to local PBF. This happens because the principal as the producer may not directly sell/distribute the product to health care facilities but must go through PBF as a distributor. This is seen as a win-win because the principal can focus more on and maximize his resources in production and distribution activities handed over to PBF. The principal can appoint one or more national PBF as national distributors, then national PBF can appoint local PBF as distribution extension in each region. In this case, transactions that occur from national PBF to local PBF should be mutually beneficial, because national PBF does not need to distribute to all customers in an area so that it can save resources. From the local PBF side, they get the opportunity to distribute/ sell products purchased from the national PBF to customers in an area, outside the customers served by the national PBF. Therefore, there are some conditions that must be fulfilled by the appointed PBF. These conditions are contained in the agreement between two parties, one of which is related to operational performance objectives that must be achieved by PBF.

Operational performance was originally defined as a branch of management that focuses on the manufacture of products and services and using specialized tools and procedures to tackle manufacturing challenges (Devaraj & Wei, 2007). In the pharmaceutical industry, especially on the production side, Sharma & Modgil (2020) measures operational performance from several dimensions, namely: quality, delivery, cost, defects, capacity utilization, innovation and inventory. The performance of every organization, including companies, cannot be separated from external environmental factors (Telagawathi et al., 2022; Giantari et al., 2022; Mitriani et al., 2023). The COVID-19 pandemic is an example of disruption in the business sector, which not only disrupts supply chains, but also decreases purchasing power due to the weakening economy. Much study has been done to investigate the influence of the COVID-19 epidemic on business performance. Cai and Luo (2020) investigated the Chinese manufacturing industry from a supply chain perspective mentioned various kinds of disruptions to the industry, namely: disruptions to the production of raw materials and spare parts, unfulfilled market demand due to logistical disruptions, increased bankrupt risk for small and medium businesses, as well as increased fluctuations in demand.

### 3. Hypothesis Formulation

There are also some studies regarding the impact of the pandemic COVID-19 on some industries in Indonesia. There are industries that have experienced a positive impact or have grown during the pandemic, including the medical device industry such as personal protective equipment (face shields), masks, gloves, the food and beverage industry, including the pharmaceutical industry. This is different from research by Herdardy and Muchtaridi (2020) which states that the performance of the pharmaceutical industry will be disrupted due to the Covid-19 pandemic due to disruptions to the supply of raw materials from the two main supplying countries, namely China and India. Pharmaceutical Wholesalers (PBF) whose main activity is the sale and distribution of pharmaceutical products also feel the impact. Based on the results of interviews with 6 (six) PBF practitioners in Bali in December 2021, they said that during the pandemic their average sales had decreased between 30 percent and 50 percent. This was due to distribution difficulties (many health facilities were closed such as polyclinics, especially in the early days of the pandemic, restrictions on customer operating hours, restrictions on interactions with decision makers at customers), decreased levels of sales (many doctors did not practice and or limited practice hours thereby reducing the interaction between doctors and medical representatives who promote drugs to doctors, and it is more difficult to obtain product supplies, especially products to increase immunity such as Vitamin C and multi vitamins which are well known. Based on the description above, the indicators that will be used to measure the impact of the Covid-19 pandemic are: difficulties in obtaining product supplies, decreased company activity, decreased sales levels, and difficulties in product distribution (Purwanto et al., 2020; Giantari et al., 2022; and Telagawathi et al., 2022).

**H<sub>1</sub>:** *The COVID-19 pandemic has a negative and significant impact on operational performance.*

On the downstream side, the performance of the pharmaceutical industry is closely related to government regulations, especially those related to the distribution of pharmaceutical products. Jagun (2018) said that the pharmaceutical industry is one industry that is very closely related to government regulations. Compliance with regulations ensures that pharmaceutical companies will develop and distribute quality and safe products, related to their role in health care, prevention and cure of disease and saving human lives. Previous studies examining the impact of government regulations on the performance of the pharmaceutical industry in Indonesia, are from Lim & Rokhim (2020), Iqbal (2020), Nugraheni et al. (2020) Irwandy & Sjaaf (2018). Nurtantjo et al. (2016) and Yunus, 2016). Those government regulations discussed related to: the National Health Insurance Program (JKN), drugs procurement with e-catalogs, Good Drug Distribution (CDOB) certificates, and the flow of pharmaceutical products. Thus, the government regulation indicators used in this study are the regulation regarding the flow of pharmaceutical products, Good Drug Distribution (CDOB) certificate, drugs procurement with e-catalog, and the National Health Insurance Program (JKN).

**H<sub>2</sub>:** *Government regulations have a negative and significant impact on operational performance.*

The intensity of competition is a condition that will exist in every industry, including in the pharmacy industry. Nedelcheva & Filipova (2021) stated that even though medicine is a product that is not easy to substitute with other products because of its very specific function, in relation to the products sold by PBF, the threat of substitute products can be seen from the types of products with the same ingredients. For over-the-counter drug products, it will depend heavily on promotional activities through advertising or other media. Prihatini et al. (2020) also said that the more intense the promotion intensity of the principal's competitor, the more difficult it is for PBF to achieve the desired sales and distribution performance. This research adopted previous study from Nedelcheva & Filipova (2021), Prihatini et al. (2020), Yasa and Sukaatmadja (2017), Saldanha et al. (2019), regarding the impact of competition intensity on operational performance. Thus, the intensity of competition indicator used for this study are Intensity of promotion by principal's competitor, barriers to entry to the pharmacy distribution industry, bargaining power of suppliers (principals), and the bargaining power of customers (pharmaceutical service facilities).

**H<sub>3</sub>:** *The intensity of competition has a significant negative effect on operational performance.*

According to Wheelen & Hunger (2010:10), the internal environment consists of organizational structure, organizational culture and resources. Internal resources can be tangible or intangible assets. For PBF, resources related to the sales division or customer service are very important because sales are the spearhead of customer service (Sianturi et al., 2018). Availability of resources such as enough salespeople and the ability of salespeople to handle customers will make it easier for companies to achieve the desired operational performance. Even so, the availability of sales support staff such as warehouse and delivery personnel. The speed and accuracy of the warehouse in preparing products is then supported by the accuracy and alertness of the shipping department in sending goods to customers, which will greatly affect the achievement of PBF's operational performance. However, the small distribution margin makes PBF efficient in terms of the number of employees. The limited ability of the sales force and sales support personnel will also make it more difficult for PBF to achieve its operational performance targets. The amount and utilization of the company's working capital also determines the company's competitive advantage. Lim and Rokhim (2020) investigate the elements influencing pharmaceutical company profitability in Indonesia, stating that the gross margins of the pharmaceutical industry, especially in the distribution sector, are small, so working capital utilization must be very optimal. PBF utilizes its working capital, one of which is to finance the aging of stock in the warehouse and the aging of receivables from customers. PBF purchases goods on credit from suppliers/principals and also sells goods on credit to customers. The credit time given by the principal is generally between 30 to 45 days, but payments from customers are on average 40 to 50 days. PBF must also provide an adequate average stock as one of the KPI requirements/assessments from the principal, which is a minimum of 30 days of sales. So from the calculation above, the working capital needed by a PBF is between 30 to 45 days of sales to finance stock needs and receivables. The bottom line is the availability of working capital is very important for PBF for the continuity of stock turnover and receivables. The more adequate the working capital, the easier it will be for PBF to provide stock and maximize sales. In this study the indicators that will be used on the company's internal resource variables are based on research from Lim and Rokhim (2020), Adelia (2019), Dini (2018), Yasa et al. (2016), and Rohandi et al. (2014). Those are: number of salespeople, salesperson capabilities, the number of sales support staff, the capability of the sales support staff and the company's working capital.

**H<sub>4</sub>:** *The limited resources of the company have a negative and significant effect on operational performance.*

The Covid-19 pandemic has disrupted the pharmaceutical industry in the form of supply chain disruptions and reduced demand. This encourages companies to implement appropriate strategies in their operational business as well. Foris and Mustamu (2015) divide business strategy into three levels: enterprise strategy (enterprise-level strategy), business unit strategy (business unit-level strategy), and functional strategy (function-level strategy). said. Functional strategy works at the operating unit level, such as marketing, production, and finance, ensuring that each operating unit has a strategy to support the business (Ariyani et al., 2016; Setini et al., 2020; Setini et al., 2020; Setini et al., 2020; et al., 2021). The relationship being measured is performance related to PBF sales and distribution, so the level of strategic function performed is in the sales unit of work. The more severe the impact of the Covid-19 pandemic, the more companies will inevitably have to enhance their sales strategies (Derrick et al., 2020). The metrics used to measure the sales strategy are Customer Expansion Sales Growth Strategy, Customer Enrichment Sales Growth Strategy, Product Focused Sales Growth Strategy, and Sales Area Mapping. The stronger the impact of the Covid-19 pandemic, the stronger the company's marketing strategy.

**H<sub>5</sub>:** *The COVID-19 pandemic has a positive and significant impact on sales strategy.*

Government regulations are one of the macro external environmental factors in the political field. In the pharmaceutical industry, government regulations tend to change in a more stringent direction (Yunus, 2020). Examples of Drug and Food Control Agency Regulation Number 9 of 2019 and Drug and Food Control Agency Regulation Number 6 of 2020 which requires PBF to have a CDOB (Good Drug Distribution Method) certificate. To be able to get this certificate, PBF is only allowed to sell limited over the counter drug products only to customers who have a drug store license while not all customers who wish to sell limited over the counter drug products have a drug store license. The sales operational strategy that can be carried out is to find new customers who meet the requirements for the product category being sold. Adelia (2019) also said that government regulations, such as limiting sales of certain product categories, require PBF to optimize the mapping of its

sales area so that sales team visits will remain effective. More stringent government regulations will intensify the company's sales strategy.

**H<sub>6</sub>:** *The government regulations have a positive and significant impact on sales strategy.*

The intensity of business competition in an industry makes companies also must formulate the right business strategy. Yasa et al. (2016) said that companies can try to implement 4 (four) types of business strategies to respond to competition in the endek woven fabric industry in Bali, namely innovation strategies, service strategies, partnership strategies and differentiation strategies. In the distribution of pharmaceutical products, one example of the intensity of competition is in terms of how PBF competes in offering products that are sold to the same customers. To win this competition, PBF must prioritize service, namely by ensuring the sales team visits customers continuously and delivers goods on time, in the right items and in the right quantities. In a situation where competition for one customer is very high, PBF can carry out a customer extensification strategy, namely by finding and adding new customers (Adelia, 2019). The higher the intensity of competition will intensify the company's sales strategy.

**H<sub>7</sub>:** *The intensity of competition has a positive and significant impact on sales strategy.*

Internal resources are part of the internal business environment in addition to the organizational structure and corporate culture (Wheelen & Hunger, 2000: p.10). For PBF, the internal resources that can influence the sales operational strategy are the number of sales force and the number of sales support staff such as warehouse and shipping (expediting) staff as well as the capabilities of each of these personnel. However, the small distribution margin means that PBF cannot have more manpower than needed, and even tends to be limited. This limited number of personnel forces PBF to intensify its area mapping to make it effective. Limited working capital has also forced PBF to intensify its focused product strategy.

**H<sub>8</sub>:** *The limited resources of the company have a positive and significant impact on sales strategy.*

A functional strategy is a strategy developed specifically for a specific functional area to support a business unit strategy. Marketing, Manufacturing, Finance, Human Resources, Information Technology, Research and Development are all part of this functional area (Ganbold et al., 2021). This functional plan is often developed and assessed by department leaders such as the heads of marketing, finance, production, and operations. Companies need to formulate their functional strategy appropriately to achieve the desired business performance (Anggraini et al., 2022; Winarsana et al., 2022; and Muna et al., 2022). For example, to achieve the target number of active customers, PBF must create an area mapping and customer intensification strategy. Meanwhile, to increase the number of customers, PBF must carry out a customer extensification strategy (Adelia, 2019).

**H<sub>9</sub>:** *Sales strategy has a positive effect on the company's operational performance.*

An explorative study from Purwanto et al. (2020) on industry in Indonesia states that the impact of the COVID-19 pandemic on companies is: decreased imports of raw materials, decreased sales, decreased production capacity, decreased demand for orders and sales turnover, experienced difficulties distributing goods, reduced working hours divided into 2 (two) shifts, many employees are on vacation, and some employees only receive 80% of their salary. In pharmaceutical distribution, the impact was the result of disruptions in product supply and decreased demand. This causes PBF difficulties in achieving the desired sales target. The strategy that can be carried out by the company is product focus and customer intensification, namely increasing sales with existing products and customers.

**H<sub>10</sub>:** *The sales strategy able to mediate the impact of the Covid-19 pandemic on operational performance.*

In the pharmaceutical industry, several government regulations such as the flow of pharmaceutical products and the requirement for CDOB certification make it difficult for PBF to maximize its performance (Yunus, 2016). One strategy that can be carried out by the company is by doing customer extensification, as this strategy can add new customers that can be served by the company. Customer intensification is also carried out to increase the number and types of products purchased by customers. This is expected to help companies achieve the desired operational performance even though government regulations are getting stricter.

**H<sub>11</sub>:** *The sales strategy able to mediate government regulations on operational performance.*

Yasa et al. (2010) investigated the direct influence of competitive intensity on the performance of 105 BPRs in Bali, as well as the indirect effect of a partnership approach. The findings indicate that the more intense the competition, the worse the firm's performance, and that the partnership approach can mitigate the impact of competition intensity on corporate performance. The level of competition will also have a detrimental impact on corporate performance in the pharmaceutical distribution industry. The higher the level of competition, the more difficult it is to reach the target level of corporate operating

performance (Telagawathi et al., 2022; Giantari et al., 2022). The use of functional sales techniques such as product line expansion and client diversification is predicted to boost the company's operational performance (Rohandi, 2014).

**H<sub>12</sub>:** *The sales strategy able to mediate the intensity of competition on operational performance.*

Yasa et al. (2016) examined the direct effect of resources on the performance of wood craft industry performance in Gianyar Regency and also the indirect effect through the implementation of an innovation strategy. The results obtained between the company's resource variables and the company's performance variables show a negative influence. The indirect effect of the variable company resources on company performance through the implementation of an innovative strategy shows positive results. This means that limited company resources usually reduce performance but implementing an innovative strategy can increase company performance (Danese, 2013). In PBF companies, adequate internal resources such as sufficient working capital and adequate number and workforce will make it easier for the company to achieve the desired performance. On the other hand, if internal resources are inadequate both in terms of quantity and capability, the desired performance will be difficult to achieve (Setini et al., 2021). Applying the right strategy, for example product focus strategy and customer intensification can be applied to PBFs with limited working capital.

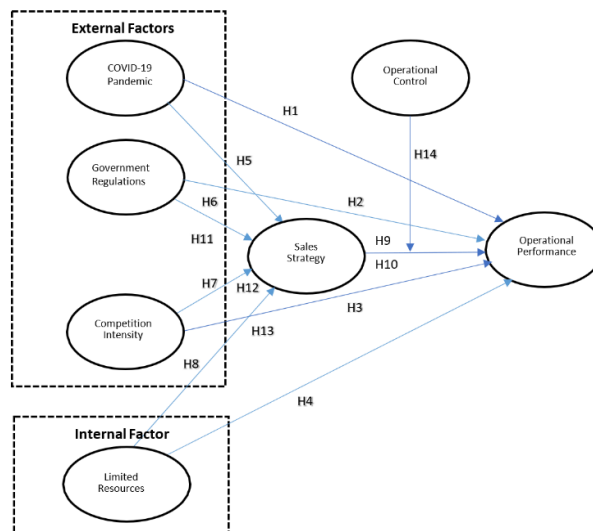
**H<sub>13</sub>:** *The sales strategy able to mediate the company's limited resources on operational performance.*

Lin et al. (2017) stated that management control consists of 2 (two) sorts of control: strategic control and operational control. Other academics see managerial control as a multifaceted term and categorize it as positive and negative control (Schaan, 1983; Allison & Kaye, 2013), personal and impersonal control (Harzing, 2001), and formal and informal control (Guidice & Cullen, 2007). Strategic control is a process of strategy review that takes place both before and after the plan is executed. Strategic control is more concerned with attaining the goals of the company's medium and long-term plans, whereas operational control or control is more concerned with managerial abilities, knowledge management, production, and everyday operations (Luo and Chung, 2013). This operational control process can be realized, among others, with a clear organizational structure, clear job descriptions, and segregation of duties and responsibilities between departments. Control systems related to sales operations were investigated including by Usvita (2017) who examined the sales force control system on the performance of salespeople at PT. BRI Solok Branch using 4 (four) indicators, namely: monitoring the work of salespeople, setting work systems, evaluating sales force achievements, and determining SOPs. Dini (2018) who examines the distribution efficiency of Pharmaceutical Wholesalers (PBF) in Samarinda, uses mapping control of sales areas and control of sales support personnel to increase company efficiency. The use of operational control as a moderating variable, so far the literature obtained so far has only been studied by Goodale (2011) who uses operational control as a moderating variable from corporate entrepreneurship to innovation performance. This study will use operational control as a moderator of the sales strategy on operational performance by using operational control indicators from the research of Usvita (2017), Sianturi et al (2018) and Dini (2018), namely: area mapping control, customer visit control, control the effectiveness of customer visits, active product control, and control of sales support personnel.

**H<sub>14</sub>:** *Operational control able to moderate sales strategy to operational performance.*

**3. Theoretical Framework**

Based on the literature review and hypotheses formulation, the research conceptual framework can be shown in Fig. 2:



**Fig. 2.** Research Conceptual Framework

3.1. Research Methodology

The influence of the COVID-19 pandemic, government rules, competitive intensity, and restricted resources on sales strategy and operational performance is investigated using a quantitative method in this study. The 44 PBF in Bali Province, Indonesia, were utilized as the sample. Data was gathered through surveys and interviews with respondents, who are the operational leaders of each organization. Profiles of respondents by gender, age, education, and the number of employees in each company respectively can be seen in Fig. 3 below. Convergent validity testing is also performed on each latent variable by examining the average variance extracted (AVE) value. If the latent variable's AVE value is more than 0.5, it is considered to have excellent convergent validity. In this study, it is suggested that the AVE value be more than 0.5. The convergent validity test findings utilizing AVE value from Table 1 showed that all variables have good convergent validity.

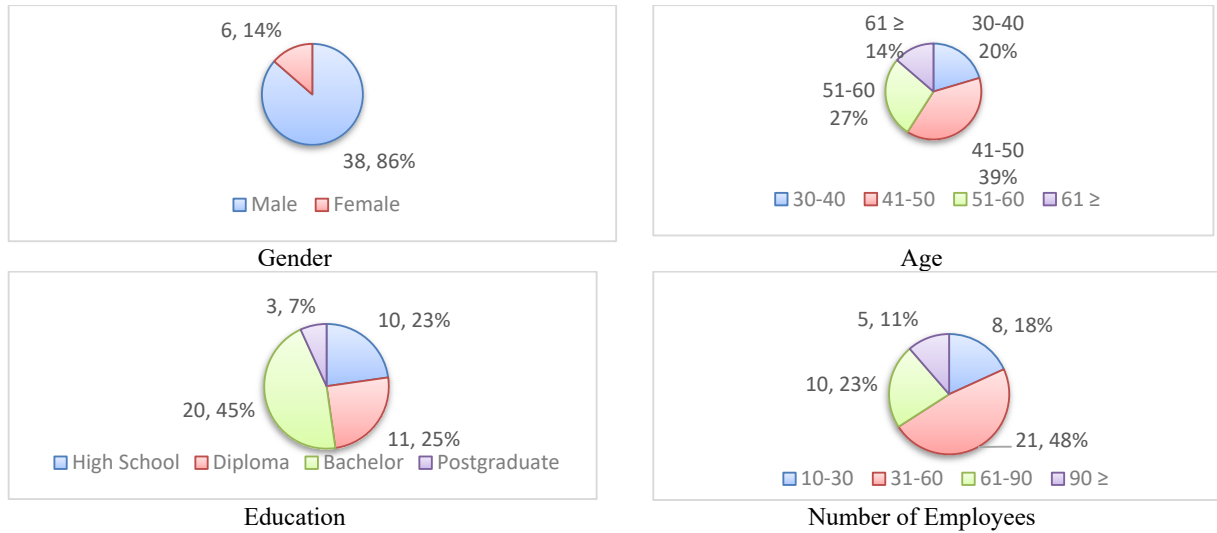


Fig. 3. Profile of respondents by gender, age, education, and the number of employees in each company

4. Results and Discussion

4.1. The Measurement Models – Outer Model Testing

Reflective models were investigated using SmartPLS 3.0. The convergent validity value depicts the relationship between the reflexive indicator score and the latent variable score. As a result, the results in this study are legitimate, which means that the reflexive indicator and the score of the hidden variable have a strong association.

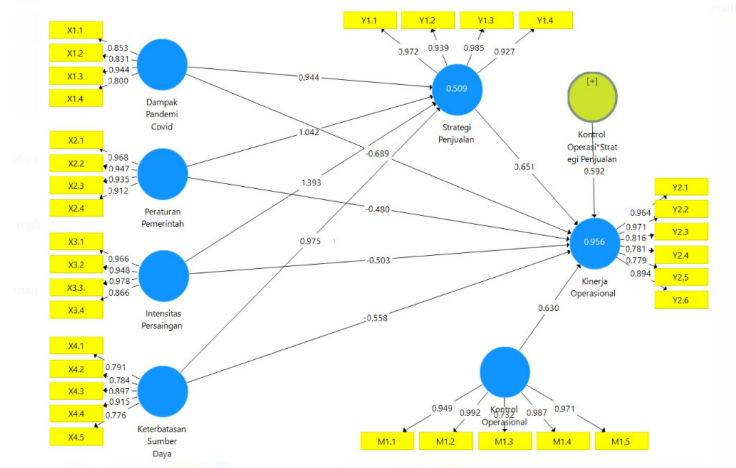


Fig. 4. Test results of the measurement model

Table 1  
Construct Reliability Test Results

	R Square	R Square Adjusted
Y1	0.509	0.458
Y2	0.956	0.948

4.2. The Structural Models – Inner Model Testing

The results of inferential statistical analysis with SEM PLS obtained the value of R square (R<sup>2</sup>) for each endogenous variable as shown in Table 2 below.

**Table 2**  
R Square and R Adjusted Value

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
<b>M</b>	0.960	0.992	0.970	<b>0.867</b>
<b>M×Y1</b>	1.000	1.000	1.000	<b>1.000</b>
<b>X1</b>	0.881	0.898	0.918	<b>0.737</b>
<b>X2</b>	0.957	0.973	0.969	<b>0.885</b>
<b>X3</b>	0.956	0.984	0.969	<b>0.885</b>
<b>X4</b>	0.885	0.917	0.909	<b>0.668</b>
<b>Y1</b>	0.969	0.978	0.977	<b>0.914</b>
<b>Y2</b>	0.934	0.944	0.949	<b>0.759</b>

The R<sup>2</sup> value of Y1 (sales strategy) is 0.509, which means that the variation in sales strategy is explained by 50.9 percent of the impact of the Covid-19 pandemic, government regulations, competitive intensity, and limited resources, with the remaining 49.1 percent explained by factors outside the model. The R<sup>2</sup> value of Y2 (operational performance) is 0.956, which means that the variation in operational performance is explained by 95.6% of the impact of the Covid-19 pandemic, government regulations, competition intensity, limited resources, sales strategy, and operational control, with the remaining 4.4% explained by factors outside the model. Q square predictive relevance (Q<sup>2</sup>) is a measure of how successfully the data given to the research model produces results. The Q<sup>2</sup> value calculated in this study is:

$$Q^2 = 1 - (1 - R^2_1)(1 - R^2_2) = 1 - (1 - 0.509)(1 - 0.956) = 0.978$$

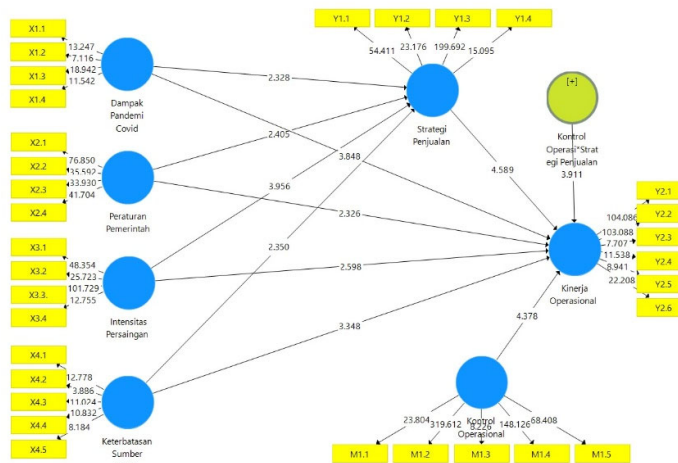
The Q<sup>2</sup> 0.978, a value that is more than 0 and close to 1. Thus, the results of this test provide evidence that the structural model is classified as very strong, indicating that the model has predictive relevance. The goodness of fit model (GoF) is a measure of the model's overall correctness. GoF small equals 0.10, GoF medium equals 0.25, and GoF big equals 0.36.

$$GoF = \sqrt{AVE \times R^2} = \sqrt{0.733 \times 0.840} = 0.785$$

The goodness of fit model (GoF) calculation result is 0.785, suggesting that the entire model is a fit predictive model. The goodness of fit model (GoF) measurement result ranges from 0 to 1. The goodness of fit model (GoF) value approaching 0 (zero) indicates that the model is becoming less excellent, whereas the number closer to 1 (one) indicates that the model is becoming better. The goodness of fit model (GoF) calculation yields a result of 0.785, indicating that the entire model is a well fit predictive model. This also suggests that the model's overall measurement accuracy is quite excellent.

4.3. Statistical Test Results - Influence Between Variables

Fig. 4 also displays the amount of the influence of exogenous factors on endogenous variables, which is reflected in the value between the lines that connect variables. Fig. 5 depicts the outcome of a statistical test that demonstrates the value of the t-statistic from the relationship between variables and indicators; because the t-statistic value of 3.956 on the effect of competition intensity on sales strategy is greater than 1.96, the Covid-19 epidemic has had a significant impact on sales strategy.



**Fig. 5.** T-statistic value of the influences between variables



#### 4.3.1 Statistical Test Results – Direct Effect Between Variables

The statistical result of direct effect between the exogenous variables, that is: the impact of COVID-19 pandemic (X1), government regulations (X2), competition intensity (X3) and limited resources (X4) on endogenous variables, that is: sales strategy (Y1) and operational performance (Y2), and the effect of operational control (M) on operational performance and also the interaction between sales strategy and operational control on operational performance can be shown in Table 3.

**Table 3**  
Statistical test results direct effect between variables

	Original Sample (O)	T Statistics ( O/STDEV )	P Values	Result
M → Y2	0.630	4.378	0.000	Significant
M*Y1 → Y2	0.592	3.911	0.000	Significant
X1 → Y1	0.944	2.328	0.020	Significant
X1 → Y2	-0.689	3.848	0.000	Significant
X2 → Y1	1.042	2.405	0.017	Significant
X2 → Y2	-0.480	2.326	0.020	Significant
X3 → Y1	1.393	3.956	0.000	Significant
X3 → Y2	-0.503	2.598	0.015	Significant
X4 → Y1	0.975	2.350	0.019	Significant
X4 → Y2	-0.558	3.348	0.001	Significant
Y1 → Y2	0.651	4.589	0.000	Significant

#### 4.3.2 Statistical Test Results – Indirect Effect Between Variables

The statistical result of indirect effect between variables in Table 4, that is: the impact of COVID-19 to operational performance thru sales strategy, the impact of government regulations to operational performance thru sales strategy, the impact of intensity of competition to operational performance thru sales strategy and the impact of limited of resources to operational performance thru sales strategy shows that the p-value is less than 0.05 and the t-statistic value is greater than 1.96 which means that the overall direct effect between variables are significant.

**Table 4**  
Statistical test results indirect effect between variables

	Original Sample (O)	t-Statistics ( O/STDEV )	P Values	Result
X1 → Y1 → Y2	0.673	3.709	0.000	Significant
X2 → Y1 → Y2	0.471	2.984	0.003	Significant
X3 → Y1 → Y2	0.646	3.646	0.000	Significant
X4 → Y1 → Y2	0.498	2.666	0.010	Significant

## 4.2 Discussion

### *The influence of the Covid-19 pandemic on operational performance*

The statistical testing results on the influence of the Covid-19 epidemic on operational performance yielded a -0.689 effect coefficient with a t-statistic value of 3,848 which was significant at a 95 percent confidence level. These findings indicate that the Covid-19 epidemic had a detrimental and severe influence on operational performance. This might be read as meaning that the more impact of the Covid-19 pandemic, the more difficult it will be for PBFs in Bali to achieve the desired operational performance. This is in accordance with research from Herdardy and Muchtaridy (2020) which states that dependence on imports of pharmaceutical raw material products, which reach 90%, mostly from China and India, makes it increasingly difficult for PBF to obtain products. Difficulties in obtaining products and limited distribution mobility made it difficult for PBF to achieve their sales and distribution performance. Cai and Luo (2020), Hu and Zhang (2020), Telagawathi et al. (2022), Witorsana et al. (2022), Wijaya & Rahmayanti (2023), and Purwanto et al. (2020) which state that companies experienced decreased sales and difficulties in distributing products during the COVID-19 pandemic.

### *The influence of the government regulations on operational performance*

According to the statistical testing results on the influence of government regulations the effect coefficient on operational performance is -0.480 with a t-statistic value of 2.326, which is significant at the 95 percent confidence level. According to these findings, government rules have a detrimental and considerable impact on operational performance. This implies that the stricter government regulations make it more difficult for PBF to achieve the desired operational performance. This finding was also supported by the research by Iqbal (2020) which stated that one of the government regulations, that is the procurement of medicines through e-catalogs, made it difficult for local PBF to achieve the desired sales performance, because there was no longer an intermediary function from them. Previous studies from Lim dan Rokhim (2020), Rakhmawati et al. (2019), Jagun (2018), and Yunus et al. (2016) also explained that some of government regulations such as the National

Health Insurance program, distribution channels for pharmaceutical products, and certificates of the Good Drug Distribution Method (CDOB) hindered the achievement of the desired operational performance.

*The intensity of competition influences operational performance*

The statistical testing findings on the effects of competition intensity on operational performance show that the effect coefficient is -0.503 with a t-statistic value of 2.598, which is significant at the 95 percent confidence level. These findings suggest that the level of competition has a negative and considerable impact on operational success or in other words the higher the intensity of competition, the more difficult it is for PBFs in Bali to achieve the desired operational performance. Previous study from Nedelcheva & Filipova (2021) stated that even though medicine is a product that is not easy to substitute with other products because of its very specific function, in relation to the products sold by PBF, the threat of substitute products can be seen from the types of products with the same contents. For over-the-counter drug products, it will depend heavily on promotional activities through advertising or other media. Prihatini et al (2020) also said that the more intense the promotion intensity of the principal's competitor, the more difficult it is for PBF to achieve the desired sales and distribution performance.

*Limited resources of the company influence on operational performance*

According to the statistical testing results on the influence of limited resources on operational performance, the effect coefficient is -0.558 with a t-statistic value of 3.348 which is significant at the 95 percent confidence level. These results show that limited resources have a negative and significant effect on operational performance, or in other words, the higher the limited resources, the more difficult it is for PBFs in Bali to achieve the desired operational performance. Rim and Rokhim (2020) stated that the pharmaceutical industry's gross margin, especially on the distribution side, is very small. This causes PBF to rarely have abundant resource availability. Limited resources, for instance limited number of salespeople will make it difficult for PBF to achieve the desired operational performance, hence leveling the distribution of distribution areas to maximize product distribution. Previous study from Adelia (2019) also stated the availability of sales force and sales support staff in sufficient numbers and capabilities will make it easier for companies to maximize the distribution of their products. In other words, limited resources in number and capabilities will make it more difficult for the company to reach their operational performances.

*COVID-19 pandemic has impact on sales strategy*

According to the statistical testing results on the influence of COVID-19 pandemic on sales strategy the effect coefficient is 0.944 with a t-statistic value of 2.328 which is significant at the 95 percent confidence level. These results show that the impact of the Covid-19 pandemic has had a positive influence on sales strategies, or in other words, the greater the impact of the Covid-19 pandemic, the more companies will intensify their sales strategy. Previous study from Yu et al. (2020) and Purwanto et al. (2020) supported that the Covid-19 pandemic has disrupted supply chains and disrupted mobility. This disruption has forced PBF to intensify its operational mapping and get new customers to replace customers who have not been able to make transactions.

*Government regulations have an impact on sales strategy.*

According to the statistical testing results on the effect of government regulation on sales strategy the effect coefficient is 1.042 with a t-statistic value of 2.405 which is significant at the 95 percent confidence level. These results indicate that government regulations have a positive influence on sales strategies, or in other words stricter government regulations, the company will intensify sales strategies. Previous study from Yunus et al. (2016) and Royan (2014) support that a number of increasingly stringent government regulations, such as the application of CDOB rules that limit the breadth of distribution activities have forced companies to carry out a customer extensification strategy by seeking new customers who can be served according to existing regulations.

*The intensity of competition has impact on sales strategy*

According to the statistical testing results on the effect of the intensity of competition on sales strategy, the effect coefficient is 1.393 with a t-statistic value of 3.956 which is significant at the 95 percent confidence level. These findings suggest that the level of competition has a positive or unidirectional impact on the sales approach, or in other words the higher the intensity of competition, the company will intensify its sales strategy. This finding is in line with the results of research by Yasa & Sukaatmadja (2017), Giantari et al. (2022), and Wijaya and Rahmayanti (2023), which stated that the intensity of competition will intensify company's strategy, in that case is digital marketing strategy and innovation strategy. Adelia (2019) also stated that PBF will intensify their product focus strategy, which is part of the sales strategy, in order to survive and excel in the middle of intense competition.

*The limited of resources has impact on sales strategy*

The effect coefficient of restricted resources on sales strategy is 0.975 with a t-statistic value of 2.350, which is significant at the 95 percent confidence level, according to the statistical testing findings. These findings suggest that low resources have

a beneficial impact on sales strategy, or that the greater the limited resources, the more the organization will increase its sales strategy. This conclusion is backed by Yasa et al. (2016) research, which claims that restricted resources will enhance a company's strategy, in this example, the innovation strategy. This is further corroborated by Rohandi et al. (2014)'s research, which claims that a method for mapping medication distribution locations, including delivery routes, needs to be optimized to maximize the limited sales support staff.

*Sales strategy has effect on the company's operational performance*

According to the statistical testing results, the effect coefficient is 0.651 with a t-statistic value of 4,589. An increasingly intensive sales strategy will increase operational performance. This is supported by research from Yasa and Sukaatmadja (2017) and Yasa et al. (2016) which stated that increasing strategy implementation, in this case the partnership strategy and innovation strategy, would improve business performance. This is also supported by previous research from Yadav & Smith (2014) which said the method used by pharmaceutical manufacturing companies to expand market share was by choosing the right distribution strategy. Expanding market share is one of the operational performances that must be achieved by PBF and extensification strategy and product focus are kind of sales strategies that can be implemented to increase market share.

*The sales strategy is able to mediate the impact of the COVID-19 pandemic on operational performance.*

According to the statistical testing results the effect coefficient of the COVID-19 pandemic on operational performance via sales strategy is 0.673 with a t-statistic value of 3.709, which is significant at the 95 percent confidence level. This indicates that the sales approach mitigates the impact of the Covid-19 epidemic on operational performance greatly. The strategy of customer extensification, customer intensification and product focus can be carried out by companies to maintain their performance during product supply disruptions due to the impact of the Covid-19 pandemic (Purwanto et al, 2020). Supply chain disruptions have made some products, especially those whose raw materials are imported, scarce. Customer extensification is carried out by PBF to add new customers from products with more adequate stock availability. Customer intensification is carried out by increasing the number/volume of transactions from existing customers. This can be done by making transactions for new products or increasing the number of transactions for products that customers have already purchased. The product focus strategy is carried out to increase product penetration for customers who have never made a transaction.

*The sales strategy is able to mediate government regulations on operational performance.*

According to the statistical testing findings on the influence of government rules on operational performance via sales strategy, the effect coefficient is 0.471 with a t-statistic value of 2.984, which is significant at the 95 percent confidence level. This means that the sales strategy can help to mediate the interaction between government requirements and operational success. This is in accordance with Jagun's research (2018) which states that the pharmaceutical industry is an industry that is very closely related to government regulations, starting from the side of research, production and marketing activities including promotion and distribution activities. Government regulations tend to be more stringent, making PBF maximize its sales strategy to achieve the desired performance. Yunus (2016) also said that the distribution channel rules were getting tighter, forcing PBF to do customers extensification, namely to dispensing pharmacies so that drugs could still be reached by the public.

*The sales strategy can mediate intensity of competition on operational performance.*

According to the statistical testing results on the influence of competition intensity on operational performance via sales strategy, the effect coefficient is 0.646 with a t-statistic value of 3.646. The sales strategy can help to moderate the link between competition intensity and operational success. This conclusion is consistent with studies by Yasa and Sukaatmadja (2017) and Yasa et al. (2016) that mentioned strategy, in this case the innovation strategy and partnership strategy can mediate the relationship between the intensity of industrial competition and business performance. Royan (2011) also stated that in the middle of increasingly fierce pharmacy distribution competition, area mapping using a customer database must be carried out so that product distribution can be carried out effectively and efficiently. Mapping areas apart from maximizing sales force visits, also maximize operational routes for sales support personnel, such as delivery personnel, so that the minimum standard service level expected by customers and required by principals can be achieved.

*The sales strategy can mediate limited resources on operational performance.*

According to the statistical testing results on the influence of limited resources on operational performance thru sales strategy, the effect coefficient is 0.498 has a t-statistic value of 2.666, which is significant with 95% confidence. This means that the sales strategy can help to bridge the gap between restricted resources and operational performance. This conclusion is consistent with the findings of Yasa et al. (2016), who said that approach in that case the partnership strategy was able to play a positive role in the relationship between limited company resources and company performance. Rohandi et al. (2014) stated that drug product distribution routes using the sequential insertion method as well as Clarke and Wright savings will

help find or calculate alternative routes that are effective and efficient if there are constraints on the routes that have been set. This method is an example of developing area mapping, where the implementation of area mapping can overcome resource limitations both in terms of numbers, sales force capacity and sales support staff to still be able to achieve the desired operational performance. This finding is also supported by the research from Lim and Rokhim (2020) which states that the gross margin of the pharmaceutical industry, especially in the distribution sector, is small. This small margin causes PBF resources to be optimally empowered, one of which is by implementing the appropriate functional level strategy, so that the desired performance can still be achieved.

*Operational control able to moderate sales strategy to operational performance.*

Based on the statistical tests result the role of operational control moderate the impact of sales strategy to operational performance; the effect coefficient is 0.592 Has a t-statistic of 3.911. This means that operational control can help to moderate the link between sales strategy and operational performance. Goodale (2011) also stated that the operating control variable can moderate the company's entrepreneurial activity on performance, in this case innovation performance. Lin et al. (2017) also stated that if the implemented strategy is a functional level strategy in the field of sales related to daily activities, then the control exercised is also related to daily operational activities. Dini (2018), who researched the development of models and scenarios as well as to increase PBF efficiency, said that PBF distribution efficiency and performance achievements could be carried out by using sales area mapping controls and sales support staff controls. Or in other words, control is exercised over the implemented strategy to achieve the desired performance targets. This finding also re-explains The Contingency Theory which explains that the business environment (external and internal), strategy, and control are three important contingency factors that have a correlation between them. Higher performance can be realized by adjusting or matching these three factors.

## 5. Implications

This research contributes to the development of science in the area of supply chain management and marketing mix, especially in the field of distribution (place). The results of this study also provide reinforcement of the Contingency Theory which states that there is a correlation between three contingency factors, namely the business environment, strategy and control. Higher performance can be realized by adjusting or matching these three factors (Ghozali: 2020, p. 81). Reinforcement for the Transactional Cost Theory which states that if a company can obtain resources and produce its own products, then the company does not need to make cooperation and agreements with other companies. A transaction occurs when a product or service is moved by organizational boundaries. The theory of transaction costs examines how a company protects itself from things that could be detrimental related to their relationship or in this case their transactions with other companies, for that transactions must always be regulated by very specific contracts. This study explains how PBF is given product distribution rights in an area by the principal as a producer, bound by a distribution cooperation contract. This contract does not only cover general matters such as the validity period of the agreement, distributor margins, payment guarantees, etc., but also specific matters such as sales targets per region, standard stock level that must be met by PBF, provisions sales promotion expense claims and other specific matters.

The practical implications of this research are first, as a reference material for PBF operational leaders or other companies that have similar characteristics, due to the operational performance that must be achieved, as well as the strategies and controls that must be carried out to achieve the desired performance. Secondly, as a reference for the government to review regulations that are burdensome for the distribution sector, one of them is how to improve the regulations related to the procurement of medicines with e-catalog, so that the function of local PBF as an intermediary does not vanish.

## 6. Conclusion and Recommendations

According to the findings of this study, external factors such as the impact of the COVID-19 pandemic, government regulations, the intensity of competition, and internal factors such as limited resources have a negative impact on operational performance, but those external and internal factors have a positive impact on sales strategy. The influence of sales strategy on operational performance is good. Sales strategy capable of managing the impact of the COVID-19 pandemic, government regulations, competitive intensity, and the company's limited resources on operational performance. The influence of sales strategy on operational performance can be amplified by moderating variable operational control. This is the first research to elaborate on a company's external and internal variables, strategy, control, and their influence on operational performance, with a focus on pharmaceutical wholesalers in Indonesia.

### *Recommendations*

The triple helix recommendations can be suggested, that is for the PBF operational leaders, government institutions, and next academician/ researchers.

### *Recommendations for PBF operational leaders*

PBF operational leaders should continue to implement their sales strategy, because the sales strategy has a significant effect on improving business operational performance. The mapping area strategy will make product distribution more even with more efficient operations. The customer extensification strategy will increase distribution points by increasing the number of customer transactions. The customer intensification strategy will increase the level/ volume of sales for each customer and the product focus strategy will increase product penetration to both existing and new customers. Operational control must also be carried out intensively to ensure that the sales strategy runs optimally. The more intense the control is, the more effective the strategy will be implemented to achieve the desired operational performance.

### *Recommendations for government institutions*

PBF owners and operational leaders can understand why the pharmaceutical industry is one of the heavily regulated industries, both from the production and marketing side. Abuse in the use of drugs will have a big impact, because it risks human life. Regulations are made mainly to make people's access to medicines easy, affordable, and safe. However, on the pharmaceutical distribution regulatory side, there are several regulations that seem to need to be reviewed or refined again. Regulations on the flow of drug distribution from factories to PBF and then to health care facilities before reaching consumers/patients have a good purpose, so that it can be ensured that those carrying out the distribution of drugs are parties who do have the competence to do so. However, there needs to be a solution to the availability of drugs for remote or remote areas far from health care facilities. The CDOB certificate regulations are well-intentioned to ensure PBF has good drug distribution service standards. However, the costs incurred to prepare the infrastructure, equipment, and inspection to obtain the certificate are quite high, especially for local PBFs. The CDOB regulation also causes local PBFs that have been able to serve certain market segments for certain products to also lose their market share. The JKN program, one of which is the BPJS Health program, has a good aim, namely so that people are not burdened with high costs for medical expenses, especially for chronic diseases that require high costs and continuous/ long treatment. However, it is felt that the payment of BPJS claims to the hospital is still very long, which has an impact on the length of the payment of bills from the hospital to PBF. All the things above are the impact of some of the problems from government regulations that need to be considered as a solution in the future.

### *Recommendations for the next researchers*

This research is cross sectional. In the future it is necessary to conduct research at several points in time as external and internal factors tend to change. The COVID-19 pandemic situation in 2023 has begun to subside, government regulations can also change according to circumstances and needs. The number of populations used as a sample might be changed, it can increase if there are new PBFs operating in Bali or it can decrease if there are previous PBFs that are no longer active. This study analyzes more external factors as predictors and only uses one internal factor, that is limited resources. Other internal factors, namely: organizational structure and corporate culture can be used as variables for subsequent research. The next researcher is also expected to be able to get the entire PBF population in Bali as a sample. Research on a larger scale, if possible, for instance on a national scale by taking PBFs samples throughout Indonesia.

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