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**ORIGINAL RESEARCH**

# THE RELATION AMONG BUSINESS PROCESS ORIENTATION PRACTICES IN INFLUENCING ORGANIZATIONAL PERFORMANCE

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## Abstract

Organizations always look for ways to improve their performance to survive in the business environment. One way to improve organizational performance is to improve business process orientation (BPO). Several studies identified practices that can be implemented and significantly impact an organization's BPO maturity. These practices are called Critical Practices (CPs) strategic view, process definition and documentation, process measurement and management, organizational process structure, people management, process organizational culture, market orientation, supplier view, and information technology. However, most studies treat CPs independently, and the relationship between CPs and between CPs with organizational performance has not been addressed. This study tests and confirms the relationship between CPs, BPO, and organizational performance. A structural model of the relationship between CPs and organizational performance is developed based on the literature. An online questionnaire is designed to collect data from various organizations in Indonesia. The survey results are analyzed using Structural Equation Modeling (SEM) to investigate the relationship between variables. Most hypothesized relationships between CPs are confirmed except the relationship between supplier practices (SU) and culture (CT), which are unsupported. Not all practices affect organizational performance directly, but they must be mediated by other practices to have a significant effect. The results suggest that to improve organizational performance, an organization needs to improve the practice of strategic view (SV), performance measurement (PM), customer (CU), process definition (PD), and information technology (IT).

**KEYWORDS:**

Business Process Orientation, Critical Practices, Organizational Performance, Strategic View, Structural Equation Model

# 1 | INTRODUCTION

Organizations constantly seek ways to improve their performance. One way to improve organizations' performance is by improving their business process orientation (BPO). BPO can connect different functions within an organization to work together to fulfill customer needs and increase efficiency [1]. Many studies highlight that process-oriented organizations perform better than functional-oriented organizations [2, 3].

According to Looy et al. [4], organizations need tools to help them assess and improve the way they manage their business processes. Many organizations use the Maturity Model (MM) to benchmark and measure their improvement progress [5]. The topic of BPO maturity has received much attention in the literature. One of the earliest works on BPO maturity was by McCormack and Johnson [2], who introduced the Business Process Orientation Maturity Model (BPOMM). BPOMM includes three essential components: process jobs, process measurement, and management systems, and two supporting components: the process structure and customer-focused process values and beliefs. McCormack's model has been used and further developed in McCormack et al. [3] and Lockamy and McCormack [6]. Other authors have proposed alternative Maturity Models, including Rosemann and Bruin [7] and Weber et al. [8].

There are several criticisms related to MM research. The first criticism is the lack of empirical research on the development of MM [9]. According to Škrinjar and Trkman [10], the available MMs must be empirically validated and more complex to implement in practice. To fill this gap, Škrinjar and Trkman [10] conducted a quantitative survey to identify actionable recommendations in Critical Practices (CPs) that are most likely to increase BPO. They grouped CPs into nine areas: strategic view, process definition and documentation, process measurement and management, organizational process structure, people management, process organizational culture, market orientation, supplier view, and information system support. Another criticism regarding the BPO maturity model is that few studies have examined the relationship between aspects of maturity and business performance. One of the few studies that examined the relationship between BPO maturity and organizational performance metrics is reported in McCormack and Johnson [2].

The final criticism is that so far, research related to BPO treats CPs individually, in isolation from one another. A recent study suggests that process-related capabilities do not stand alone but are related to one another to create synergy [11]. They provide an example that a supportive culture can encourage human action highlighting the potential relationship between performance measures and people. So, the research question of this paper is "Which relations among business process orientation practices influence organizational performance?".

This study aims to fill these gaps by developing a model connecting nine CPs and investigating their interrelation with organizational performance. The conceptual model is validated using survey data from organizations in Indonesia and analyzed with Structural Equation Modeling (SEM). Findings from this study also have practical implications for organizations. Many organizations fail to benefit from their BPM projects because they need guidance on which BPO practices relate to organizational performance. With the many potential improvement options but limited resources, organizations must prioritize improvements that significantly improve organizational performance. Findings from our study can help organizations, especially top management, identify and prioritize elements of BPO that simultaneously contribute to improving organizational performance. One of the important findings is that the strategic view influences other practices to improve organizational performance. This paper is organized as follows. First, a review of previous works on BPO critical practices and their relation to organizational performances is provided in section 2. Section 3 describes the method of this research. The conceptual model development, including the instrument and research hypotheses based on the literature, is first described, followed by more detail on the SEM procedure. Section 4 presents the results of the research as well as a further discussion of key findings. The conclusion and directions for further research are provided in the final section.

# 2 | PREVIOUS RESEARCHES

## 2.1 | Business Process Orientation and Critical Practices

Business Process Orientation (BPO) is an organizational concept of a company focusing on business processes from customers to customers rather than its functional structure [12]. BPO is also a tool used to assist in business and academic fields to understand

the impact of understanding and integrating processes on an organization's performance. Previous studies have argued that adopting BPO positively impacts organizational culture and business performance[2, 3].

BPO is carried out to assist companies in developing business potential. Several practices can be implemented and significantly impact increasing BPO maturity. The key to managing BPO is knowing, understanding, and focusing on the practices that make the most significant difference under certain conditions[12]. There are nine identified practices: strategic view, process definition and documentation, performance measurement and management, organizational process structure, people management, process organizational culture, market orientation, supplier view, and information system support[10].

A strategic view is a practice needed by an organization to clarify the needs of the organization to achieve the desired goals. One of the main reasons for organizational failure is the need for a clear strategy[13]. In aligning strategy goals, organizations must achieve process goals with process definition practices. This practice explains how the process is defined by explaining the responsibilities of each top management to support BPM to enhance organizational success[10]. The practice of performance measurement is a system for assessing and measuring processes to ensure that processes and goals are aligned[14]. This practice was used as feedback to increase the probability of a project's success from the organization[15].

The practice of structure is a practice that discusses the functional structure of an organization[2]. An organization must have a structure that can adapt to the business environment and respond quickly; this helps people to work more effectively[16]. Information Technology practice is a practice that can help an organization to be oriented toward business processes in the form of analysis[17]. This IT practice helps change business processes that lead to knowledge from the information gathered[13]. This IT practice also has a relationship with Customer Practice that helps organizations manage customer relationships. In addition, IT also helps in sales, increasing customer satisfaction, and marketing[18, 19]. IT Practices also have a relationship with Supplier Practices. This practice helps organizations manage relationships with their suppliers; this requires integration so the business runs smoothly[20]. Cultural practice is a practice that discusses how people's traditions exist in an organization. Organizations must be able to develop their people to follow the business process culture, and this must be communicated to all organizational personnel. Effective communication can help to increase BPM success[21]. People practice is a practice that helps organizations to manage their people. People practice is an aid for organizations to find conflicts between their people because the higher the number of people in one department, the higher the pressure on that department[22]. However, these practices were only discussed separately in the previous study, so they are interrelated to maximize organizational performance and have yet to be discovered. Therefore, in this study, research was carried out on this relationship so that organizations can identify and prioritize BPO practices to maximize their performance.

## 2.2 | Organization Performance

According to Raval et al.[23], the performance of an organization is always associated with a series of activities and the organization's business. Organizational performance needs to be analyzed so that it can be measured[23]. This performance measurement is viewed from several perspectives from the Balanced Score Card (BSC): internal process, learning/growth, customer, and financial. Brocke and Mendling[24] are one of the few studies that have examined the relationship of BPO maturity to organizational performance metrics. The metrics are organizational performance, customer satisfaction value, employee satisfaction value, operational performance value, and financial performance value and value against competitors. This metric belongs to the four perspectives of the BSC. Therefore, it was used in this study as an indicator of organizational performance.

## 2.3 | Hypothesis Development

Strategic View (SV) has a significant influence in supporting other practices. SV signifies the commitment of an organization to process orientation. SV influences the internal and external relationships of an organization. SV supports the Supplier's View (SU) in mediating between the value of suppliers and the performance of products offered to customers so that companies can increase profits by increasing the performance of their products or services[25]. Putting the customers first is at the heart of process orientation. So, if the organizations place process orientation as strategically important, it would translate into high customer orientation. SV links to Market/Customer Orientation (CU) as an organization's strategic orientation is influential in creating dynamic capabilities to shape a market[26]. Two hypotheses are generated:

H1 SV practice affects SU

H2 SV practice affects CU

In addition, SV also drives process definition practices [5, 11] and performance measurement [11, 27, 28]. These three practices are related because they are a business process lifecycle [11, 29]. Strategy formulation is crucial for process identification by revealing key processes relevant to the formation of the company's value [30]. To improve organizational performance, SV and PD practices must be translated into relevant process measurements [31]. The alignment between these practices can help the organization improve performance [32–34]. We hypothesized:

H3 SV practice affects PD

H4 SV practice affects PM

H6 PD practice affects PM

PD would reveal key processes that need to be supported by information systems and technology. Thus, PD practices relate closely to IT. Organizations' orientation toward its customer and suppliers also affects their IT in terms of the integration of inter-organizational processes. IT-oriented SU and CU can result in a system integration that can improve financial performance through operational performance, although not directly [35]. SU and CU also influence Culture (CT). This connection is indicated by a cultural match between suppliers and customers [36]. This match exists because customers can choose suppliers with the same culture, and suppliers can learn the culture from customers to get a wider market share [37]. We hypothesized:

H5 PD practice affects IT

H7 SU practice affects IT

H8 CU practices affect IT

H9 SU practice affects CT

H10 CU practice affects CT

A study revealed that SV and PM impact companies in developing the Structure (ST) of the organization [38]. This impact is indicated by the empirical data that supports the company's performance, namely operational impacts, company product/service impacts, and organizational impacts [38]. ST and CT influence the practice of People (PO). This impact is supported by a study that found that controlling people requires analysis of several cultures [39], and organizational structure positively impacts resource management if there is a change in management [40]. We hypothesized:

H11 SV practice affects ST

H12 PM practices affect ST

H13 ST practice affects PO

H14 CT practice affects PO

The nine practices are elements contained in the BPO, which, according to Skrinjar and Trkman, can measure the level of maturity to see the impact on organizational performance (PFM) [10]. We hypothesized:

H15 SV practice affects PFM

H16 SU practice affects PFM

H17 CU practices affect PFM

H18 IT practices affect PFM

H19 CT practice affects PFM

H20 PD practice affects PFM

H21 PM practices affect PFM

H22 ST practice affects PFM

H23 PO practices affect PFM

Based on the development of hypotheses, a conceptual model is developed and shown in Figure 1.

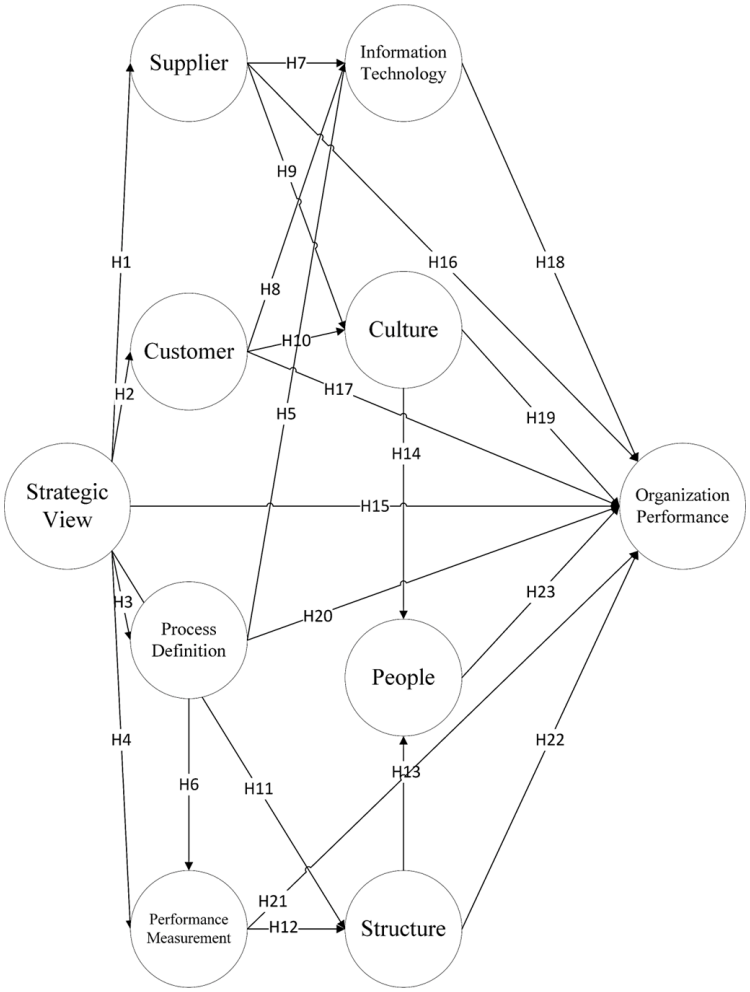


**FIGURE 1** The conceptual model for nine critical practices and organizational performance.

As seen in Fig. 1 , we developed as many as 23 hypotheses that were tested more deeply in this study. This hypothesis originates from the relationship created between BPO practices and organizational performance. Each of these practices is defined in a functional language, as seen in Table 1.

## 3 | MATERIAL AND METHOD

This research is conducted through several steps, as shown in Fig. 2 . First, the structured literature review reveals the gap in the current literature, as explained in section 2. The result of SLR is used to develop the conceptual model and hypothesis and define the measurement variables of this research. The next step is data collection. Results obtained from the data collection step are first tested for validity and reliability. A test for measurement model, model fitness, and hypothesis testing follows. The

**TABLE 1** The variable definition.

| Variable | Definition |
|---|---|
| Strategic View | Designing, creating, and managing organizational strategy |
| Customer | Product/service design is based on customer needs and feedback |
| Supplier | Relationship management with suppliers |
| Process Definition | Define map, and document business processes using standard methods |
| Performance Measurement | Measuring, monitoring, and documenting company performance |
| Structure | Identification and establishment of organizational structure and roles and responsibilities |
| Information Technology | IT design, implementation, and development in organizations |
| Culture | Application of knowledge and culture to business processes within the organization |
| People | Human Resource Management |

results from the tests are then discussed. The following sub-sections discuss the data collection and measurement variables in more detail.

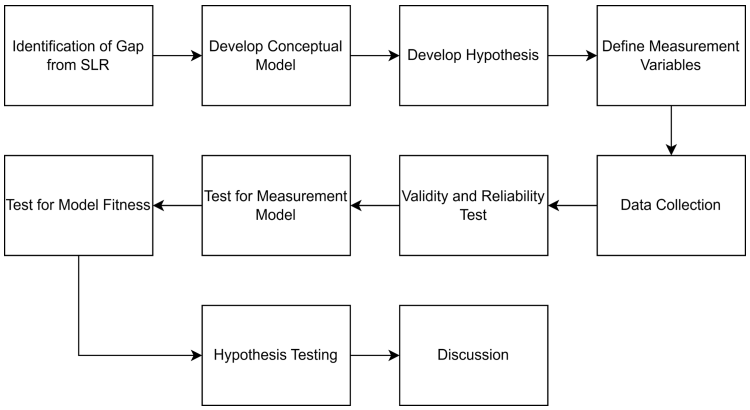


**FIGURE 2** The methodology of this study.

## 3.1 | Design and Sampling

A questionnaire is distributed to respondents from various sectors and sizes (startups, small, medium, and large). The target respondents of the questionnaire are high-ranking officials from the organization to be studied, such as head managers, managers, and other executive bodies. The minimum number of samples is 30[41]. The number of samples is based on the guidelines for the SEM analysis method, which requires many samples to maximize the maximum likelihood function[42] and to anticipate data errors. The survey was carried out from July 2021 until September 2022. The survey was conducted by reaching out to the representatives via social media, LinkedIn, and personal contacts of the researchers. Initially, 297 participants filled out the survey. However, several samples are removed because of incomplete answers and to reduce data redundancies because several participants come from the same company. In the end, 204 samples are used for further analysis.

## 3.2 | Measurement

A measurement variable is needed for each existing latent variable to develop the model. The measurement variables for critical practices (CPs) were obtained from Škrinjar and Trkman[10], and organizational performance from McCormack and Johnson[2]. In the model's development, the measurement variables are variables owned by each latent variable.

The number of variables may differ between latent variables. Measurement variables for each of the nine CPs can be seen in Table 2. At the same time, the measurement variables of organizational performance can be seen in Table 3. The measured variable BPO contains all the measured variables owned by each CP, totaling 28.

**TABLE 2** The indicators form nine critical practices and organizational performance.

| Latent Variable | Code | Total |
|---|---|---|
| Nine Critical Practices | | |
| Strategic View (SV) | SV1 - SV4 | 4 indicators |
| Customer (CU) | CU1 - CU3 | 3 indicators |
| Supplier (SU) | SU1 | 1 indicator |
| Process Definition (PD) | PD1 - PD5 | 5 indicators |
| Process Measurement (PM) | PM1 - PM5 | 5 indicators |
| Structure (ST) | ST1, ST2 | 2 indicators |
| Information Technology (IT) | IT1 - IT5 | 5 indicators |
| Culture (CT) | CT1, CT2 | 2 indicators |
| People (PO) | PO1 | 1 indicator |
| Organizational Performance | | |
| Organizational Performance (PFM) | PFM1 - PFM6 | 6 indicators |

**TABLE 3** The result of construct reliability and validity.

| Variable | Cronbach's Alpha | $rho_A$ | Composite Reliability | Average Variance Extracted (AVE) |
|---|---|---|---|---|
| CT | 0.842 | 0.860 | 0.926 | 0.863 |
| CU | 0.874 | 0.879 | 0.922 | 0.799 |
| IT | 0.869 | 0.874 | 0.905 | 0.656 |
| PD | 0.834 | 0.864 | 0.879 | 0.595 |
| PFM | 0.938 | 0.943 | 0.951 | 0.763 |
| PM | 0.897 | 0.901 | 0.924 | 0.709 |
| PO | 1.000 | 1.000 | 1.000 | 1.000 |
| ST | 0.818 | 0.819 | 0.917 | 0.846 |
| SU | 1.000 | 1.000 | 1.000 | 1.000 |
| SV | 0.854 | 0.858 | 0.901 | 0.695 |

# 4 | RESULTS

## 4.1 | Data Validity and Reliability

Testing the reliability and validity of the data obtained through a questionnaire are first conducted before further data processing. This test is carried out by bootstrapping using the help of the SmartPLS application. Table 4 shows that the Average Variance Extracted (AVE) values of the nine CPs constructs are more than 0.5[43] which means that all the CPs are data. As for the BPO itself, it has an AVE value below 0.5, but it is still considered valid and reliable because all constructs have a Composite Reliability value above 0.6.

## 4.2 | Measurement Model Evaluation

SmartPLS version 3 is used to model the inner and outer models, test the Goodness of Fit (GOF), and test hypotheses. The inner model (structural model) is analyzed to determine the relationship between the latent variables in this study. The outer model (measurement model) determines the relationship between latent variables and their indicators. The relationship between latent variables and practice indicators (measured variables) and organizational performance can be seen in Table 2 . For indicators, the latent variable of BPO is a combination of all indicators (measured variables) contained in the practice of BPO.

The results from Table 5 are "good," as the R2 value for each variable is above 0.330. SU has the lowest value of R2 with 0.38, while ST with the highest value of 0.70, so the average of all variables is 0.52 or 52%.

From the Outer Loading results, all indicators for each variable have a value of more than 0.50 (> 0.50), which means that all indicators for each variable meet the convergent validity criteria or can be said to be valid. Based on Table 5 , the indicators for each variable have different values. The higher the value of an indicator, the higher the influence on a variable.

## 4.3 | Model Fitness

The model that has been developed is then calculated to see the suitability of the model made (model fit). Model fit (model fit) can be measured using several criteria. The results of the fit model can be seen in Table 6 .

**TABLE 4** The inner model evaluation.

| Variable | R Square | R Square Adjusted |
|---|---|---|
| CT | 0.515 | 0.510 |
| CU | 0.416 | 0.413 |
| IT | 0.461 | 0.456 |
| PD | 0.428 | 0.425 |
| PFM | 0.524 | 0.502 |
| PM | 0.627 | 0.623 |
| PO | 0.617 | 0.613 |
| ST | 0.704 | 0.701 |
| SU | 0.384 | 0.381 |

**TABLE 5** The outer model evaluation.

| Variable | Indicators | Original Sample | P Values | Variable | Indicators | Original Sample | P Values |
|---|---|---|---|---|---|---|---|
| CT | CT1 <- CT | 0.916 | 0.000 | PFM | PFM1 <- PFM | 0.863 | 0.000 |
| | CT2 <- CT | 0.941 | 0.000 | | PFM2 <- PFM | 0.826 | 0.000 |
| CU | CU1 <- CU | 0.905 | 0.000 | | PFM3 <- PFM | 0.906 | 0.000 |
| | CU2 <- CU | 0.916 | 0.000 | | PFM4 <- PFM | 0.848 | 0.000 |
| | CU3 <- CU | 0.859 | 0.000 | | PFM5 <- PFM | 0.878 | 0.000 |
| IT | IT1 <- IT | 0.808 | 0.000 | | PFM6 <- PFM | 0.916 | 0.000 |
| | IT2 <- IT | 0.847 | 0.000 | PM | PM1 <- PM | 0.856 | 0.000 |
| | IT3 <- IT | 0.825 | 0.000 | | PM2 <- PM | 0.871 | 0.000 |
| | IT4 <- IT | 0.795 | 0.000 | | PM3 <- PM | 0.861 | 0.000 |
| | IT5 <- IT | 0.771 | 0.000 | | PM4 <- PM | 0.819 | 0.000 |
| PD | PD1 <- PD | 0.838 | 0.000 | | PM5 <- PM | 0.799 | 0.000 |
| | PD2 <- PD | 0.852 | 0.000 | PO | PO1 <- PO | 1.000 | |
| | PD3 <- PD | 0.800 | 0.000 | SU | SU1 <- SU | 1.000 | |
| | PD4 <- PD | 0.694 | 0.000 | SV | SV1 <- SV | 0.835 | 0.000 |
| | PD5 <- PD | 0.652 | 0.000 | | SV2 <- SV | 0.866 | 0.000 |
| ST | ST1 <- ST | 0.916 | 0.000 | | SV3 <- SV | 0.806 | 0.000 |
| | ST2 <- ST | 0.923 | 0.000 | | SV4 <- SV | 0.827 | 0.000 |

**TABLE 6** The model fitness.

| Criteria | Saturated Model | Estimated Model |
|---|---|---|
| SRMR | 0.072 | 0.161 |
| $d_{ULS}$ | 3.230 | 15.332 |
| $d_G$ | 1.570 | 2.145 |
| Chi-Square | 1804.395 | 2091.336 |
| NFI | 0.726 | 0.683 |

The results from Table 6 can be said to be "very good." The Saturated Model column indicates this. The SRMR value is 0.072, less than 0.08 ($< 0.08$). The $d_{ULS}$ value is 3.230, which is more than 2.000 ($> 2.000$) as an indication that the developed model is fit, the value $d_G$ of 1.570 which is more significant than 0.900 ($> 0.900$) as an indication of the size of the model data is acceptable and fit so that each relationship for each variable can be tested, and the NFI value of 0.726 which is close to 0.900 as an indication that the model is almost significant.

## 4.4 | Hypothesis Testing

The last step in the Structural Equation Modeling (SEM) analysis is to test the existing hypotheses. Hypothesis testing can use statistical tests, namely t-test, and p-value. This test is applied to the outer and inner models and can be significant if it has a value of less than 0.05 ($\leq 0.05$).

The results of the direct relationship analysis between critical practices (relation between the nine CPs) can be seen in Table 7 . It shows that the strategic view (SV) relates significantly to the five practices in the path diagram. Critical practice customers (CU) both influence information technology (IT) and organizational culture (CT), while practice suppliers (SU) only influence information technology (IT). Process definition (PD) has a significant influence on information technology (IT) and process

**TABLE 7** The result of the direct relationship analysis between critical practices.

| Path | Hypothesis | Original Sample | P Values | Result |
|---|---|---|---|---|
| SV -> SU | Practice SV affects SU | 0.619 | 0.000 | Significant |
| SV -> CU | Practice SV affects CU | 0.645 | 0.000 | Significant |
| SV -> PD | Practice SV affects PD | 0.654 | 0.000 | Significant |
| SV -> PM | Practice SV affects PM | 0.342 | 0.000 | Significant |
| SV -> ST | Practice SV affects ST | 0.243 | 0.001 | Significant |
| SV -> PFM | Practice SV affects PFM | 0.039 | 0.635 | Not significant |
| SU -> IT | Practice SU affects IT | 0.362 | 0.000 | Significant |
| SU -> CT | Practice SU affects CT | 0.093 | 0.319 | Not significant |
| SU -> PFM | Practice SU affects PFM | 0.019 | 0.810 | Not significant |
| CU -> IT | Practice CU affects IT | 0.363 | 0.000 | Significant |
| CU -> CT | Practice CU affects CT | 0.644 | 0.000 | Significant |
| CU -> PFM | Practice CU affects PFM | 0.234 | 0.023 | Significant |
| IT -> PFM | Practice IT affects PFM | 0.180 | 0.038 | Significant |
| CT -> PO | Practice CT affects PO | 0.212 | 0.004 | Significant |
| CT -> PFM | Practice CT affects PFM | -0.083 | 0.359 | Significant |
| PD -> IT | Practice PD affects IT | 0.460 | 0.000 | Significant |
| PD -> PM | Practice PD affects PM | 0.524 | 0.000 | Significant |
| PD -> PFM | Practice PD affects PFM | -0.080 | 0.420 | Not significant |
| PM -> ST | Practice PM affects ST | 0.653 | 0.000 | Significant |
| PM -> PFM | Practice PM affects PFM | 0.430 | 0.000 | Significant |
| ST -> PO | Practice ST affects PO | 0.610 | 0.000 | Significant |
| ST -> PFM | Practice ST affects PFM | 0.160 | 0.218 | Not significant |
| PO -> PFM | Practice PO affects PFM | 0.042 | 0.653 | Not significant |

**TABLE 8** The result of the total effect relationship analysis between critical practices with organizational performance.

| Path | Hypothesis | Original Sample | P Values | Result |
|---|---|---|---|---|
| SV -> PFM | Practices SV affects PFM | 0.540 | 0.000 | Significant |
| SU -> PFM | Practices SU affects PFM | 0.050 | 0.570 | Not Significant |
| CU -> PFM | Practices CU affects PFM | 0.220 | 0.040 | Significant |
| IT -> PFM | Practices IT affects PFM | 0.180 | 0.030 | Significant |
| CT -> PFM | Practices CT affects PFM | -0.080 | 0.370 | Not Significant |
| PD -> PFM | Practices PD affects PFM | 0.220 | 0.030 | Significant |
| PM -> PFM | Practices PM affects PFM | 0.430 | 0.000 | Significant |
| ST -> PFM | Practices ST affects PFM | 0.160 | 0.150 | Not Significant |
| PO -> PFM | Practices PO affects PFM | 0.042 | 0.640 | Not Significant |

measurement (PM), as well as process measurement (PM) on organizational structure (ST). Organizational structure (ST) and culture (CT) also significantly influence People (PO). From nine critical practices, we found that only information technology (IT), customer (CU), and performance measurement (PM) directly affect organizational performance (PFM). The remaining practices are insignificant (highlighted). Based on the analysis results in Table 7 , not all CPs directly correlate with organizational performance. Critical practices must combine with others to create a strong relationship with company performance. From Table 7 , it can also be seen that each interconnected practice variable has a good p-value. Every relationship between variables has significance for analysis between CPs with organizational performance, shown by the results of the indirect relationship in Table 8 .

The interpretation of the results of Table 8 means that an organization can improve its performance significantly by considering these five variables. Organizations are required to pay attention to the preparation of a good strategy for the organization, define and measure all processes that run within the organization, pay attention to customers in terms of both the products and services provided, and pay attention to the information and technology side that is being used within the organization. Other variables that are not significant do not mean that these variables do not affect organizational performance variables. Still, these variables must go through other variables so that they have an impact on organizational performance.

This explanation is explained in more detail in Table 9 regarding the results of the indirect relationship value. The results of Table 9 mean the PD variable has an indirect relationship to the PFM variable through PM. This is indicated by a coefficient value of 0.175, the largest coefficient value in the indirect relationship. For the SV variable, there are four indirect relationships to the PFM variable, which have an excellent significance level. The first is the relationship between the SV and PFM variables

**TABLE 9** The result of the indirect relationship analysis between critical practices with organizational performance.

| Path | Original Sample | P Values |
|---|---|---|
| PD -> PM -> PFM | 0.175 | 0.008 |
| SV -> CU -> PFM | 0.151 | 0.030 |
| SV -> PM -> PFM | 0.115 | 0.012 |
| SV -> PD -> PM -> PFM | 0.115 | 0.010 |
| SV -> PD -> IT -> PFM | 0.050 | 0.050 |
| CU -> CT -> PFM | -0.060 | 0.33 |
| SV -> CU -> CT -> PFM | -0.040 | 0.34 |
| SU -> CT -> PFM | -0.010 | 0.54 |
| SV -> SU -> CT -> PFM | -0.010 | 0.55 |
| SV -> CU -> PFM | 0.150 | 0.03 |
| CU -> IT -> PFM | 0.030 | 0.20 |
| SV -> CU -> IT -> PFM | 0.020 | 0.18 |
| PD -> IT -> PFM | 0.080 | 0.04 |
| SV -> PD -> IT -> PFM | 0.050 | 0.05 |

**TABLE 10** The result of the indirect relationship analysis between critical practices with organizational performance.

| Path | Original Sample | P Values |
|---|---|---|
| SU -> IT -> PFM | 0.040 | 0.14 |
| SV -> SU -> IT -> PFM | 0.020 | 0.13 |
| SV -> PD -> PFM | -0.050 | 0.42 |
| PD -> PM -> PFM | 0.170 | 0.01 |
| SV -> PD -> PM -> PFM | 0.110 | 0.01 |
| SV -> PM -> PFM | 0.120 | 0.01 |
| CU -> CT -> PO -> PFM | 0.010 | 0.66 |
| SV -> SU -> CT -> PO -> PFM | 0.000 | 0.76 |
| PD -> PM -> ST -> PO -> PFM | 0.010 | 0.64 |
| SV -> PD -> PM -> ST -> PO -> PFM | 0.010 | 0.64 |
| PM -> ST -> PO -> PFM | 0.020 | 0.65 |
| SV -> PM -> ST -> PO -> PFM | 0.010 | 0.65 |
| ST -> PO -> PFM | 0.030 | 0.64 |
| SV -> ST -> PO -> PFM | 0.010 | 0.64 |
| PD -> PM -> ST -> PFM | 0.040 | 0.22 |
| SV -> PD -> PM -> ST -> PFM | 0.030 | 0.23 |
| PM -> ST -> PFM | 0.080 | 0.24 |
| SV -> PM -> ST -> PFM | 0.030 | 0.24 |
| SV -> ST -> PFM | 0.030 | 0.25 |
| SV -> SU -> PFM | 0.010 | 0.84 |

through the CU variable, which obtains a coefficient value of 0.151, the PM variable with a coefficient value of 0.115, PD and PM variables with a coefficient value of 0.115, and finally, through PD and IT variables, which get a coefficient value of 0.05.

## 5 | DISCUSSION

Based on the conceptual model, strategic view (SV) practices have several relationships with other practices, such as suppliers (SU) [25] [26], customers (CU) [26], process definition (PD) [5], structure (ST), and organizational performance (PFM). Some relationships have a direct influence, such as the practice of supplier (SU), customer (CU), process definition (PD), and structure (ST), while the effect on organization performance (PFM) is not direct. Based on Table 7 , overall strategic view (SV) practices are related to organization performance (PFM). This relation indicates that in influencing organization performance (PFM), strategic view (SV) needs to go through several mediation practices to make its influence significant. From Table 9 , it can be concluded that in influencing PFM, SV has four pathways, one of which has the most significant influence, namely through customer (CU) practices. The second path, strategic view practice (SV), can be through performance measurement (PM) practice. The third path, strategic view (SV) practice, can be through process definition (PD) and performance measurement (PM) practices. The last path with the lowest significance is process definition (PD) and information technology (IT). These four paths prove that relationships between practices are needed to significantly influence organizational performance. This path has yet to be discussed because other papers only see the direct relation to performance.

**TABLE 11** The accepted hypotheses.

| Hypothesis | Result |
|---|---|
| H1. SV practice affects SU | Accepted |
| H2. SV practice affects CU | Accepted |
| H3. SV practice affects PD | Accepted |
| H4. SV practice affects PM | Accepted |
| H5. PD practice affects IT | Accepted |
| H6. PD practice affects PM | Accepted |
| H7. SU practice affects IT | Accepted |
| H8. CU practices affect IT | Accepted |
| H10. CU practice affects CT | Accepted |
| H11. SV practice affects ST | Accepted |
| H12. PM practices affect ST | Accepted |
| H13. ST practice affects PO | Accepted |
| H14. CT practice affects PO | Accepted |
| H15. SV practice affects PFM | Accepted |
| H17. CU practices affect PFM | Accepted |
| H18. IT practices affect PFM | Accepted |
| H20. PD practice affects PFM | Accepted |
| H21. PM practices affect PFM | Accepted |

Supplier practices (SU) in the model have a relationship with information technology (IT)[35], culture (CT)[37], and organization performance (PFM). Practices directly affected by suppliers (SU) are only information technology (IT) practices. At the same time, the influence on culture (CT) and organization performance (PFM) have no significance either in an indirect relationship or as a total effect. This relation indicates that supplier practices (SU) influence the relationship between practices that fit in the existing model but have no influence on organizational performance (PFM).

Customer practices (CU), based on the model, have links with information technology (IT) practices, culture (CT)[37], and organizational performance (PFM). All links to these practices have a direct influence. In an indirect relationship, customer practice (CU) helps strategic view practice (SV) as mediation in influencing organizational performance (PFM). This conclusion from customer practice (CU) influences all relationships according to the model and organizational performance (PFM).

Culture (CT) and structure (ST) practices in the model have similarities in having a relationship with people (PO) practices and organizational performance (PFM)[39]. Based on Table 7 , culture (CT) and structure (ST) practices only have a direct influence on people practices (PO) and have no other influence on indirect relationships. These two practices also do not affect organizational performance (PFM). The conclusion is that culture (CT) and structure (ST) practices only have an influence on other practices, namely people (PO), but have no influence on organizational performance (PFM).

Process definition practice (PD), based on the model, has a relationship with information technology (IT) and performance measurement (PM) practices, as well as with organizational performance (PFM). In a direct relationship, process definition (PD) influences information technology (IT) and performance measurement practices (PM) but does not have a direct effect on organizational performance (PFM). The practice of process definition (PD) in influencing organizational performance (PFM) must go through an indirect relationship through performance measurement (PM); because, in total effect, process definition (PD) practice has a significant effect on organizational performance (PFM).

Performance measurement practices (PM), based on the model, have a relationship with structure practices (ST) and organizational performance (PFM). Both of these relationships have a direct influence, so the practice of performance measurement (PM) has significance. In an indirect relationship, the practice of performance measurement (PM) mediates the practice of process definition (PD) and strategic view (SV) to influence organizational performance (PFM). The last practice is the practice of people (PO). Based on existing models, this practice only relates to organizational performance (PFM). Nevertheless, based on Tables 9 and Table 10 , the practice of people (PO) does not influence directly or indirectly. Even in total effect, the practice of people (PO) does not influence organizational performance (PFM). So, the conclusion is that the practice of people (PO) does not influence the relationships contained in the model. So, it can be concluded that 18 of the 23 hypotheses, or as much as 78% of the hypotheses, are accepted, can be seen in Table 11 .

## 5.1 | Practical Implication

The results of the testing hypothesis would produce a recommendation addressed to the organization intending to improve organizational performance. This recommendation was developed by combining the analysis results from bootstrapping the model that has been developed, namely direct effect, indirect effect, and total effect, to find out what practices affect improving performance organization.

Based on the total influence rating, the practice with the lowest total influence value is Information Technology (IT). This practice only has a direct effect on the organization. Organizations can improve this by doing the following in order of importance:

1. Ensuring that the information system owned by the organization provides relevant information related to the performance of the organization's business processes
2. Using a Customer Relationship Management (CRM) system or something similar to manage organizational relationships with customers/customers
3. Designing and developing information systems based on existing processes within the organization
4. Implement systems such as e-Procurement, EDI, or similar Supply Chain Management (SCM) systems to manage organizational relationships with suppliers/suppliers
5. Completely implement a Business Process Management (BPMS) system such as Process Maker, Camunda, Signavio, or something similar

The second most important practice that could be improved is the Process Definition (PD) practice. PD practices have an indirect influence on organizational performance. Organizations can improve PD practices by doing the following in order of importance:

1. Clearly define core and support business processes within the organization
2. Clearly define and document roles and responsibilities
3. Use standard methodologies to describe business processes
4. Using a standard reference model in conducting business process management (e.g., eTOM, SCOR, PCF)
5. Using tools to model business processes (e.g., BPMN.io, Bizagi, etc.)

The following practice that can be improved so that it has an impact on increasing organizational performance is the Customer (CU) practice. CU practices are similar to IT practices in directly impacting organizational performance. Organizations can improve CU practices by doing the following in order of importance:

1. Design and develop products and services based on customer needs and expectations
2. Receive and use the feedback received from customers systematically to implement internal process improvements
3. Respond quickly to the actions of competitors/competitors

The fourth most important practice that could be improved is Performance Measurement (PM) practice. Like IT and CU practices, PM practices directly impact organizational performance. Organizations can improve PM practices by doing the following in order of importance:

1. Use the results of performance measurements to determine future improvement targets
2. Communicate any changes in the process to all related organizational parties
3. Communicate regularly information regarding business process performance measures set to all employees in the organization.
4. Monitor the ongoing business processes within the organization

5. Make an effort to improve the quality of existing business processes within the organization

The most effective business process orientation practice for improving organizational performance is Strategic View (SV). Even though this practice has significant influence, this practice requires processes from other practices to improve organizational performance (indirect effect) because SV practice has the most influence on other practices. To improve performance most effectively, organizations must improve SV practices by doing the following in order of importance:

1. Detailing business process (or sub-process) objectives related to organizational strategy
2. Involve management in the development and management of business processes within the organization.
3. Communicating policies and strategies to all parts of the organization
4. Management with the highest seat should make frequent meeting agendas to discuss improvement and redesign of business processes

## 5.2 | Limitations and Further Studies

This study has several limitations. First, we focus on the nine CPs resulting from Skrinjar and Trkman's research. There are other ways to capture BPO, for example, the capability model[11]. This allows us to add other factors from the capability model to validate our findings. This study used cross-sectional data from organizations of different sizes and sectors. Previous work from Ongena and Ravesteyn[44] suggests that process orientation may be influenced by contextual factors such as organization sizes and sectors. Therefore, it would be beneficial to include contextual factors such as organization size and sectors as moderating variables in the next study.

# 6 | CONCLUSION

This research aims to test the relationship between nine BPO critical practices, namely Strategic View (SV), Supplier (SU), Customer (CU), Information Technology (IT), Culture (ST), Process Definition (PD), Performance Measurement (PM), Structure (ST), and People (PO) with organizational performance.

The results of the SEM analysis show that:

1. Every direct relationship between the nine CPs in the developed model is significant, except for the relationship between supplier (SU) and culture (CT).
2. Not all CPs affect organizational performance, and they need some flow through other practices to influence organizational performance.
3. In looking for ways to improve organizational performance based on the results of modeling the relationship of various BPO practices with organizational performance, organizations need to make improvements to Strategic View (SV), Performance Measurement (PM), Customer (CU), Process Definition (PD) and Information Technology (IT) practices by increasing the indicators according to the order of importance.

The results of this SEM analysis have significant value for organizations that want to prioritize their improvement effort to increase organizational performance.


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## CREDIT

## References


1. Nadarajah D, Kadir SLSA. Measuring Business Process Management using business process orientation and process improvement initiatives. Business Process Management Journal 2016 11;22:1069–1078.
2. McCormack KP, Johnson WC. Business Process Orientation. Boca Raton: CRC Press; 2001.
3. McCormack K, Willems J, den Bergh JV, Deschoolmeester D, Willaert P, Štemberger MI, et al. A global investigation of key turning points in business process maturity. Business Process Management Journal 2009 9;15:792–815.
4. Looy AV, Backer MD, Poels G. A conceptual framework and classification of capability areas for business process maturity. Enterprise Information Systems 2014;8:188–224.
5. Looy AV, Trkman P, Clarysse E. A Configuration Taxonomy of Business Process Orientation. Business Information System Enginering 2021;https://doi.org/10.1007/s12599-021-00700-4.
6. Lockamy A, McCormack K. The development of a supply chain management process maturity model using the concepts of business process orientation. Supply Chain Management: An International Journal 2004;9:272–278.
7. Rosemann M, Bruin TD. Towards a business process mangement maturity model. Proceedings of the 13th European Conference on Information Systems, Information Systems in a Rapidly Changing Economy, ECIS 2005 2005;p. 26–28.
8. Weber C, Curtis B, Gardiner T. Business Process Maturity Model. Object Maanagement Group; 2008.
9. Tarhan A, Turetken O, Reijers HA. Business process maturity models: A systematic literature review. Information and Software Technology 2016;75:122–134.
10. Škrinjar R, Trkman P. Increasing process orientation with business process management: Critical practices'. International Journal of Information Management 2013 2;33:48–60.
11. Looy AV. Capabilities for managing business processes: a measurement instrument. Business Process Management Journal 2020 1;26:287–311.
12. Carlsson SA, Sawy OAE. Decision Support in Turbulent and High-Velocity Environments. In: Handbook on Decision Support Systems 2 Springer Berlin Heidelberg; 2008.p. 3–17.
13. Bandara W, Indulska M, Sadiq S. Major Issues in Business Process Management: A Vendor Perspective. In: Pacific Asia Conference on Information Systems (PACIS) Auckland, New Zealand: PACIS; 2007. p. 40–47.
14. Kumar U, Lavassani KM, Kumar V, Movahedi B. Measurement of Business Process Orientation in Transitional Organizations: An Empirical Study. In: Lecture Notes in Business Information Processing Innsbruck, Austria: Springer; 2008.p. 357–368.
15. Guha S, Kettinger WJ. Business Process Reengineering: An Analysis Perspective. Information Systems Management 1993;10:13–22.
16. Leavitt HJ. Top Down: Why Hierarchies Are Here to Stay and How to Manage Them More Effectively. Human Resource Planning 2005;28.
17. Groznik A, Masslaric M. Achieving competitive supply chain through business process re-engineering: A case from developing country. African Journal of Business Management 2010;4:140–148.
18. Liu CT, Guo YM, Lee CH. The effects of relationship quality and switching barriers on customer loyalty. International Journal of Information Management 2011 2;31:71–79.
19. Xu Y, Yen DC, Lin B, Chou DC. Adopting customer relationship management technology. Industrial Management & Data Systems 2002 11;102:442–452.

20. Chang HH, Wang IC. Enterprise Information Portals in support of business process, design teams and collaborative commerce performance. International Journal of Information Management 2011 4;31:171–182.

21. Kumar V, Movahedi B, Kumar U, Lavassani KM. On measuring and successful implementation of process orientation: A literature synthesis. In: the Annual Conference of the Administrative Sciences Association of Canada, Production and Operations Management Division Ottawa, Canada: ASAC; 2007. p. 71–84.

22. Panteli N, Sockalingam S. Trust and conflict within virtual inter-organizational alliances: a framework for facilitating knowledge sharing. Decision Support Systems 2005 6;39:599–617.

23. Raval SJ, Kant R, Shankar R. Benchmarking the Lean Six Sigma performance measures: a balanced score card approach. Benchmarking: An International Journal 2019 7;26:1921–1947.

24. Brocke JV, Mendling J. Frameworks for Business Process Management: A Taxonomy for Business Process Management Cases. In: vom Brocke J, Mendling J, editors. Business Process Management Cases Cham, Switzerland: Springer Cham; 2017.p. 1–17.

25. Prajogo D, Mena C, Chowdhury M. The role of strategic collaborations and relational capital in enhancing product performance – a moderated-mediated model. International Journal of Operations & Production Management 2021 5;41:206–226.

26. Nenonen S, Storbacka K, Windahl C. Capabilities for market-shaping: triggering and facilitating increased value creation. Journal of the Academy of Marketing Science 2019 7;47:617–639.

27. Froger M, Bénaben F, Truptil S, Boissel-Dallier N. A non-linear business process management maturity framework to apprehend future challenges. International Journal of Information Management 2019 12;49:290–300.

28. Antonucci YL, Fortune A, Kirchmer M. An examination of associations between business process management capabilities and the benefits of digitalization: all capabilities are not equal. Business Process Management Journal 2021 1;27:124–144.

29. ER M, Hanggara BT, Astuti HM. Model for BPM implementation assessment: evidence from companies in Indonesia. Business Process Management Journal 2019 8;25:825–859.

30. Vitolla F, Rubino M, Garzoni A. The integration of CSR into strategic management: a dynamic approach based on social management philosophy. Corporate Governance: The International Journal of Business in Society 2017 2;17:89–116.

31. Asiaei K, Bontis N. Translating knowledge management into performance. Management Research Review 2019 8;43:113–132.

32. Lehnert M, Linhart A, Roeglinger M. Exploring the intersection of business process improvement and BPM capability development: A research agenda. Business Process Management Journal 2017;23:275–292.

33. Yoshikuni AC, Albertin AL. Effects of strategic information systems on competitive strategy and performance. International Journal of Productivity and Performance Management 2018 11;67:2018–2045.

34. Looy AV, Shafagatova A. Business process performance measurement: a structured literature review of indicators, measures and metrics. SpringerPlus 2016 12;5.

35. Yu Y, Huo B, Zhang ZJ. Impact of information technology on supply chain integration and company performance: evidence from cross-border e-commerce companies in China. Journal of Enterprise Information Management 2021 1;34:460–489.

36. Sampaio CAF, Hernández-Mogollón JM, Rodrigues RG. Assessing the relationship between market orientation and business performance in the hotel industry – the mediating role of service quality. Journal of Knowledge Management 2019 5;23:644–663.

37. Patyal VS, Ambekar S, Prakash A, Roy D, Hiray A. Assessment of cultural fit between buyers and suppliers. International Journal of Quality & Reliability Management 2020 2;37:635–658.

38. Chatzoglou P, Chatzoudes D, Sarigiannidis L, Theriou G. The role of firm-specific factors in the strategy-performance relationship. Management Research Review 2018 1;41:46–73.

39. Waal AAD, Boer FAD. Project management control within a multicultural setting. Journal of Strategy and Management 2017 5;10:148–167.

40. Al-Ali AA, Singh SK, Al-Nahyan M, Sohal AS. Change management through leadership: the mediating role of organizational culture. International Journal of Organizational Analysis 2017 9;25:723–739.

41. Cohen L, Manion L, Morrison K. Research Methods in Education. Routledge; 2007.

42. Ferdinand A. Metode Penelitian Manajemen: Pedoman Penelitian Untuk Penulisan Skripsi, Tesis, Dan Disertasi Ilmu Manajemen. 2 ed. Badan Penerbit Universitas Diponegoro; 2006.

43. Solimun, Fernandes AAR, Nurjannah. Metode Statistika Multivariat : Pemodelan Persamaan Struktural (SEM) Pendekatan WarpPLS. 2 ed. UB Press; 2017.

44. Ongena G, Ravesteyn P. Business process management maturity and performance: A multi group analysis of sectors and organization sizes. Business Process Management Journal 2020 1;26:132–149.

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