Identifying Critical Capabilities for Improving the Maturity Level of Digital Services Creation Process

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Abstract:

Purpose: This research aims to develop a digital capability maturity model to find the critical capability and define the maturity level of the digital services creation process for the Business Process Outsourcing (BPO) company, which services cover the end-to-end client's non-core activities involving people, process, and technology.

Design/methodology/approach: The study conducts qualitative approaches in variables selection using grounded theory, followed by in-depth interviews and focus group discussion confirming the chosen variables as relevant capabilities. Additionally, quantitative approaches are used to define the impact of those capabilities on the process through an online survey of 208 employees and Structural Equation Modelling (SEM) for model analysis.

Findings: The research proves that alignment strategy has a positive impact on the organizational and individual capabilities, both of which have a positive impact on the process. All capabilities are defined in the "quantitatively managed" maturity level, while the collaboration culture and value creation skills are required to be prioritized in development for having a significant driver yet an inferior performance.

Practical implications: The proposed model is built to be generally utilized to help the BPO companies understand their critical capabilities and improve their maturity level to lead the industry. The research contribution is not only to develop a model that is suitable for a particular business but also to create more value for academic purposes through improving the model by introducing a new variable "alignment strategy" and "organizational capability" as an essential component influencing the process.

Originality/value: This is a multimethod study that elaborates empirical evidence, literature review, and professional judgment to assess the capabilities of the digital services creation process, prove the importance of alignment between those capabilities, and define the process maturity level.

Keywords: business process outsourcing, digital capabilities, digital maturity, process performance, service creation process, structural equation modelling

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1. Introduction

The digital economy's growth requires business players to catch up with digital market challenges and compete in delivering digital services. A global survey from McKinsey and Company (2017) found that organizations' digital transformation success rate was consistently less than 30 percent. It also has been predicted that even digitally savvy industries would still face many challenges to succeed in several years (Bughin, LaBerge & Mellbye, 2017). A BPO company, which manages and operates its clients' non-core activities, should be ready to face these challenges and strengthen its ability in creating digital services to prevail among competitors.

Asia Pacific BPO market potentially has a 5,6% Compound Annual Growth Rate (CAGR) by 2020, with a ten-fold increase in Indonesia compared to a year before (Ferhst, 2016). While the opportunity for BPO is still promising in the Asia Pacific, the biggest BPO company in Indonesia still has less share than 1% in the Asia Pacific BPO market. Referring to digital mastery level metrics (Westerman, Bonnet & McAfee, 2014), this company is categorized as Fashionistas, with asset turnover above the average industry at 0,68% and net profit margin under the industrial average at 11.25% (Devi, 2019). Despite advanced digital features, it indicates that the organization still has silos in digital services creation and lacks optimized digital investments in a precise direction.

Besides this finding, we found another gap in customer perception of this company. In 2019, the company conducted the Net Promoter Score (NPS) survey and received an unpleasant result: most of the clients didn't prefer promoting the company in delivering services (Devi, 2019). Further analysis by multi regression shows that the clients required the company to focus on the process and people's capability (influencing 46.5% and 40.8% to NPS score, respectively) rather than technology. Each BPO company can invest in advanced technology from the same technology provider. Still, not all of those companies can use this technology properly to create a competitive advantage. The ability to utilize that technology and create excellent services for their clients becomes each BPO company's uniqueness compared to others.

The digital services creation in BPO companies is a complex process involving several departments with different roles, different key performance indicators, and different competencies. The lack of digital services creation by organizational elements according to client expectations can be a barrier to the success of BPO companies. The client's greatest expectation is a BPO company with proper capabilities in managing the process. One of the criteria for selecting a third party to carry out the company's supporting process is the special process expertise possessed by a BPO company (Jeston & Nelis, 2006).

According to the gap finding from previous studies, we develop a new model for BPO companies to assess the relevant capabilities of the digital services creation process and define the process maturity level. Two identified research questions are "What is the appropriate model to define the critical capability of the digital services creation process in the BPO company?" and "What indicators of organizational capabilities and individual capabilities should be improved to have a significant impact on the maturity level of the digital services creation process in the BPO company?"

We refer to the three first stages of the action research framework consisting of diagnosing stage, planning action stage, and taking action stage (Lewin, 1946; Susman & Evered, 1978) to develop an appropriate digital capability maturity model for BPO companies. We start by defining some variables related to the business problem, developing an initial conceptual model by relating all variables, defining the relevant capabilities as the observed variables and indicators, defining the relationship between all capabilities, and analyzing the collected data to support our hypotheses.

After defining which critical capabilities need to be developed, we end this study by recommending how to enhance those capabilities to improve the digital services creation process to the next maturity level. Implementation, including the evaluation phase to complement action research, is currently ongoing. The whole process and results of this implementation will become our next research topic.

2. Literature Review

2.1. Post Studies of Digital Capabilities

Several studies tried to find the suit capabilities to finish the digital business work in the digital era, and most of the research talked about leadership, collaboration, innovation, and agility. Hesselbein and Goldsmith (2009) stated that deal capabilities for the future are leadership, talent, agility, an outside-in collection, and strategic unity. The digital organization needs to be led by someone who has the ability to drive change with a deep understanding of social technology (Carcary, Doherty & Conway, 2016). Bartlett-Bragg (2017) summarized the digital capabilities framework based on three aspects that are information literacy, network literacy, and participatory mindset. The meaning of a participatory mindset is collaborating on projects contribution and working together transparently. Those studies mentioned digital leadership and collaboration culture. Other research focused on innovation and agility to face the changes. Foerster-Metz, Marquardt, Golowko, Kompalla and Hell (2018) found the future workforce will need to focus on innovation and creativity to survive with structural changes technological development and will think and act interconnected. In the same year, Wiesbock and Hess (2018) explained while organizations want to achieve superior digital innovation, they need the necessary capabilities to manage the transition from digital technologies to digital solutions and the transition from digital solutions to digital business concepts. Lee, Lim and Wei (2004) stated that organizational agility can be built through innovative adoption of new capabilities and process improvement. Not only appear in one specific process but being agile is a culture. Carcary et al. (2016) also mentioned that one of the key foundational capabilities in digital transformation is promoting and embedding an agile digital culture.

Some studies of organizational capabilities already involved the human aspect as an important part of the organization's digital readiness. The definition of individual capability itself, in general, is explained by Robbins and Judge (2008) as the ability of one person to complete a job by following the responsibility given and showing the emotional intelligence to complete the job. A specific definition related to the digital capabilities from Bartlett-Bragg (2017) was not only about how to use new technologies but includes new working and learning models where the traditional structures are shifting towards networked ecosystems. Benke (2013) emphasized the wider meaning by defining it as the digital mindset which it as not just the ability to use technology but it is a set of knowledge and mental experience that arises because of the digital environment and is needed by individuals to be successful in that environment. Besides the digital mindset, Vuorikari, Punie, Carretero-Gomez and Van Den Brande (2016) argued literacy is one of the areas of digital competency which is related to data capturing, processing, and analysis. Digital literacy is the concept of digital competency that uses digital technologies to create knowledge and products to solve problems. It is the ability to think critically to reflect on how technology can be used to improve the learning process and develop the ability to assess all information sources (Hall, Atkins & Fraser, 2014). Abas, Yahaya and Din (2019) found that improving digital literacy among employees is needed as a good fundamental in the technological and organizational infrastructure.

Digital capability as a prerequisite in delivering value to the dynamic market is specifically defined by Zhu (2017). She said business capability is the digital organization's ability to consistently deliver an expected result to the dynamic market by integrating, developing, and reconfiguring both internal and external competencies. The importance of creating value for products or services specifically is pointed out before by Acar, Zehir and Tanrivendi (2006). Another research related to services creation by Saunila, Ukko and Rantala (2019) mentioned value creation in the digital era, which is closely related to services delivery, is a process of moving to the digital business by empowering digital technology and business model innovation.

While those previous studies tried to find the digital capabilities, either organizational capabilities or individual capabilities, our research proposes a comprehensive model for a specific industry involving both organizational capability and individual capability and aligns those capabilities in the digital services creation process as a set of works to achieve the company's goals.

2.2. Post Studies of Digital Capability Maturity Model

Zhu (2017) said maturity is what matters, the high-mature capabilities in business will improve the organizations adapting to fulfill their strategy to become excel among others. The maturity would be based on the company's ability to satisfy customer needs or optimize its capacity. Anderson and Allerby (2018) gave more insight into that mature digital companies are increasing collaboration, scaling innovation, and revamping their approach to talent for getting success. Carnegie Mellon University under the direction of the Software Engineering Institute (SEI) developed the Capability Maturity Model Integration (CMMI), which is a collection of best practices that lead organizations to improve their processes by combining multiple business maturity models into one framework. It is a capability improvement model suitable for any organization level in any industry. The capabilities required in a process are determined by professional opinions who understand the organization, business environment, and the observed industry's specific conditions (Yamfashije, 2017). Tyson, Albert and Brownsword (2003) explained the organization's involvement in CMMI. They said CMMI does not determine which processes are right for an organization but rather establishes the criteria needed to plan and implement the processes chosen by the company to achieve the business goals.

Many academic literature studies assessed a digital maturity degree with various indicators, such as the revenues generated from digital products and services or digital investments. In accordance to get the full picture, one indicator is not enough. The use of multi indicators is needed to get the most relevant result of its digital maturity level. Berghaus and Back (2016) used literature and interviewed the experts in their empirical maturity study and resulted that digital maturity dimensions are customer experience, product innovation, strategy, organization, process digitization, collaboration, information technology, transformation management, and culture and expertise.

A different company could have different determinations of digital maturity level from others because the main characteristics of digital maturity depend on the variety of the dimension types, such as company strategy intention (Chanias & Hess, 2016). For instance, Valdez de Leon (2016) developed a framework of a digital maturity model with seven dimensions (strategy, organization, customer, ecosystem, operation, technology, innovation) specifically for telecommunications service providers. Several academic research did the same way, which combined empirical evidence and professional judgment to develop a specific capability maturity model in the outsourcing business.

Our research refers to CMMI, which also combines empirical evidence and professional judgment defining related capabilities and uses a quantitative approach for maturity level mapping based on these capabilities. The difference between the previous research is that ours focuses to define the maturity level of the end-to-end digital services creation process and uses the capability gap as an improvement area. We use the digital services performance and customer experience as the measured results after the process improvement is executed.

Similar studies on the process from Swinarski, Kishore and Raghav-Rao (2006) measured IT services development and project management capabilities by its routinization of the capability maturity model of software engineering processes, referring to Capability Maturity Model Integration for Systems Engineering/Software Engineering (CMMI-SW/SE) developed by Carnegie Melon University (CMMI Product Team, 2001). Their empirical research combined survey methods with an assessment from eight professionals and found that organizations with a better life-cycle process have a better capability of defining the requirements. Their research focused on process routinization and ours focuses on the process capability of creating digital services for customers.

2.3. Theoretical Framework

According to Sekaran (2003), in the theoretical framework, the researcher theorizes about the interrelationships between factors that have been identified as the important aspects of the problem. These aspects were obtained from various previous research, observation, and interviews. The theoretical framework describes the relationship between more than one aspect that is considered integrated into the dynamics of the situation being studied.

This research's problem, which has been described previously, is to identify the capabilities needed to carry out the process of creating digital services in a BPO company. Due to the provided services being activity on managing other company business processes, the capabilities that need to be identified are not only organizational capabilities but also the capabilities of the people who run the process as a series of work they do. It can be concluded that

several connected important aspects as observed variables of this research are organizational capability, individual capability, and digital services creation process.

This research enhances the general model of the organization (Wang & Zeng, 2017), which has explained that an organization consists of people who work together to achieve a common goal. Three organizational components (people, work, goal) interact with each other as shown in Figure 1.

While Wang and Zeng (2017) mentioned people, work, and goal as organizational components, we believe that the organization itself has a role in influencing the work for achieving the goal. Together with "people who have the individual capability" and "process of creating digital services as a work", we propose that organizational existence becomes one of the variables of the proposed model. A tight relationship is formed between organizational capabilities, individual capabilities, and activities to achieve the goals. Referring to the business problem as empirical evidence, the better process performance as the goals are translated as fit digital services and better customer experience.
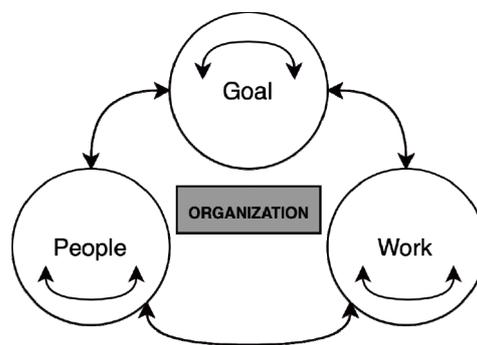

Figure 1. General Model of Organization (Wang & Zeng, 2017)

Our next step is conducting a literature review to look for sub-variables supporting the aspects. The filtering of the definition from previous studies is grouped, validated, and confirmed by some professionals' judgments, in a Focus Group Discussion (FGD) and in-depth interviews. We summarized the sub-variables representing relevant capabilities in the digital services creation process and related definitions for each capability are as explained below:

1. Digital leadership is explained as one of the futures capability needed, establishing a transformative digital business strategy, transformation management, goals oriented, and managing digital talent (Berghaus & Back, 2016; Carcary et al., 2016; Hesselbein & Goldsmith., 2009; Wang & Zeng, 2017).

2. Collaboration culture is explained as project contribution, ecosystem development partner, and knowledge integration (Bartlett-Bragg, 2017; Valdez de Leon, 2016; Wang & Zeng, 2017).

3. Innovation culture is explained as product innovation, and the ability to handle digitalization on digital transformation (Berghaus & Back, 2016; Foerster-Metz et al., 2018; Valdez de Leon, 2016; Wiesbock & Hess, 2018).

4. Agile process is explained as the key fundamental capabilities in digital transformation, innovative adoption of new capabilities, and process improvement (Carcary et al., 2016; Lee et al., 2004).

5. Digital mindset is explained as a response to the knowledge process and a mental experience in the digital environment (Bartlett-Bragg, 2017; Benke, 2013).

6. Digital literacy is explained as the concept of digital competency using digital technologies and the comprehension of information (Abas et al., 2019; Hall et al., 2014; Vuorikari et al., 2016).

7. Value creation skill is explained as creativity, services development, and product innovation (Berghaus & Back, 2016; Foerster-Metz et al., 2018; Saunila et al., 2019).

Afterward, we categorize the capabilities based on the definition from the literature review in organizational capability or individual capability. Barney (1991), introduced a resource-based view (RBV) to define organizational capability and stated it as a capability to control company resources in creating sustained competitive advantage. "Digital leadership", "innovation culture", "collaboration culture", and "agile process" are such of these kinds for this category. Individual capability, refer to Davis (2009) is acknowledged as a set of capabilities structured especially learning and empathy. This category is represented by "digital mindset", "digital literacy", and "value creation skill". Elaborating the empirical evidence and the definition of digital capabilities from some previous studies, the proposed variables and the sub-variables (indicators) of the conceptual model are:

1. Organizational capability consists of digital leadership, collaboration culture, innovation culture, and agile process.

2. Individual capability consists of digital mindset, digital literacy, and value creation skill.

3. Digital services creation process as an output aspect is measured by digital services performance and customer experience.

Besides those proposed variables, we argue that there is supposed to be one more variable to support the organizational capability and individual capability to assure the end-to-end process sustainability. A BPO company fulfills clients' expectations by involving various organizational functions in the end-to-end digital services creation process. It needs a strategy to align the capabilities in all functions to create optimum value at each process stage and get optimum total value from the process. Referring to the cascading process in the Balanced Scorecard System (BSC), the alignment shows how strategy maps and scorecards can clarify the role of a company's strategy explaining how a collection of functional units can create more value when working together in harmony (Kaplan & Norton, 1996). Acar et al. (2006) said that competitive advantage in a product or service arises from a unique process that emerges from the various functions, resources, skills, and expertise of the company.

We conduct in-depth interviews with the CEO and Vice President of Operation to confirm our argument and find that the variable alignment strategy is needed to support organizational capability and individual capability. Based on those elaboration and confirmation activities, the new concept constructed from the selective variables is mapping in our proposed model as shown in Figure 2.
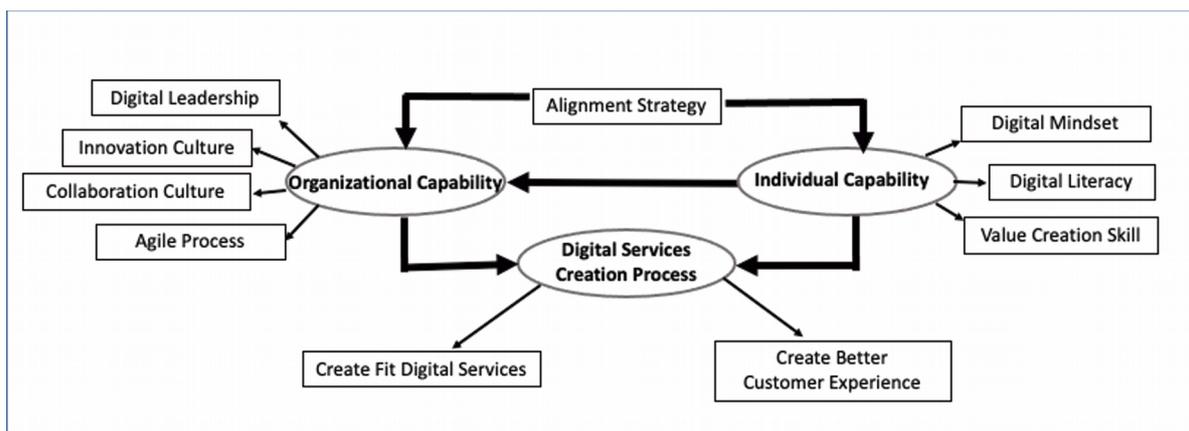
Figure 2. Proposed Digital Capability Maturity Model

The research hypotheses from this model are formulated into three statements to prove our argumentations:

H1: Alignment strategy is positively associated with organizational capability and individual capability

H2: Individual capability and organizational capability are positively associated with digital services creation process

H3: Organizational capability mediates the relationship between individual capability and digital services creation process

The best alignment strategy will be needed to translate the organization's vision, mission, and objectives to be understood more easily by the actors and become their targets when they pursue to complete their works in the same direction. On another side, in accordance to support the whole organization in the digital services creation process, the actor as an individual in the organization should have the digital capability consisting of digital mindset, digital literacy, and value creation skill to align with the organizational leadership, culture, and process (Hypothesis 1). The influence of the individual capability and organizational capability on the digital services creation process can be directly (Hypothesis 2) or being collaborated (Hypothesis 3). These capabilities need to ensure that the created digital services will give value both for the clients as customers and for the company. Creating digital services as a complete work is expected to achieve the organizational goals which are defined as fit digital services and better customer experience.

3. Methodology

This research philosophy is pragmatism with abductive reasoning, using qualitative and quantitative methods to fulfill the research objective. This research started with empirical evidence due to unachieved business objectives and performances. Some qualitative approaches are used to define related capability, and quantitative approaches are developed to test and validate those variables. Structural Equation Modelling (SEM) is used to find the significant digital capabilities to be improved, which this improvement is expected will move up the maturity level of the digital services creation process.

Referring to Capability Maturity Level from Carnegie Melon University (Herbsleb, Zubrow, Goldenson, Hayes & Paulk, 1997) the highest maturity level of the process will be realized through continuous improvement activity based on a deep quantitative understanding of the company objectives. Based on this statement, our research framework is constructed to determine the most impactful capabilities to be continuously improved and aim to give recommendations to eliminate failures that deviate from goals' achievement.

Figure 3 describes our research framework composed of three stages, adopted from the action research framework from Lewin (1946) and Susman and Evered (1978), to answer the research questions.
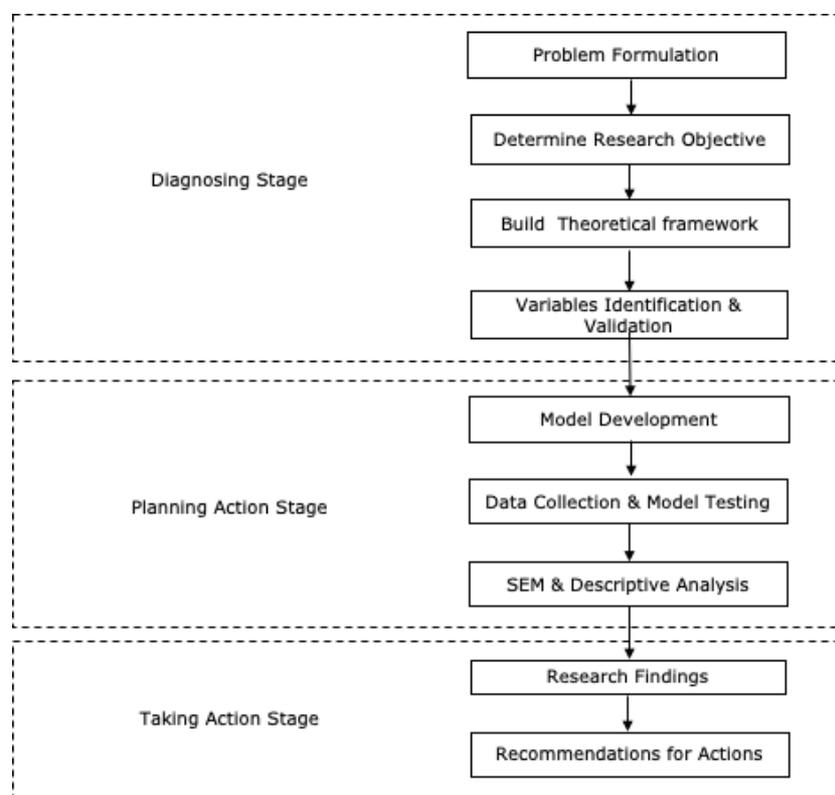

Figure 3. Research Framework (Lewin, 1946; Susman & Evered, 1978)

To propose the best fit recommendation we conduct the diagnosing stage, the planning action stage, and then the taking action stage. The diagnosing stage output is variables identification from literature review and variables validation by qualitative approaches to develop a conceptual model and research hypotheses. The data collection and data testing on the planning action stage are deployed to measure the impact of each variable in the model to properly decide which capabilities are prioritized to develop. Based on the findings from the data analysis in the previous stage, we formulate the recommendation in the taking action stage.

We construct variables to develop a conceptual model from some literature reviews that refer to the business problem. The proposed model consists of one output variable that has emerged from the business problem which is the "digital services creation process". Other dependent variables are "organizational capability" and "individual capability". Digital leadership, innovation culture, collaboration culture, and agile process are categorized as indicators of organizational capability based on a definition from Barney (1991). Digital mindset, digital literacy, and value creation skill are categorized as indicators of individual capability refer to the explanation by Davis (2009). We then validate the proposed variables and identify the relationship between those variables to fulfill the research objective.

While the literature review and past studies provide some related variables for developing a model, some qualitative methods are conducted to get confirmation from professional judgment. In-depth interviews provide variables chosen from the experts to get a deeper insight and to clarify the findings (Guion, Diehl & McDonald, 2011), and focus group discussion (FGD) is used for gathering data from a purposely selected group of individuals (Nyumba, Wilson, Derrick & Mukherjee, 2018).

We conduct an open-ended interview with the CEO to understand his opinion about the root cause of the digital services creation gap and get the result that the gap occurred because of the absence of a strategy that brings all functions into one objective. For example, the process of creating digital services has not become an indicator of performance measurement in every function of the company, but only as a performance indicator at the corporate level.

Meanwhile, in the semi-structured in-depth interview with the vice president of operation, we asked five questions about the digital services assessment and ten inquiries related to the internal evaluation. The recorded interview then was converted to the transcript, coded the text using the grounded theory approach, and acquire some relevant insights:

1. The alignment strategy is needed to eliminate the gap, which consists of capability alignment, process alignment, organization structure alignment, function and role alignment, and digital culture alignment.

2. The organization culture needed in creating digital services is collaboration and business model innovation.

3. Individual capabilities needed in creating digital services are understanding digital concepts, technology empowerment, and value creation.

FGD was carried out with one group of senior leaders of the company with 12 participants, consisting of various roles within the company from the following divisions: (1) Sales; (2) Operation; (3) IT Development; (4) IT Operation; (5) Human Capital Management; (6) Corporate Strategy; (7) Finance; and (8) Project Support. We used the Brainstorming (Osborn, 1953) and Force Field (Lewin, 1951) methods as a basis for this FGD, where participants were required to write down, classify, and group the aspects that affect the success of digitizing services at the BPO company. Afterward, we ask the participants to explain the meaning of the grouping aspects and why the chosen points are important before matching them with the definitions from the literature review. The variables are constructed by elaborating some references from the literature review and using grounded theory for filtering and coding (Glaser & Strauss,1967; Martin & Turner,1986).

All variables from the literature reviews that have been validated using the explanation of the opinions from the FGD, gave conclusions as follows:

1. "Technology is undoubtedly linked to digital transformation. All technologies adopted by a company must align with a predetermined strategy". This explanation relates to alignment strategy and digital leadership.

2. "The company needs to comprehend the client's business and support its journey by providing valuable products and services". Delivering products and services with a customer-oriented approach correlates with the definition of an innovation culture and value creation skills.

3. "Communication is used as a sense of conveying strategic initiatives that have been decided to create harmony between superiors and subordinates and inter-functions". This statement relates to collaboration culture and alignment strategy.

4. "Fit in the business process to the dynamical customer needs and manage it properly". This statement describes the agile process.

5. "Human Resources, as a part of the organization, is essential in the conversion of digital services. It includes capturing customers' needs and providing deliverable value to the customer". The relationship between human resources with technology is reflected in digital mindset and digital literacy.

The insights and the explanation from these qualitative approaches not only support our proposed variables defined in the literature review but also support our argumentation about alignment strategy (Kaplan & Norton, 1996; Acar et al., 2006) as the single independent variable that hypothetically will give more impact to the relationship of the two dependent variables, organizational capability and individual capability.

After the proposed model is already developed, we built an online survey using the scales from Strongly Disagree (1) to Strongly Agree (10). The survey begins with a pilot test to ensure the compiled questions are valid and reliable to be used for the real survey in the model testing. The 32 data collected refer to an acceptable minimum of 30 respondents for the pilot test (Browne,1995). After all of the questions can be accepted by a pilot test, in the next stage, the real test is conducted in a more significant number of respondents using the same 42 questions to prove the hypotheses. For further convincing, we retest the validity and reliability of all questions after completing the data collection from the respondents using a greater number of samples (n=169) refer to Daniel (1999).

4. Results

The validity score of an instrument shows the magnitude of the collected data deviation from the described variables in the question list. The validity test is carried out concerning the accuracy of the measuring instrument so that it actually measures what it is supposed to measure. The instrument validity test in this study uses the Pearson Product Moment Correlation to determine the correlation between the scores of each item and the total score measured (Arikunto, 2010). According to the results, all validity scores are above 0.45 for the degree of freedom is 30 in the pilot test and 0.22 for the degree of freedom is 167 in the real test. This condition means that all Pearson Scores are above alpha 1% and all questions are relevant to this test (Siregar, 2010).

Additionally, the scores from Cronbach Alpha Reliability Test (Heale & Twycross, 2015) are 0.97 (n=32) and 0.98 (n=169), depicting very high reliability ($0.8 < r11 \leq 1.0$) for each question in this questionnaire and potentially receiving a similar response from each respondent (Guilford, 1956).

In the real test, the respondents are dominated by employees in the field of operations with level officers & senior officers aged 36-40 years and have worked for 0 – 5 years as shown in Table 1, in line with the composition of the population. This sample's figure suit to represents the individual profiles in all process stages at the whole organization function.

Furthermore, the 208 data collected finds 39 outlier data and remains of 169 data to be processed with SEM to define the most acceptable association between variables. This number of samples is acceptable with a confidence level of 99% and a margin of error is 6.59% (Daniel, 1999).

We use CB-SEM as the appropriate technique to ensure whether the model obtains an acceptable level on the specified criteria (Hair, Black, Babin & Anderson, 2014). Several models of SEM with different configurations have gone through simulations using the AMOS and the model illustrated in Figure 4 which represents the proposed

conceptual model in Figure 2 is proven to be the most superior among other models, as it has the smallest Chi-Square criteria value of 24.72. Other criteria also met the requirement except for the RMSEA value which is less than the critical value of 0.08 with an insignificant gap. In general, the model is good enough because 7 of 8 criteria were following the condition for the goodness of fit (Ghozali, 2013; Hendryadi & Suryani, 2014) which is detailed in Table 2.

Demography		Number of Respondents	% Number of Respondents
Job Position	Business Support	72	35%
	Delivery	33	16%
	Operation	74	36%
	Sales & Marketing	29	14%
Job Level	GM/VP	19	9%
	Manager	42	20%
	Senior Officer	55	26%
	Officer	54	26%
	Junior Officer	38	18%
Age Range	21 - 25 years	17	8%
	26 - 30 years	40	19%
	31 - 35 years	33	16%
	36 - 40 years	45	22%
	41 - 45 years	31	15%
	46 - 50 years	28	13%
	>50 years	14	7%
Working Experience	0 - 5 years	69	33%
	6 - 10 years	63	30%
	11 – 15 years	33	16%
	16 - 20 years	24	12%
	>20 years	19	9%

Table 1. Respondents Demography
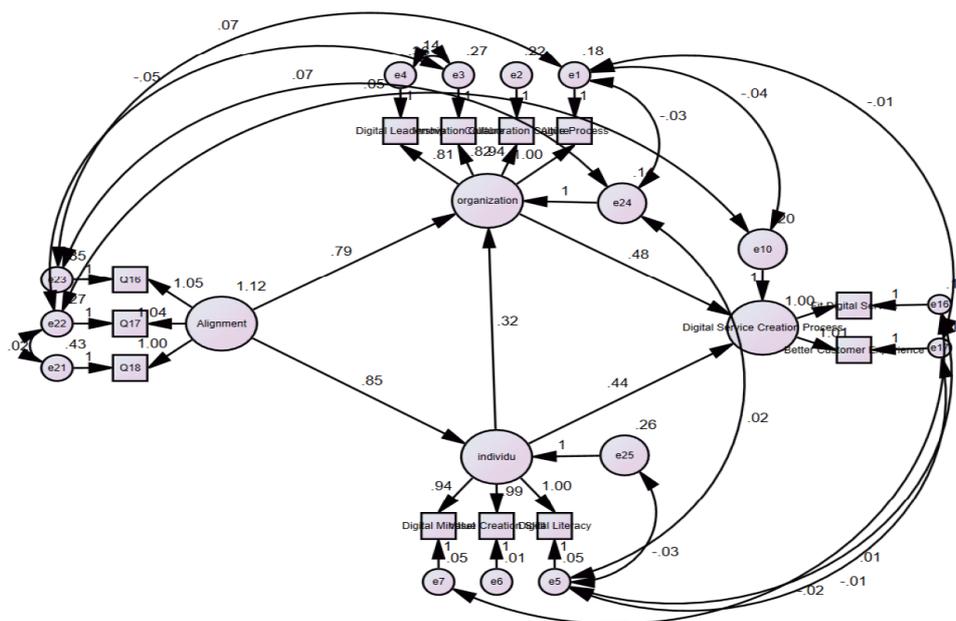
Figure 4. Structural Equation Modelling

Criteria	Result	Critical Value	Conclusion
Chi-Square	24.72	Small	Fulfilled
p-value	0.90	≥0.05	Fulfilled
RMSEA	0.00	≥0.08	Not Fulfilled
GFI	0.98	≥0.09	Fulfilled
AGFI	0.95	≥0.09	Fulfilled
CMIN/DF	0.71	≤2.0	Fulfilled
TLI	1.00	≥0.95	Fulfilled
CFI	1.00	≥0.95	Fulfilled

Table 2. Goodness of Fit Result

Indicator	Critical Rasio (Skewness)	Critical Rasio (Kurtosis)
Digital Leadership	-1.81	0.37
Innovation Culture	-2.47	1.43
Collaboration Culture	-0.74	-0.63
Agile Process	-1.46	-0.09
Digital Mindset	-0.91	0.30
Value Creation Skill	-0.41	-0.09
Digital Literacy	-0.19	0.06
Better CX	-2.51	0.45
Fit Digital Services	-1.49	-0.52
Q16 (Alignment Strategy)	-1.82	0.63
Q17 (Alignment Strategy)	-1.59	0.32
Q18 (Alignment Strategy)	-2.14	0.22

Table 3. Critical Ratio

The validity and reliability test result of the model is presented in Appendix A and Appendix B. We get the results that the loading factor is greater than 0.7 for all variables, indicating that all latent variables and indicators in the SEM are valid. One latent variable is defined as exogenous (alignment strategy) and the rest are endogenous (organizational capability, individual capability, and digital services creation process). There is no construct reliability or composite reliability value below 0.70 for all variables and the average variance extracted is greater than 0.5 for all variables, then all variables in this study are reliable and eligible to be used in the model. The normality test result can be seen from the Skewness and Kurtosis based on AMOS output as shown in Table 3, in which the value of critical ratio skewness and critical ratio kurtosis is at an interval of -2.58 to 2.58 for confidence level 99% so that it can be stated that this data meets the assumption of normality (Hair et al., 2014).

Finally, the overall result in Table 4 shows that the relationship between all variables is significant because it has a p-value below 0.01 (alpha). The complete estimates and the significance of all relationships are shown in Appendix C.

The measurement of central tendency and data variability using descriptive statistics is detailed in Appendix D. It explains that the respondents perceive their capabilities or other functional units' capabilities involved in the process are already above the middle range (scored between 7 to 8).

Recursive Relation	Estimate	S.E.	C.R.	P	Label
individual ← alignment	0.847	0.059	14.231	<0.01	Significant
organization ← alignment	0.787	0.102	7.682	<0.01	Significant
organization ← individual	0.32	0.085	3.778	<0.01	Significant
dscp ← individual	0.441	0.1	4.411	<0.01	Significant
dscp ← organization	0.481	0.09	5.338	<0.01	Significant

Table 4. Significance Test Result
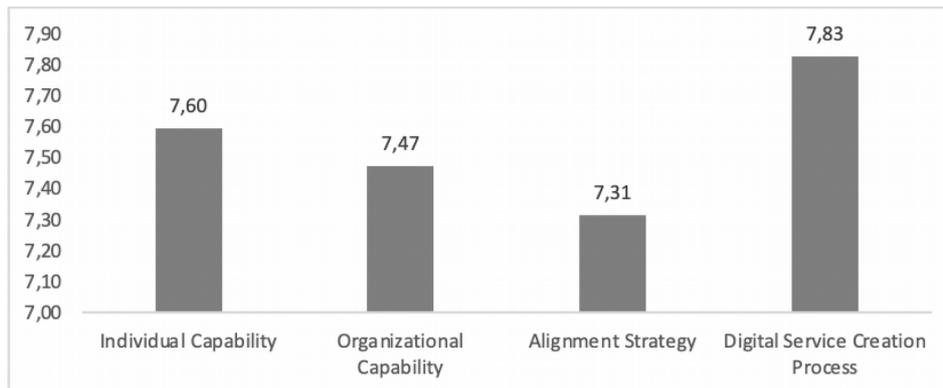
Figure 5. Maturity Mapping Result on Latent Variables

Low data dispersion shown by standard deviation describes that collected data from the selected sample tends to be homogenous and normally distributed based on skewness and kurtosis value.

After all statistical test is passed for this model, the average rating from all variables is derived using Statistical Product and Services Solutions (SPSS), and is divided by five percentiles and mapped to five maturity levels adopted to the Capability Maturity Model from Carnegie Mellon University (Herbsleb et al., 1997), which each level has each characteristic:

1. Initial Level: Digital Services Creation Process is just performed, unordered, undocumented, unpredictable, and manually (score range 0-2);

2. Managed Level: Digital Services Creation Process can be repeated, could produce consistent results, and semi-manually (score range 2-4);

3. Defined Level: Digital Services Creation Process is being established, well-defined, and standardized (score range 4–6);

4. Quantitatively Managed Level: Digital Services Creation Process is being established, well-measured, and controlled (score range 6–8);

5. Optimizing Level: Digital Services Creation Process is monitored, well-managed, and continuously improved (score range 8–10).

In Figure 5, we can see that all aspects as latent variables in SEM are at the quantitatively managed level, or the process is already quantitatively measured and controlled, making it easier to find the capabilities gap to enter the optimizing level. However, alignment strategy has the lowest score compared to other aspects, even though this aspect is positively influencing the overall capabilities of the organization and individual. On the other hand, the digital services creation process aspect has the highest value compared to other aspects. It indicates that it is very important for the company to take more attention to alignment strategy in the digital services creation process to optimize both organizational capability and individual capability.
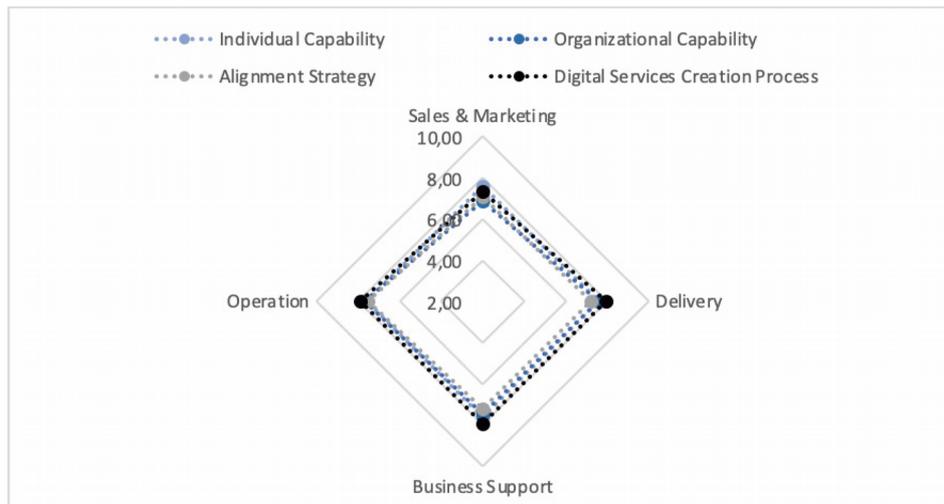
Figure 6. Functional Unit Maturity Mapping on Measured Variables
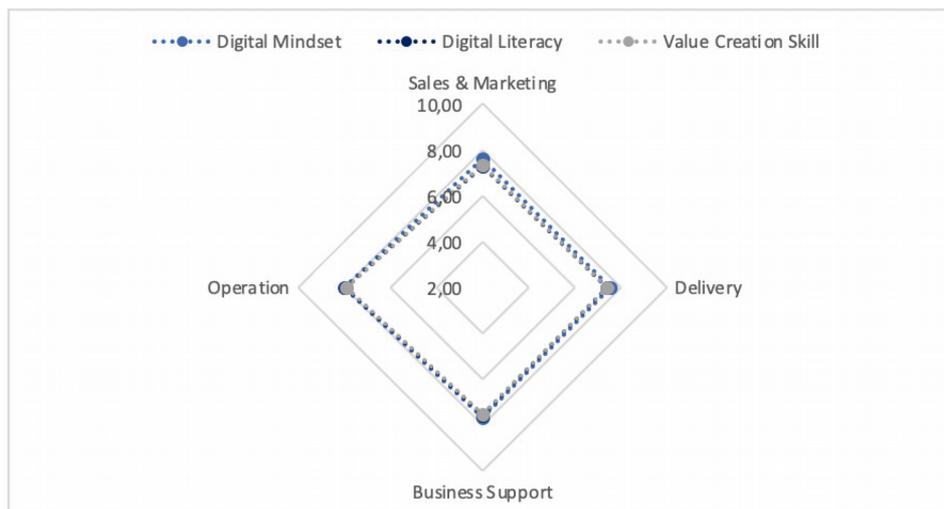
Figure 7. Functional Unit Maturity Mapping on Individual Capabilities

In a more detailed analysis, the maturity mapping result shows that almost all variables in all functional units are also at the quantitatively managed level in the digital services creation process as shown in Figure 6. The frequency of the scores chosen in the online survey as shown in Appendix E is relevant to the respondent's perception of organizational and individual capabilities that are already at the quantitatively managed level (score range 6-8).

The capability maturity level on the individual side shows the same result as shown in Figure 7. It means the company needs a good strategy to continuously improve its digital services creation process to get the optimizing level as the highest maturity level by well-managing and monitoring the whole aspects, including all capabilities involved in the process.

Finally, we need to define the most impactful variable to be prioritized improved. To find out the improvement priority, we use quadrant analysis of the driver which is obtained from the proportion of the estimated value in Appendix C, and the performance which is represented by the mean score as shown in Appendix D.

Figure 8 shows the quadrants analysis results of organizational capability and Figure 9 shows the individual capability side. The crucial capabilities as the process driver are agile process and collaboration culture for organizational capability, and digital literacy and value creation skill for individual capability. Those capabilities are mapped in necessity to be improved while collaboration culture and value creation skill are prioritized to be improved first because of lower performance.
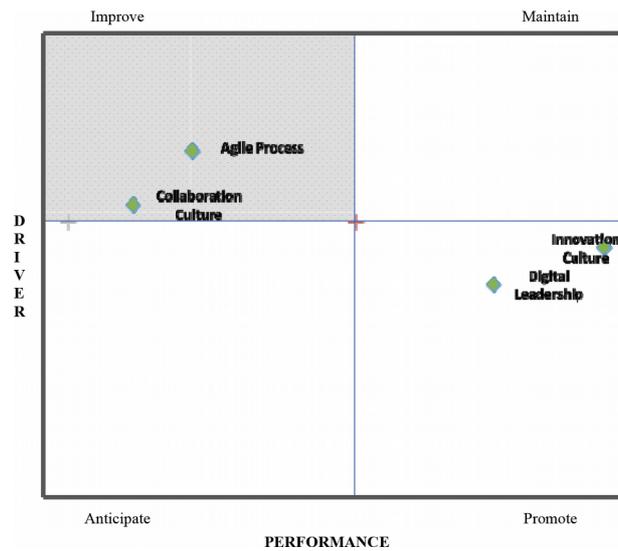
Figure 8. Organizational Capability Quadrant Analysis Result
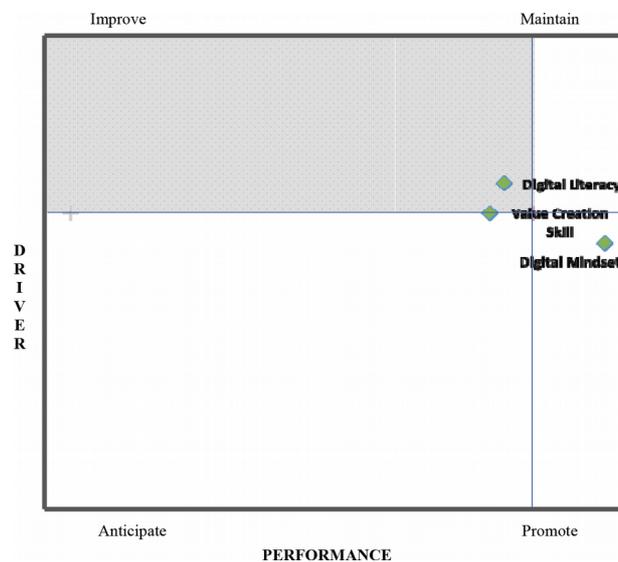
Figure 9. Individual Capability Quadrant Analysis Result

5. Discussion

This study proves that alignment strategy, organizational capability, and individual capability in the model have a positive impact on the digital services creation process. Our test supports the whole hypothesis which states that all relationships between variables in the model are significant, which is shown by a very small p-value. The high estimated value of the alignment strategy's impact on individual capability and organizational capability indicates a strong dependence of those capabilities on the alignment strategy. Individual capability itself has a positive impact on organizational capability and separately both have a positive impact on the process of creating digital services. The results of this test explain that creating digital services to achieve organizational goals requires the proposed capabilities at every stage of the process. Alignment strategy on those required capabilities is a critical factor to ensure the digital services creation process will meet customer expectations and organizational goals.

Figure 10 gives a more obvious understanding of the alignment between organizational capability, individual capability, and the digital services creation process in achieving the organization's goals.
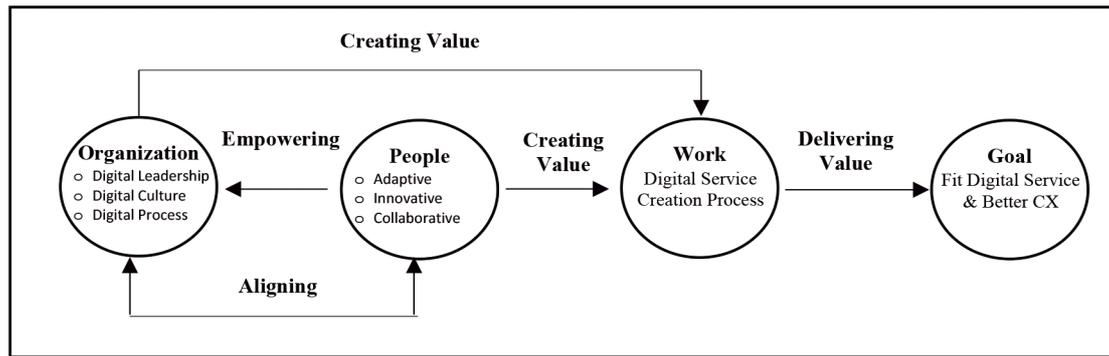
Figure 10. Alignment on Digital Services Creation Process

As an organization, a BPO company should have good leadership in order to manage the digital services creation process through proper digital culture, represented by the indicators namely digital leadership, innovation culture, collaboration culture, and agile process. The necessity of alignment strategy to orchestrate leadership style, organization culture, and organization process with the capability of people inside which must be adaptive, innovative, and collaborative. The individual capability which is represented by a digital mindset, digital literacy, and value creation skills is supporting the whole organization in creating and delivering value.

Our first hypothesis, "alignment strategy is positively associated with organizational capability and individual capability", is relevant to a statement from Carper (2015). While Carper (2015) focused on the alignment of the goals, our proposed model strengthens the theory that a good alignment strategy is the main prerequisite for both organizational capability and individual capability in creating digital services. The ability to determine the most proper and adaptive strategy as an organizational aspect in facing a fast-changing and competitive market is also proven by Soltaninezhad, Sharifabadi, Ahmadabadi and Jafarnejad (2021). Similar to our study, they used a mix-method approach and SEM, although they tested the model using Partial Least Squares (PLS) and carried out their study in the Small Medium Enterprise (SME).

"Individual capability and organizational capability are positively associated with digital services creation process" as the second hypothesis, supporting the theory of Acar et al. (2006) which stated that all involving functional units are needed to build a competitive advantage. We prove that both organizational capabilities and its members' capabilities also have a significant role in influencing the works for achieving the goals.

The last hypothesis, "organizational capability, mediates the relationship between individual capability and digital services creation process", is in line with the organizational elements from Wang and Zeng (2017) even though it has a different point of view when implemented in a BPO company. Wang and Zeng (2017) described an organization as a construct by connecting works, people, and the organization's goals. Meanwhile, our research explicitly suggests that organizational capabilities, directly or empowered by its members' capabilities, also have a significant role in the digital services creation process.

On a more in-depth insight, the organizational capability quadrant analysis showed that "agile process" and "collaboration culture" are mapped in the need to be improved and to be anticipated. "Collaboration culture" is prioritized to be developed first because it has a significant driver but has less performance, and it is needed to strengthen all related capabilities alignment and eliminate the organizational silos. This result supporting the empirical evidence was defined by digital mastery level metrics (Westerman et al., 2014), which stated that the company still has some silos in delivering digital services and gaps in driving digital investments to catch up with the demanding customers. Considering that collaborated work is a prerequisite in delivering a better end-to-end process for the clients, the BPO company should aware of the lack of this collaboration culture. Another study developing a model of organizational competence by Gonzales-Varona, López-Paredes, Poza & Acebes (2021) also discovered the importance of an information-sharing culture to identify, leverage, and develop the digital capabilities of SMEs to advance in digital.

Furthermore, a finding from the individual capability quadrant analysis is that "digital literacy" and "value creation skill" are mapped in the need to be improved and to be anticipated. "Value creation skill" needs to prioritize

development based on the same reason that it has a significant driver but has less performance. Besides developing this individual capability related to the process improvement, the company should align this capability by evaluating the existing individual key performance indicator and making it more relevant to encourage the employee to be more enthusiastic to create valuable digital services. The importance of creating skills to give maximum value for the customers and the company is relevant to the research from Acar et al. (2006).

Moreover, to align all related capabilities, all senior leaders need to clarify the team member's roles in the digital services creation process and minimize their capabilities gaps. The leaders also have to evaluate daily with the team and define the most important goal for their unit and ensure the team members understand their job targets and how to complete their jobs. Those activities assure the continuous improvement of the process to the optimizing maturity level and get better digital services performance among other players in the BPO industry.

6. Conclusion

The challenge of the BPO companies is how to improve their business process and gain value by optimizing their resources to meet clients' expectations. On this basis, the business requires consistent capability improvement, primarily due to the changing market dynamics in the digital era. Several theories have highlighted the importance of digital capabilities to succeed in digital transformation. For a specific business model like an outsourcing business, digital transformation is related to creating added value for the clients by empowering the people involved in the digital services creation process. One of the critical success factors in the outsourcing business is developing digital services constructed with proper capabilities. Therefore, the organization needs to understand the required capabilities for this objective.

Based on previous studies and confirmatory processes by qualitative approaches, this research proposes a new model, which enhances the General Model of Organization (Wang & Zeng, 2017) that has been adjusted to be suited to the BPO companies' characteristics. All proposed digital capabilities have a significant association with the digital services creation process based on the survey of the employees of the biggest BPO company in Indonesia.

Our proposed model can be generally used as a precise assessment of essential digital capabilities and define the maturity level of the digital services creation process in the BPO companies. It represents all the capabilities needed that be constructed by empirical evidence, literature review, and BPO's industry expert judgment. Moreover, the proposed model's assessment result guides the company to implement proper capabilities alignment and capabilities development to improve the process of creating digital services. Delivering a better process is expected will create a better customer experience and better digital services performance compared to its competitors.

Specifically, our research findings that alignment strategy as a new variable has the most significant association with the capabilities of both organization and its element in creating fit digital services for its clients. Collaboration culture and value creation skill are the capabilities that need to be prioritized in development to level up the company's digital services creation process maturity level.

Due to the findings on the significance of the alignment strategy, we recommend that the company should focus on eliminating the silos in the organization and changing how to become more advanced in creating value to scale up the maturity level of the digital services creation process to the optimizing level. All elements in the organization must collaborate and continuously improve skills in creating the best digital services to win the competition.

To leverage the contribution both for academic and practical purposes, we will complete research referring to the action research framework by implementing and evaluating the recommendation. Besides the addition of a new variable (alignment strategy), our research also succeeded in showing differences from the model we developed, namely that besides developing individual capabilities within the organization, it is necessary to develop the capabilities of the organization itself which also has a significant impact on the creation of digital services.

Finally, future research is suggested to identify indicators in the alignment strategy variable, wherein in this study we are still using dummy indicators (Q16, Q17, Q18) on SEM, in order to support organizational capability and individual capability to achieve an optimizing maturity level.

Furthermore, interested authors can also use this model in other companies with similar industries or with a similar business model with a greater number of samples to get a more precise result. Even though this digital capability maturity model can be generalized for all BPO companies, the output from the other research could be different from ours. Each company has a different problem situation and some distinct key success factors in grabbing its objectives.

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Appendix A. Loading Factor

Measured Correlation		Loading Factor
Indicator	**Latent Variable**	
Agile Process	Organizational Capability	0.96
Collaboration Culture	Organizational Capability	0.92
Innovation Culture	Organizational Capability	0.88
Digital Leadership	Organizational Capability	0.85
Digital Literacy	Individual Capability	1.01
Value Creation Skill	Individual Capability	0.99
Digital Mindset	Individual Capability	0.98
Fit Digital Services	Digital Services Creation Process	0.96
Better CX	Digital Services Creation Process	0.96
Q18	Alignment Strategy	0.85
Q17	Alignment Strategy	0.91
Q16	Alignment Strategy	0.88

Appendix B. Composite Reliability and Variance Extracted

Latent Variables	Type	Composite Reliability	Variance Extracted
Alignment Strategy	Exogenous	0.880	0.911
Organizational Capability	Endogenous	0.904	0.947
Individual Capability	Endogenous	0.992	0.994
Digital Services Creation Process	Endogenous	0.956	0.955

Appendix C. SEM Estimate Value

Indicators		Latent Variables	Estimate	S.E.	C.R.	P
individu	←	Alignment	0.85	0.06	14.23	<0.01
organization	←	Alignment	0.79	0.10	7.68	<0.01
organization	←	individu	0.32	0.09	3.78	<0.01
dscp	←	individu	0.44	0.10	4.41	<0.01
dscp	←	organization	0.48	0.09	5.34	<0.01
agile	←	organization	1.00			
collab_cul	←	organization	0.94	0.04	22.32	<0.01
inno_cul	←	organization	0.82	0.04	19.25	<0.01
digi_lead	←	organization	0.81	0.05	17.36	<0.01
digital_literacy	←	individu	1.00			
vc_skill	←	individu	0.99	0.02	45.22	<0.01
digital_mindset	←	individu	0.94	0.03	37.43	<0.01

Indicators		Latent Variables	Estimate	S.E.	C.R.	P
fit_ds	←	dscp	1.00			
better_cx	←	dscp	1.01	0.04	27.31	<0.01
Q18	←	Alignment	1.00			
Q17	←	Alignment	1.04	0.06	16.29	<0.01
Q16	←	Alignment	1.05	0.07	14.38	<0.01

Appendix D. Descriptive Table

Indicator	Mean	Minimum	Maximum	Standard Deviation	Kurtosis	Skewness
Digital Leadership	7,70	2,75	10,00	1,36	1,22	-0,85
Innovation Culture	7,88	3,00	10,00	1,25	0,96	-0,67
Collaboration Culture	7,11	2,50	10,00	1,46	0,10	-0,44
Agile Process	7,20	1,00	10,00	1,59	1,23	-0,85
Digital Mindset Sales	7,59	3,00	10,00	1,32	1,45	-0,75
Value Creation Skill Sales	7,32	2,50	10,00	1,43	0,92	-0,69
Digital Literacy Sales	7,28	2,00	10,00	1,47	1,14	-0,74
Digital Mindset Delivery	7,50	3,00	10,00	1,40	0,67	-0,67
Value Creation Skill Delivery	7,36	3,00	10,00	1,47	0,49	-0,63
Digital Literacy Delivery	7,40	3,00	10,00	1,47	0,63	-0,58
Digital Mindset Operation	7,99	3,00	10,00	1,19	2,15	-0,79
Value Creation Skill Operation	7,92	3,00	10,00	1,22	1,95	-0,81
Digital Literacy Operation	7,95	3,00	10,00	1,27	2,13	-0,83
Digital Mindset Business Support	7,68	2,00	10,00	1,52	2,10	-1,10
Value Creation Skill Business Support	7,56	2,00	10,00	1,50	1,47	-0,90
Digital Literacy Business Support	7,60	2,00	10,00	1,54	1,79	-0,91
Fit Digital Service	7,70	3,00	10,00	1,33	0,44	-0,58
Better Customer Experience	7,95	2,00	10,00	1,36	2,07	-1,01

Appendix E. Survey Result

Indicators	Question List	Percentage of Response per Question									
		1	2	3	4	5	6	7	8	9	10
Digital Leadership	The company possesses a clear strategy and concrete digitalization program	0,0%	0,5%	1,4%	2,9%	1,9%	7,2%	16,8%	36,1%	21,6%	11,5%
	The company is focusing to improve employee's digital capability	0,0%	1,0%	0,5%	2,4%	5,8%	14,9%	17,8%	31,7%	16,8%	9,1%
	The chosen and used technology by the company supports the development of digital services	0,0%	0,5%	1,4%	1,9%	4,8%	10,1%	23,1%	32,2%	15,9%	10,1%
	The company's decision-making is based on available and usable data	0,5%	0,0%	1,0%	1,9%	5,8%	7,7%	17,3%	30,3%	24,0%	11,5%
Innovation Culture	The company gives an area to develop a business model in accordance with the market's needs	0,0%	0,0%	1,9%	0,5%	3,8%	6,7%	18,8%	37,5%	20,7%	10,1%
	The company gives an area for process adjustment based on customer needs	0,0%	0,0%	1,0%	1,0%	5,3%	8,2%	19,2%	27,4%	26,0%	12,0%
	The company gives an area in both utilization and development of available technologies	0,0%	0,0%	0,5%	1,0%	3,4%	8,7%	20,2%	35,1%	22,1%	9,1%
	The company gives an area in digital services development following the market's needs	0,0%	0,0%	0,5%	1,0%	4,3%	6,3%	21,2%	33,2%	23,6%	10,1%
Collaboration Culture	Information exchange between units is being done effectively	0,5%	1,0%	2,9%	5,3%	10,1%	17,8%	27,4%	19,7%	12,0%	3,4%
	Collaboration between company's functions runs fluently	1,0%	0,5%	2,9%	4,8%	7,2%	18,8%	24,0%	24,5%	11,5%	4,8%
	All employees actively involved in a project according to each function	0,0%	0,5%	1,9%	2,9%	6,7%	10,6%	23,1%	28,8%	16,3%	9,1%
	Ease of collaborating with other parties to develop digital services	0,0%	0,5%	1,4%	2,9%	7,7%	16,8%	25,5%	25,0%	15,4%	4,8%

Indicators	Question List	Percentage of Response per Question									
		1	2	3	4	5	6	7	8	9	10
Agile Process	The company always act quickly to respond to business' ever-changing dynamics	1,0%	0,0%	1,0%	3,4%	6,7%	10,6%	25,0%	31,3%	13,9%	7,2%
	The existing business process could be adjusted following to customer's dynamic needs	0,5%	2,4%	2,4%	3,8%	6,7%	13,5%	24,0%	29,8%	11,5%	5,3%
	The decision-making process is carried out promptly to fulfill the company's commitments to customers	0,5%	1,4%	1,9%	4,8%	3,8%	14,9%	26,0%	27,4%	12,0%	7,2%
Alignment Strategy	The company able to align both strategy and available resources	0,0%	1,4%	3,4%	4,8%	5,3%	12,5%	25,5%	29,3%	12,0%	5,8%
	The achievement on digital services performance is stated in individual performance appraisal	1,0%	1,0%	1,0%	2,4%	6,7%	14,9%	25,5%	31,7%	12,0%	3,8%
	The company communicates its strategy to all employees	0,0%	0,0%	1,4%	1,0%	6,3%	10,6%	20,7%	33,7%	16,8%	9,6%
Digital Mindset	The sales team actively participating in looking for digital business opportunities	0,0%	0,0%	1,4%	1,0%	4,8%	9,1%	25,0%	33,7%	17,3%	7,7%
	The sales team quickly responds to customer's demands	0,0%	0,0%	1,9%	1,0%	3,4%	10,6%	29,3%	32,2%	15,4%	6,3%
	The delivery team actively participating in the digital services fulfillment process	0,0%	0,0%	1,4%	1,9%	4,8%	11,1%	23,1%	34,1%	17,3%	6,3%
	The delivery team quickly responds to the customer's requirement	0,0%	0,0%	1,4%	2,9%	5,3%	13,0%	24,0%	31,3%	15,9%	6,3%
	The operational team actively participating in managing digital services	0,0%	0,0%	1,0%	0,5%	2,4%	3,4%	18,3%	40,9%	21,2%	12,5%
	The operational team quickly responds and gives a correct solution in managing digital services	0,0%	0,0%	1,0%	1,0%	2,4%	3,8%	24,0%	38,9%	19,2%	9,6%
	The business support team actively participates in supporting the continuity of digital services	0,0%	1,0%	1,0%	1,4%	5,3%	6,3%	23,6%	31,7%	18,8%	11,1%
	The business support team appropriately provides assistance to support other units related to digital services	0,0%	1,9%	1,0%	1,9%	2,9%	8,7%	23,6%	31,7%	20,2%	8,2%
Value Creation Skill	The sales team able to give appropriate digital solutions as customer's needs	0,0%	1,0%	2,4%	2,4%	6,7%	9,6%	29,8%	29,8%	13,5%	4,8%
	The sales team is able to communicate the advantage of digital solutions possessed by the company in comparison to its competitors	0,0%	0,0%	1,9%	1,9%	5,8%	11,1%	30,3%	30,3%	12,5%	6,3%
	The delivery team is able to find better alternatives to fulfill digital services for customers	0,0%	0,0%	1,4%	3,4%	5,3%	14,4%	23,6%	31,7%	14,4%	5,8%
	The delivery team is able to give added value on delivering services for the customer	0,0%	0,0%	1,9%	3,8%	4,8%	14,4%	24,0%	30,3%	13,9%	6,7%
	The operational team is able to give improvement solutions on managing digital services	0,0%	0,0%	0,5%	2,4%	1,0%	3,8%	24,5%	39,4%	18,8%	9,6%
	The operational team is able to give a positive value to digital services that will impact customer business	0,0%	0,0%	0,5%	1,9%	1,0%	6,3%	21,2%	39,9%	19,2%	10,1%
	The business support team is able to support the appropriate technology utilization for digital services	0,0%	1,0%	1,0%	1,4%	3,8%	11,1%	24,5%	31,7%	16,8%	8,7%
	The business support team is able to create advantages on digital services development	0,0%	1,0%	1,9%	1,4%	3,8%	13,0%	24,0%	26,9%	21,2%	6,7%
Digital Literacy	The sales team is able to comprehend the latest digital technologies being used by the company	0,0%	0,5%	1,9%	2,4%	5,8%	12,5%	28,4%	32,7%	10,6%	5,3%
	The delivery team is able to implement the latest digital technologies in delivering services for customers	0,0%	0,0%	1,9%	2,4%	4,3%	14,4%	26,0%	30,3%	13,9%	6,7%
	The operational team is able to operate digital services in order to deliver services to customers	0,0%	0,0%	1,0%	1,4%	1,0%	4,8%	23,1%	38,9%	18,8%	11,1%
	The business support team ensures the latest digital technologies implementation by the company	0,0%	1,4%	1,0%	1,0%	3,4%	13,0%	23,6%	29,3%	18,3%	9,1%
Overall Organization Capability	As a whole, current capabilities owned by the company could support the success of digital services	0,0%	0,0%	1,4%	0,5%	4,3%	11,5%	24,5%	30,3%	18,8%	8,7%
Overall Individual Capability	As a whole, the current capabilities of the employee is able to create and manage digital services	0,0%	0,0%	0,5%	0,5%	5,8%	8,2%	29,8%	32,2%	15,9%	7,2%
Fit Digital Service	The process of digital services creation initiated by the company is continuously enhanced to fulfill SLA and the company's objectives	0,0%	0,0%	0,5%	1,4%	3,8%	11,5%	21,6%	33,2%	21,2%	6,7%
Better Customer Experience	The process of digital services creation initiated by the company is continuously enhanced to improve customer experience	0,0%	0,5%	0,5%	1,0%	3,4%	6,3%	18,8%	34,1%	25,5%	10,1%