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THE INFLUENCE OF DATA STRATEGY ON COMPETITIVE ADVANTAGE AND COMPANY PERFORMANCE (EMPIRICAL STUDY ON ENGINEERING, PROCUREMENT, AND CONSTRUCTION COMPANIES)

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Abstract

Data strategy is an important point for a company in the era of digitalization because it can be used as the main source for increasing a company's competitive advantage, which will ultimately improve the company's performance. This research aims to see the influence of data strategy on competitive advantage and company performance. Data strategies here are divided into two, namely defensive data strategies and offensive data strategies. The research was conducted with a survey of 202 respondents from EPC companies listed on the Indonesia Stock Exchange. Using the Structural Equation Modeling (SEM PLS) the research results found that defensive data strategies and offensive data strategies influence competitive advantage but not Company Performance. The results also explain that data strategy does not mediate the relationship between offensive and defensive data strategies with competitive advantage and company performance. This research provides implications for company policy in formulating strategies by considering the position of defensive data strategies and offensive data strategies because they can directly and positively influence competitive advantage. Practically, the implications of the results of this research can help EPC companies in designing data policies or strategies and using them as a competitive advantage.

Keywords: Defensive Data Strategy, Offensive Data Strategy, Competitive Advantage, Company Performance, Company Epc

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INTRODUCTION

In the current era of digitalization, data has become a crucial point for companies. It is utilized as a primary source to enhance a company's competitive advantage, ultimately improving its performance. Companies are expected to continually innovate to remain viable in their industries. The business competition in the age of globalization is intensifying due to rapid and rapid technological advancements (Satwika, 2018). Companies and organizations must adapt to changes, especially those brought about by the Covid-19 pandemic. Anticipating these changes is essential to meet customer demands for services and products, thereby enhancing corporate performance. Competing strategies, innovative actions, and market orientation are some solutions to anticipate competition.

The phenomenon observed in Engineering Procurement and Construction (EPC) companies during the COVID-19 pandemic resulted in delays in several construction projects. Zahrina (2021) explained that project delays were caused by temporary suspensions and a decrease in net profit alongside increased operational costs. These issues were exacerbated by suboptimal schedule monitoring and budget management strategies. Additionally, inadequate data management practices led to losses for 30 contracting companies in Surabaya, impacting the EPC company's going concern.

Research on strategies in EPC companies has primarily focused on business strategies (Hardianto et al., 2014). Findings suggest that immediate strategic steps include aggressive penetration and market development not only in power generation projects but also in other industries, becoming a major contractor or partnering with foreign contractors, acquiring similar companies, and outsourcing design and engineering experts for design optimization. However, research specifically on data strategies in EPC companies has been lacking up to the present study.

Wamba et al. (2017), Macada and Junior (2020), Constantiou and Kallinikos (2015), and Gupta and George (2016) have explored data strategy and confirmed a direct influence of defensive and offensive data strategy positions on competitive advantage, with mediating effects of offensive data strategy. Data strategy delineates the extent to which data analytics should be used by a company to differentiate itself from competitors, providing competitive advantage; establishing long-term analytical guidelines for the company; demonstrating how

the company selects analytical opportunities that optimize value; quantifying and tracking the value brought by selected analytical opportunities; and outlining how the company should manage data as a corporate asset (Grossman, 2018; Macada and Junior, 2020).

This study aims to determine the extent of the influence of data strategies on the development of innovative business models, which in turn affect company performance. This research contributes to the literature on the role of data strategy in companies, specifically focusing on EPC companies. The research will be analyzed using SEM PLS for several reasons: (1) PLS (Partial Least Squares) allows analysis with smaller sample sizes, facilitating analysis; (2) PLS can analyze weak or incomplete theories by predicting outcomes; (3) PLS leverages algorithms using ordinary least squares (OLS) to enhance computational efficiency (Ghozali, 2006); and (4) PLS can explain various types of variation measures.

This topic is relevant as companies collect, create, and share more data to unlock their potential, increase revenue, reduce costs, and manage risks. However, achieving analytical maturity remains a challenge for many companies (Fleckenstein and Fellows, 2018). To enhance insight extraction and thereby achieve superior performance, companies invest in technological processes and analytical skills.

REVIEW OF LITERATURE

Company Strategy and Data Strategy

Company strategy is a long-term plan developed by an organization to achieve specific objectives within its business environment. It details the steps a company must take to manage risks, maintain competitive advantage, and continue to evolve (Mocada and Junior, 2020). In business, strategy encompasses target market selection, resource allocation, product development, and other decisions that lead to achieving the company's vision and mission. Company strategy also involves identifying and analyzing competitors, as well as changes in market trends and the external environment that may impact company operations. In today's competitive business world, companies can achieve long-term success and sustainability by crafting and implementing appropriate strategies. In the era of digitalization, data is used as a marketing method to shape more effective strategies and communications.

Data-driven marketing involves collecting, processing, and utilizing customer data to make more accurate and effective marketing decisions, enabling marketers to understand customer needs, desires, and behaviors, thereby generating more targeted brand communications (Wamba et al., 2017).

Competitive Advantage Theory

Porter (1991) argued that the phenomena of trade he studied did not primarily depend on factors like cost and endowment. This was due to technological change, comparable factor endowments, and globalization. The observed trade patterns in his study countries showed efforts to achieve competitive advantage rather than maintaining comparative advantage. Porter envisioned a new paradigm in international trade, the competitive advantage paradigm. The theory of competitive advantage suggests that nations and businesses should pursue policies that create high-quality goods sold at high prices in the market. Porter emphasized productivity growth as a national strategic focus. Furthermore, Porter defined competitive advantage as the capability of a business or company to employ strategies to earn more profits compared to its competitors in the same industry. According to Evans and Dean cited in Kaswan (2012), competitive advantage fosters a company's ability to achieve market superiority over its competitors. Implementing sustainable competitive advantage strategies in the long term can result in optimal performance.

Company Performance Theory

Performance is often defined merely as the output or achievement of goals measured. However, performance goes beyond what has been achieved to how it was achieved. Company performance refers to how well a company achieves market-oriented goals and financial objectives (Yamin, Gunasekaran, & Mavondo, 1999). Company performance is a reflection of the level of achievement in implementing a company's tasks in realizing its goals, objectives, missions, and visions (Mardiasmo, 2018). Research conducted by Ilham (2022) at PT. Angkasa Pura II Persero demonstrated that strategy positively impacts PT. Angkasa Pura II's performance. Additionally, corporate culture facilitates the influence of strategy variables on PT. Angkasa Pura II's performance.

Complexity Theory

Complexity theory views companies as complex adaptive systems that self-organize and evolve to better fit their environments (Cabrera et al., 2018). In this study, complexity theory relates to the Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) context, presenting challenges for companies and organizations on how to enhance their competitiveness and performance. Data strategies or big data become crucial for companies to improve their competitiveness. Furthermore, data strategy is closely linked to complexity theory in how companies can adapt amidst rapid changes. According to Jaworski (2005), clarity is an indicator within the complexity that helps organizations or individuals face and overcome complexities, one of which is through effective data strategies, both defensive and offensive.

Influence of Data Strategy on Competitive Advantage

Company strategy generates a competitive advantage through offensive or defensive positions (Porter, 1991). Strategic management can help companies protect and leverage their data more effectively (DalleMule and Davenport, 2017; Macada and Junior, 2020). Strategic data management helps companies protect and leverage their data through more Defensive Data Strategies (DDS) when operating in tightly regulated environments or more aggressively when operating in dynamic environments. In their research, Mocada and Junior (2020) differentiate data strategies into defensive and offensive strategies. Defensive Data Strategies (DDS) refer to a passive stance in responding to competitive advantages. The role of these strategies is to defend against challenges or find the right position for the company. Offensive Data Strategies (ODS) refer to a more aggressive and proactive stance that focuses on market strength in shifting its balance. Supporting research by Macada and Junior (2020) found a direct relationship between defensive and offensive data strategy positions and competitive advantage, as well as a mediating effect of offensive data strategy (ODS). Similar research by Fleckenstein and Fellows (2018) and Gnizy (2019) supports these findings. Therefore, the alternative hypotheses to be tested in this study are:

Ha_1: Defensive Data Strategy positively influences competitive advantage.

Ha_2: Offensive Data Strategy positively influences competitive advantage.

Influence of Data Strategy on Company Performance

Recent conceptual and empirical research has found challenges in deriving business value from data strategy analytics, which is not just technical but predominantly organizational (Gupta & George, 2016). Vidgen et al. (2017) identified five main challenges companies face in becoming data-driven, focusing on data, technology, processes, people, and the organization. Previous research emphasizes the importance of examining the analytical capabilities of data strategy in providing value-added benefits, particularly due to the high costs associated with its development (Mikalef et al., 2019). Research supporting the hypotheses to be tested in this study, such as that by Wamba et al. (2017), suggests that investing in these resources is associated with enhanced market and operational performance. This is further supported by research by Kallinikos (2015), Bayu (2018), and Chiang, Liang, and Zhang (2018). Therefore, the alternative hypotheses to be tested in this study are:

Ha_3: Defensive Data Strategy positively influences company performance.

Ha_4: Offensive Data Strategy positively influences company performance.

Competitive Advantage and Company Performance

According to John McGee (2015), competitive advantage means delivering better value to consumers so that companies and stakeholders gain greater benefits than others. Choosing the right strategy will influence a company's likelihood of achieving significant profits. The chosen strategy is a decision about resource allocation that enables a company to create unique assets and capabilities, which are the company's core competencies. Competitive advantage is a statement of market position consisting of a statement about competitive emphasis; physical evidence of benefits to consumers; a combination of higher cost positioning, differentiated products, and protected niches; and direct perceived benefits by the majority of consumers who are willing to pay more and cannot obtain elsewhere. Porter (1990) explained that the core of marketing performance in facing competition is competitive advantage. Competitive advantage is interpreted as a beneficial strategy from companies that collaborate to create more effective competitive advantages in their markets. Previous researchers have studied this competitive advantage, such as Sangadah & Kartawidjaja (2020) and I Putu Yadnya (2017). Therefore, the alternative hypotheses from this study are:

Ha_5: Competitive Advantage positively influences company performance.

Data Strategy (Defensive and Offensive) as Mediation Influences Competitive Advantage Toward Company Performance

Based on research conducted by Mocada and Junior (2020), explains that data strategy influences competitive advantage, both defensive and offensive data strategies. Data strategy plays a significant role in achieving a company's competitive advantage. Wamba et al. (2017) explained using a research-based view, that the analysis of big data explains the great capabilities of companies with big data in improving company performance and seeing the mediating effect in linking company dynamic capabilities or the data strategy used. The use of mediation here is due to seeing the boundary or contingency relationship between competitive advantage and company performance with the mediation of offensive and defensive data strategies as previous research (Wamba et al., 2017) has different research results. Based on the research above, the alternative hypotheses to be tested in this study are:

Ha_6: Offensive Data Strategy as mediation influences competitive advantage towards company performance.

Ha_7: Defensive Data Strategy as mediation influences competitive advantage towards company performance.

Based on our literature review, we have developed a research model to explain the relationship between data strategy and CA. The predictive model is conceptually depicted in the figure.

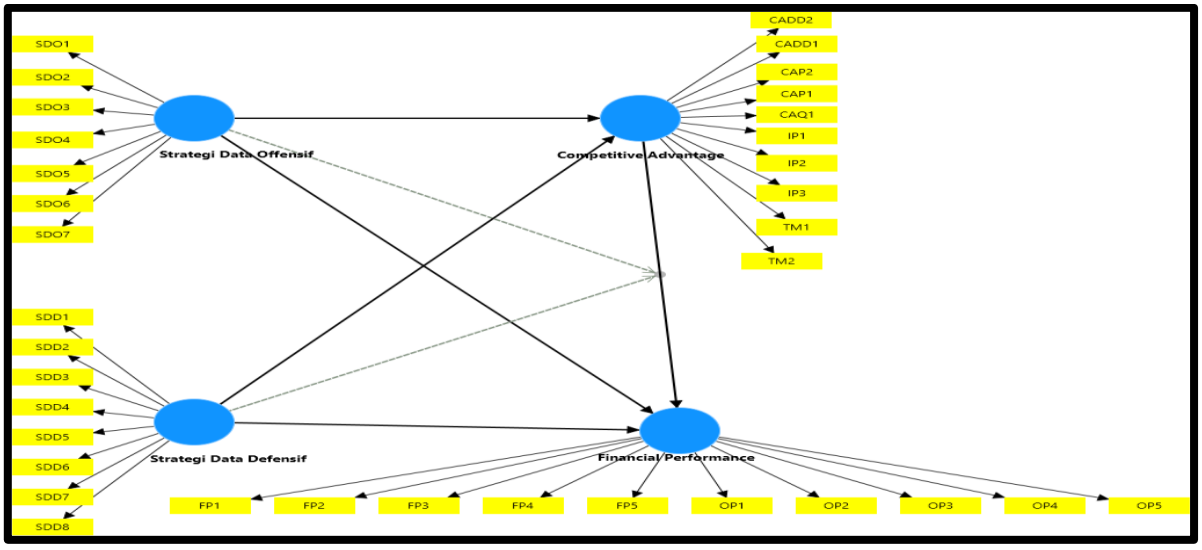

Figure 1
Research Structural Model Source: SmartPLS 4.0 Output

RESEARCH METHOD

A quantitative study was conducted to empirically evaluate the research model. A survey research approach was adopted using a structured questionnaire to collect data. The choice of this strategy is justified by the focus of the study on measuring respondents' perceptions of which data strategies contribute most to competitive advantage and company performance.

Research Instrument Development and Validation

The development and validation of the research instrument drew insights from recommendations by Wamba et al. (2017) and Macada and Junior (2021). After conceptualizing its construction, the researcher utilized existing literature to formulate items that represent the construct definitions. A review was conducted to support the formulation and development of hypotheses. The survey collected personal and professional information from the interviewees. Variables related to constructs were measured on a six-point Likert scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree), as proposed initially by Likert (1932). Partial Least Squares Structural Equation Modeling (SEM PLS V. 4) was employed to assess the predictive relevance of the conceptual model and thereby test the hypotheses as depicted in Figure 1.

Research Variables, Definitions, Indicators, and Measurement Scales

There are four variables in this study: competitive advantage, company performance, defensive data strategy, and offensive data strategy.

Table 1
Research Variables, Definitions, Indicators, and Measurement Scales

Variable	Definition	Indicators	Measurement Scale
Competitive Advantage	The ability of a company to create better-added value compared to its competitors.	Statements about competitive emphasis, and physical evidence of benefits to consumers.	6-point Likert scale (1 - Strongly Disagree, 6 - Strongly Agree)
Company Performance	The level of achievement of company market and financial goals.	Level of achievement of company market and financial goals.	6-point Likert scale (1 - Strongly Disagree, 6 - Strongly Agree)
Defensive Data Strategy	A passive approach in responding to challenges or maintaining positions.	Passive attitude in responding to challenges or maintaining positions.	6-point Likert scale (1 - Strongly Disagree, 6 - Strongly Agree)

Variable	Definition	Indicators	Measurement Scale
Offensive Data Strategy	An aggressive and proactive approach to seizing opportunities and changing the market.	Aggressive and proactive attitude in changing market balances.	6-point Likert scale (1 - Strongly Disagree, 6 - Strongly Agree)

In this table, the main variables of the study are briefly described with their definitions, indicators representing the variables, and the measurement scale used to assess respondents' perceptions. A 6-point Likert scale is used with degrees of agreement ranging from 1 (Strongly Disagree) to 6 (Strongly Agree), following the initial proposal by Likert (1932).

The study employs the Partial Least Squares (PLS) Structural Equation Modeling (SEM) approach version 4 to evaluate the predictive relevance of the conceptual model and test the hypotheses as depicted in Figure 1. A quantitative approach using a structured questionnaire is considered appropriate to evaluate respondents' perceptions of the contribution of data strategies to competitive advantage and company performance.

Population and Sample

The population in this study ranges from senior staff to Directors/Vice Presidents within the Planning and Strategy, Finance, and Marketing departments of EPC companies, totaling 400 individuals from 33 EPC companies listed on the Indonesia Stock Exchange. The reason for selecting Directors/Vice Presidents to senior staff is based on their significant roles within EPC companies. With their experience and expertise, they bridge communication between staff and executives. Specifically, they translate the leadership's vision into technical steps executable by the implementers and provide a broad overview of the goals to be achieved. Senior staff also play a crucial role in guiding implementers in overcoming technical challenges during project execution (Andin, 2024).

The sampling technique employed in this research is purposive sampling. The sample criteria for this study are outlined as follows:

Table 2
Final Sample Size for the Study

No	Criteria	Amount
1	EPC companies listed on the IDX	400

2	Incomplete address/phone number	(69)
3	Unreachable	(78)
4	Unwilling to participate in the study	(51)
	Total final sample	202

Source: Output SmartPLS 4.0.

Table 3
Respondent Characteristics

No	Category	Description	Number	(%)
1	Gender	Male	160	79.30%
		Female	42	20.70%
2	Age	26 to 30	18	8.90%
		31 to 35	30	14.80%
		36 to 44	63	31.00%
		45 to 49	58	28.60%
		50 and up	33	16.30%
3	Work Experience	< 3 years	12	5.90%
		3 to 5	14	6.90%
		5 to 10	30	14.80%
		10 to 15	46	22.70%
		15 to 20	55	27.10%
		> 20	45	22.20%
4	Position	Senior Staff	50	24.60%
		Manager	92	45.30%
		Senior Manager	30	14.80%
		Assistant Vice President	12	5.90%
		Vice President	12	5.90%
		Director	6	3.00%
5	Highest Education	Others	11	5.40%
		D3	22	10.80%
		S1	128	63.10%
		S2	40	19.70%
		S3	1	0.50%

Source: Output SmartPLS 4.0.

Questionnaire Validity

Test Results To test validity, a pilot test was conducted with 55 sample respondents. The validity test formula used was the Product Moment Coefficient of Correlation and processed using IBM SPSS Statistics 25 software. Referring to a significance level of 5% (0.224, n=55), the correlation value obtained (r calculated) was compared with the product-moment correlation value (r-table) to determine its significance. If the calculated r value is greater than the r-table value, then the indicator is considered valid. The results of the questionnaire validity test are explained in the following table:

Table 4
Questionnaire Indicator Validity Test Results

Variable	Code	r-calculation vs r-table (0,224)	Ket
Defensive Data Strategy	DDS1	0,726231789	Valid
	DDS2	0,778260783	Valid
	DDS3	0,807438618	Valid
	DDS4	0,864815492	Valid
	DDS5	0,84678479	Valid
	DDS6	0,860281546	Valid
	DDS7	0,883781495	Valid
	DDS8	0,846903544	Valid
Offensive Data Strategy	ODS1	0,891912284	Valid
	ODS2	0,774903036	Valid
	ODS3	0,843175445	Valid
	ODS4	0,774224184	Valid
	ODS5	0,814166694	Valid
	ODS6	0,729810614	Valid
	ODS7	0,874915505	Valid
Competitive Advantage	CAP1	0,720948696	Valid
	CAP2	0,427043188	Valid
	CAQ1	0,640024659	Valid
	CADD1	0,629812028	Valid
	CADD2	0,662610822	Valid
	IP1	0,672542226	Valid
	IP2	0,706369703	Valid
	IP3	0,74408898	Valid

	TM1	0,796235773	Valid
	TM2	0,767166099	Valid
Company Performance	FP1	0,825390891	Valid
	FP2	0,816921141	Valid
	FP3	0,854061988	Valid
	FP4	0,875209409	Valid
	FP5	0,828855719	Valid
	OP1	0,849434613	Valid
	OP2	0,834634709	Valid
	OP3	0,801723474	Valid
	OP4	0,674026409	Valid
	OP5	0,752428562	Valid

Source: Output SmartPLS 4.0.

Based on the table above, it is known that the value of each indicator has exceeded the r-table value, thus considered valid. This means that the questions in the questionnaire have been sufficiently understood by the respondents, and the questionnaire has been able to measure its objectives accurately and correctly.

Reliability Test

The reliability test is conducted to measure the consistency of the measurement instrument, using Cronbach's alpha formula with SPSS Statistics 25 software. An indicator is considered reliable if it has a Cronbach's alpha value of more than 0.6 (Hartono, 2005). The results of the reliability test for each variable are explained as follows:

Table 5
Reliability Test Results of the Questionnaire

Variable	Cronbach's Alpha	Description
Defensive Data Strategy (X1)	0.969	Reliable
Offensive Data Strategy (X2)	0.969	Reliable
Competitive Advantage (Y1)	0.963	Reliable
Company Performance (Y2)	0.961	Reliable

Source: Output SmartPLS 4.0.

Based on the table above, the Cronbach's alpha value of each study variable is more than 0.6, thus considered reliable. This means that the variables used in this study are sufficiently accurate and consistent, indicating that if measurements are taken on the same subjects, the same results will be obtained (Hartono, 2005). The questionnaire that has been

tested for validity and reliability is then ready to be distributed online to 202 respondents who meet the sample criteria.

RESULTS AND DISCUSSION

Structural Model

After validating the measurement model, structural equations are modeled. Collinearity is analyzed using the variance inflation factor (VIF), and all indicators are acceptable, as they have values below 5 (Hair et al., 2017). Next, the bootstrap procedure (202 samples) is used to evaluate the significance of the hypothesized paths and the amount of variance in the dependent variable associated with the explanatory variables (Hair et al., 2017). Based on this hypothesis test, the results are presented in Table 6. The results show that the direct effect hypotheses (H1, H2, H3, and H5) are supported by presenting significance at a level below 0.05%.

Table 6
Relationship Values Between Variables (Direct and Indirect Effects)

No	Variable Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Description
1	DDS -> CA	0,351	0,361	0,123	2,868	0,004	Positive Significant
2	ODS -> CA	0,611	0,601	0,120	5,082	0,000	Positive Significant
3	DDS -> CP	0,048	0,057	0,247	0,194	0,846	Positive Not Significant
4	ODS -> CP	-0,122	-0,156	0,225	0,542	0,588	Negative Not Significant
5	CA -> FP	0,944	0,976	0,225	4,201	0,000	Positive Significant
6	DDS x CA ->CP	-0,179	-0,081	0,295	0,605	0,545	Negative Not Significant
7	ODS x CA ->CP	0,250	0,153	0,307	0,816	0,414	Positive Not Significant

DDS (Defensive Data Strategy); ODS (Offensive Data Strategy); CA (Competitive Advantage); CP (Company Performance)
Source: Output SmartPLS 4.0.

Based on the data processing results from the conducted research, it is known that there is an influence of defensive data strategy and offensive data strategy on competitive advantage. The data processing results show t-statistic values of 2.868 and 5.082 with p-values of 0.004 and 0.000, respectively. The results in Table 6 show that the hypothesis is accepted. This means that defensive data strategy and offensive data strategy have a positive influence on competitive advantage in EPC companies in Indonesia. The statistical values of the hypothesis meet the requirement of t-statistic > 1.645, while the p-values indicate a strong and positive relationship between the variables. This research is in line with the studies conducted by Macada & Junior (2020), which explain a direct relationship between defensive data strategy and offensive data strategy on competitive advantage, and the research by DalleMule and Davenport (2017). Defensive data strategy allows companies to unlock the potential value of analytics, often measured in terms of profitability, ownership, market growth, innovation, cost leadership, product and service quality, delivery cycle time, customer satisfaction, flexibility, and speed in meeting demand compared to key competitors (Wamba et al., 2017). Meanwhile, the offensive data strategy (ODS) aims to increase revenue through cross-selling, strategic pricing, and expanding the customer base; create new products and services; respond quickly to competitors and market changes; use advanced customer analytics to generate business results; leverage new data sources, internal or external; monetize company data; optimize and strengthen existing data scientist databases; and generate returns on investment in big data analytics infrastructure. Support for this hypothesis aligns with other similar research such as Fleckenstein, M. and Fellows, L. (2018), and Gnizy I (2019).

Based on the data processing results from the conducted research, it is known that there is no influence of defensive data strategy and offensive data strategy on Company Performance. The data processing results show t-statistic values of 0.194 and 0.542 with p-values of 0.846 and 0.588, respectively. The results in Table 6 show that the hypothesis is rejected. This means that offensive data strategy and defensive data strategy do not have a positive influence on Company Performance in EPC companies in Indonesia. The statistical values of the hypothesis do not meet the requirement of t-statistic < 1.645, while the p-values indicate no strong and positive relationship between the variables. This research contradicts

some previous studies such as Kiron (2017), Vidgen et al. (2017), and Mikalef et al. (2019), which explain the influence of big data on Company Performance. This is because the data strategy in EPC companies in Indonesia mainly aims for competitiveness, so there is no direct relationship and influence on Company Performance. This is due to previous research by Macada and Junior (2020) and Wamba et al. (2017), which examined the influence of big data on Company Performance with samples from manufacturing companies, while EPC companies are engineering service companies whose output is in the form of services. Thus, the influence is not directly seen from the benefits of the data strategy developed. The implications of these research results show that EPC companies in Indonesia use data strategies to enhance competitiveness and not Company Performance. This contradicts previous research, but these results illustrate that there are different outcomes in how data strategies are used by service companies. Wamba et al. (2017) found a link between big data and Company Performance in manufacturing companies. This is also due to the limitations of this research, which includes manufacturing companies listed on the Indonesia Stock Exchange and does not accommodate other EPC companies.

Meanwhile, for the hypothesis of the influence of competitive advantage and Company Performance, based on the data processing results from the conducted research, it is known that there is an influence of offensive data strategy on competitive advantage. The data processing results show a t-statistic value of 4.201 with a p-value of 0.000 in Table 4.10, the results in the table show that the hypothesis is accepted. This means that competitive advantage has a positive influence on Company Performance in EPC companies in Indonesia. The statistical value of this hypothesis of 4.201 does not meet the requirement of t-statistic > 1.645, while the p-value indicates a strong and positive relationship between the variables. This aligns with research conducted by Sangadah & Kartawidjaja (2020) and I Putu Yadnya (2017). This also aligns with the opinion expressed by Porter (1990), who explained that competitive advantage is the heart of marketing performance in facing competition. Competitive advantage is defined as a profitable strategy for companies that collaborate to create more effective competitive advantages in their market. Thus, in EPC companies, if the company has competitiveness, it will directly enhance Company Performance.

The research results indicate that defensive data strategy and offensive data strategy do not mediate the relationship between competitive advantage and Company Performance. The data processing results show t-statistic values of 0.605 and 0.816 with p-values of 0.545 and 0.414, respectively. The results in Table 6 show that the hypothesis is rejected. This means that defensive data strategy and offensive data strategy do not have a positive influence on Company Performance in EPC companies in Indonesia. The statistical values of the hypothesis do not meet the requirement of t-statistic < 1.645, while the p-values indicate no strong and positive relationship between the variables. This research contradicts Wamba et al. (2021), which is due to the differences in the characteristics of the companies studied, where service companies differ from manufacturing companies, with EPC companies providing engineering services based on project work, so the mediating influence of defensive data strategy is not evident in mediating the relationship between competitive advantage and Company Performance.

CONCLUSION

This study is a breakthrough in empirically analyzing how DDS or ODS impact Competitive Advantage and Company Performance. Relevant implications for management theory and practice are presented, as well as fundamental data strategies for effectively integrating organizational resources and analytical capabilities. Finally, it can be concluded that to derive value from their data, organizations need to establish their data strategies based on their strategic position and their potential analytical capabilities. However, the results of this study explain that offensive and defensive data strategies do not influence Company Performance. This is because the implications of this research show that EPC companies in Indonesia use data strategies to enhance competitiveness and not Company Performance. This contradicts previous research, but these results illustrate that there are different outcomes in how data strategies are used by service companies. Wamba et al. (2017) found a link between big data and Company Performance in manufacturing companies. This is also due to the limitations of this research, which only covers manufacturing companies listed on the Indonesia Stock Exchange and does not accommodate other EPC companies.

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