# The Relationship of Digital Transformation Implementation, Competitive Advantage and Healthcare SMEs Performance

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**Abstract.** This study intends to investigate how competitiveness is affected by digital transformation and the beneficial effects that competitiveness has on business performance. This study adopts a quantitative methodology, namely one that places an emphasis on the evaluation of numerical data that has undergone statistical processing. The study's strategy for gathering data used an online survey that was disseminated via social media and had a Likert scale with five or seven points. The data analysis method employed in this study is PLS using SmartPLS software tools. A variance, or component-based structural equation modeling approach is used in PLS, a structural equation model. Because there are few samples and a sophisticated model in this study, SmartPLS software is used for data analysis. 390 SMEs owners who were chosen at random to participate in the survey as respondents made up the sample size for this study. The two sub-models that make up PLS-SEM analysis are the measurement model, also known as the outer model, and the structural model, also known as the inner model. Competitiveness has a favorable and significant impact on digital transformation, and competitiveness also has a positive and large impact on business performance, according to the study's findings.

**Keywords:** Digital transformation, healthcare, SMEs, profit, revenue, competitive advantage, performance

## 1. Introduction

Not only has the worldwide COVID-19 pandemic caused a health crisis, but it has also caused an economic disaster. According to [1], [2], to halt the spread of COVID-19, all countries have implemented policies that include contact tracing, isolation, quarantine, working from home, limiting community activities, and pervasive social restrictions. The restriction policy has had an impact on social activities in Indonesia; COVID-19 has stopped economic activity as a result of many businesses losing money and even shutting their doors, which has significantly impacted layoffs. According to a number of experts, digital technology must play a part in the performance and productivity of healthcare SMEs. Digital technology, specifically, has played a significant influence in the healthcare of SMEs. According to [1]–[3], the majority of corporate activities, including business and administrative processes, are carried out digitally due to limits on large-scale activity. Business processes between a firm and its employees are also subject to digital transformation, in addition to business processes between a company and its customers [4], [5]. In order to speed up the digital transformation in healthcare, customers' and SMEs' infrastructure is needed. [6]–[9] state only about 13 percent of SMEs have access to the internet or use digital tools for commercial purposes. Academics refer to organizational change that is impacted by digital technology as "digital transformation." Changes brought about by technological advancements in businesses and the environment led to digital transformation.

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Changes that take place are connected to the modification of business processes, including changes between businesses and employees and consumers, as well as changes that take place in the state of the market [6], [7], [10], [11]. Customers' expectations and behavior are altered by digital transformation and corporate innovation, which puts pressure on established businesses and causes market disruption [2], [3], [12]. Digital transformation is a process that organizations or corporations carry out in response to the changing demands of several business sectors. This is due to the pressure placed on organizations and the general public to succeed in this sector by changes in customer needs and behavior.

The urge for digital transformation in numerous businesses is a significant phenomenon that cannot be avoided in the current digital world. especially in the last year, when the COVID-19 outbreak compelled major changes in both the way people live and the way businesses run [13], [14]. Digital transformation is one of the main challenges that businesses today are experiencing. The use of digital technology has significantly changed society and business, which is referred to as "digital transformation" [13], [14]. A "plan that embraces the consequences of digital transformation and generates greater operational performance" should be developed, according to the argument made at the organizational level that businesses should discover methods to innovate with this technology. The phrase "digital transformation" is used to refer to the capacity of an organization to employ digital technology to enhance the effectiveness and efficiency of its internal operations and external market offerings. According to [1], [13], additionally, creativity is pushed by digital transformation outside of corporate boundaries and into external innovation networks. Changes and transformations that are fueled by technology and constructed on it are what define digital transformation. Digital transformation within an organisation is the process of a corporation moving to big data, analytics, cloud, mobile, and social media platforms. In the current economic climate, the corporate landscape has undergone a significant transformation due to the emergence of digital technology and opportunities [3]. Businesses are fast embracing options like analytics, cloud, big data, social media, and mobile platforms in an effort to create competitive digital business strategies. There is an increasing emphasis on digital business prospects and strategies as practitioners and academics seek to comprehend how firms may take advantage of digital opportunities and drive innovation and transformation throughout the enterprise.

[15]–[17] claimed that many of the causes stemmed from outside forces that compelled SMEs to implement digital transformation. According to [3], [14], most of the causes of the digital transition during the pandemic period were outside influences. According to [3], the justification for SMEs' digital transformation is implied by outside elements like research. Considering the outcomes of identifying the reasons behind digital transformation, external factors accounted for the majority of them. As a result of the analysis of seeking homogeneity of imperative strategies to employ digital marketing alone without setting benchmarks against the chosen imperative strategies is a step of digital transformation in reactive SMEs and market trends [18]. Additionally, according to the findings of content analysis, the majority of digital transformation in SMEs is being implemented into digital operations. This justification has been advanced by the idea that SMEs with low levels of digital adoption and liquidity issues have chosen to digitize parts of their operational processes. [19] anticipated to be capable of contributing to academic understanding of technology, especially in digital transformation related to developing old information systems to new information systems. The research findings are anticipated to give an overview of the company's efforts or suggest next actions for SMEs, and they can help businesses change into digital enterprises to get a competitive edge in a more dynamic business environment.

## 2. Literature Review

### 2.1 Performance

The result of work that can be done by a person or group of people inside an organization in line with their individual rights and obligations in an effort to achieve organizational goals without breaching the law or acting unethically is known as performance. Performance is the standard and quantity of work carried out by a person while performing his job in accordance with the tasks allocated to him [1], [3]. Performance, according to the BBB, mainly refers to what employees do or don't do. Performance management refers to the entire process of improving a company's or organization's performance as well as the performance of each individual and work unit inside the business.

Performance measures how well a person performs over the course of a period of time in relation to a variety of options, such as usual work outcomes, goals, and mutually agreed-upon established standards [13], [14]. Some of these definitions define employee performance as the output or work generated in terms of quality and quantity of work and can be accounted for in accordance with the employee's job in the organization or firm along with talents, skills, and skills in completing the work.

### 2.2 Competitiveness

[6], [11] mention that data competitiveness is the ability to perform well for another implies the creation and sustainability of sources of competitive advantage. On the other hand, emphasizing the competitive strategy approach competitiveness is also a relative concept, relating to how competitive a company is when compared to other industries. [9], [17] mention that the asset-process-performance (assets, process, and performance/APP) paradigm was used to classify competitiveness-related literature, with an emphasis on the key corporate competitive resources. In the face of intense and dynamic market rivalry in the era of the digital economy, firms are turning to digital transformation (DT) as a new tactic to gain a competitive edge. Digital transformation is fueled by technological and environmental elements, which improve companies' capacity to build competitiveness [5], [6], [8], [9], [11], [17]. Digital literacy is crucial to the adoption of technology and environmental adaption for the success of digital transformation.

### 2.3 Digital Transformation

[5], [8] mention that the objective process of digital business transformation is a reaction to alterations in the commercial environment. "Digital transformation" is the use of digital technologies to greatly increase an organization's productivity and value. Organizations and actors must be prepared for digital literacy and build different competences in accordance with the business context and needs for successful digital transformation [9], [17]. To survive and gain a competitive edge in the current era of the renewable economy, business actors and their employees from globally competitive industries are under pressure to adopt digital first. Digital transformation is closely related to the use and alignment of digital technology within a company, organizational changes, enabling activities, and the creation and capture of new opportunities and value.

By undertaking a digital transformation, organizations can benefit from the digital connections between people, data, information, and pervasive knowledge [5], [9], [17]. Businesses that have embraced digital transformation are better equipped to put new ideas and

innovative projects into practice. Digital transformation thus makes it possible for new ideas to be developed and for business partners along the value chain to communicate with one another. As a result, the authors of this study anticipate the relationship described below:
H1: Digital transformation and business performance are positively correlated.

[6], [8], [11] mention that companies can strengthen their client offerings as digital transformation advances by increasing personalization, elevating customer satisfaction, and lowering sales expenses. Through increased communication, transparency, and monitoring, digital integration between suppliers and value chain partners can lower coordination costs and agency expenses. [5], [9], [17] cite examples of how digital technology's effects have demonstrated how digitization may improve a company's performance. As a result, the following is the authors' hypothesis:
H2: The performance of an organization and competitiveness are positively correlated.

## 3. Research Method

This study adopts a quantitative methodology, namely one that places an emphasis on the evaluation of numerical data that has undergone statistical processing. The study's strategy for gathering data used an online survey that was disseminated via social media and had a Likert scale with five or seven points. The data analysis method employed in this study is PLS using SmartPLS software tools. A structural equation modeling approach is used in PLS, a structural equation model. Because there are few samples and a sophisticated model in this study, SmartPLS software is used for data analysis. 390 SMEs owners who were chosen at random to participate in the survey as respondents made up the sample size for this study. The two sub-models that make up PLS-SEM analysis are the measurement model, also known as the outer model, and the structural model, also known as the inner model.

Using the PLS SEM approach for statistical analysis of the data. To make sure the measurement being utilized is appropriate for measurement, analysis of the outer model is conducted (valid). and trustworthy). This analysis includes numerous calculations: Convergent validity refers to the amount of the loading factor on the latent variable with related indicators. Value > 0.7 was anticipated. b. The value of the cross loading factor that is helpful whether the construct has a sufficient discriminant is known as discriminant validity. The value of the intended construct must be bigger than the value of the other constructions in order to compare how to achieve it. c. Composite reliability is a measurement that, if it is more than 0.7, denotes a strong reliability rating for the construct. The average variance is defined as Average Variance Extracted (AVE), which must be at least 0.5. Cronbach alpha represents a calculation used to demonstrate the reliability of a composite, and the minimum value is 0.6.

To investigate the relationship between latent constructs, analyze the inner model. This analysis includes numerous calculations: "The limiting requirements for this R square value in three classifications, namely 0.67 as considerable; 0.33 as moderate; and 0.19 as weak" is explained by the R square coefficient of determination.

### 3.1 Hypothesis testing

The t-statistical value and probability value both show hypothesis testing. When testing a hypothesis, specifically when using statistical values, the t-statistic value for alpha 5 percent is employed, and it is 1.96. As a result, the hypothesis is accepted as Ha and rejected as H0 when

the t-statistic is greater than 1.96. If a claim is accepted or rejected based on probability, the claim is approved if the p value is less than 0.05.

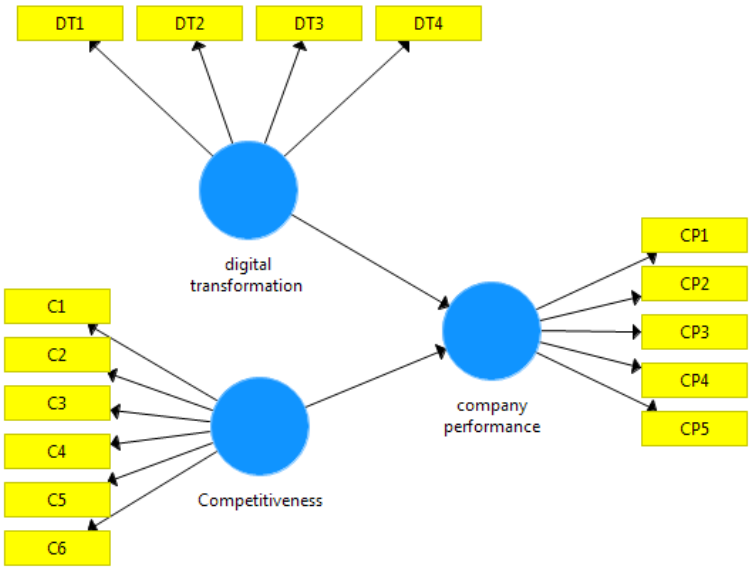


**Fig 1.** Research Model

Hypothesis in this research is:
H1: Digital transformation and business performance are positively correlated.
H2: The performance of an organization and competitiveness are positively correlated.

## 4. Result and Discussion

### 4.1 Convergent Validity

The relationship between item scores/indicators and construct scores provides evidence of the measuring model's convergence validity. If the individual reflective measure has a correlation with the concept being measured of greater than 0.70, it is said to be high. A loading of 0.50 to 0.60 is still appropriate at the scale development stage, but, during the research [20]. Figure 2 depicts that the loading values for all indicators meet the criteria, which is more than 0.70, and therefore all indicators are considered to be legitimate.

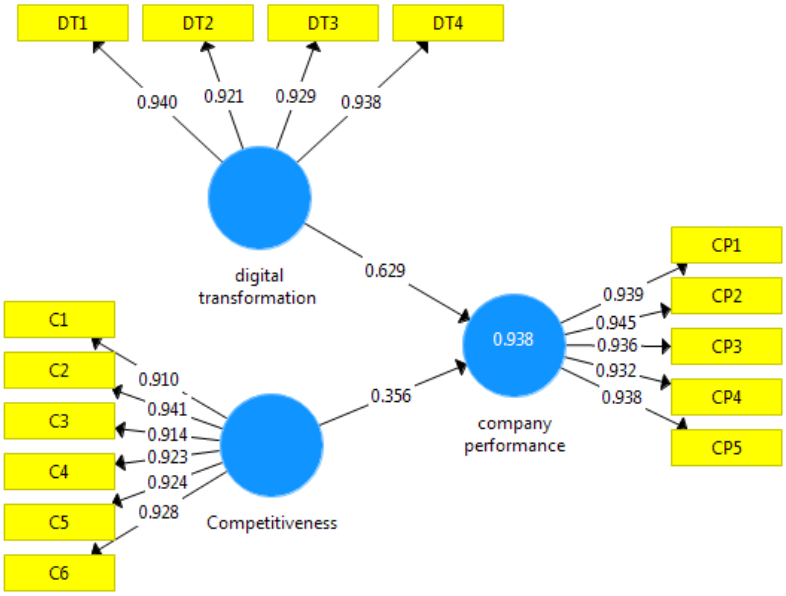


**Fig 2.** Validity Testing

### 4.2 Discriminant Validity

Discriminant validity indicators are revealed by the cross loading between the indicators and their constructs. The latent construct predicts indicators in their block more accurately than indicators in other blocks if the correlation between the construct and the indicator is larger than the correlation between the indicator and the other constructs. Table 1 shows that the AVE value is more than 0.5, indicating that all constructs are legitimate or that the constructs can adequately account for the variation of the items.

**Table 1.** Validity Testing

| | Cronbach's Al... | rho_A | Composite Rel... | Average Varian... |
|---|---|---|---|---|
| Competitiveness | 0.965 | 0.966 | 0.972 | 0.852 |
| company performance | 0.966 | 0.966 | 0.973 | 0.880 |
| digital transformation | 0.950 | 0.950 | 0.964 | 0.869 |

### 4.3 Reliability

In addition to the validity test, model measurement is employed to evaluate a construct's dependability. The reliability test was run to show how precisely, consistently, and accurately the instrument measured the construct. Cronbach's Alpha and Composite Reliability are the two methods used in PLS-SEM utilizing the SmartPLS 3.0 application to measure the reliability of a construct with reflexive indicators. The construct is considered reliable if the composite reliability and Cronbach's alpha values are both more than 0.70 [21]. The results of Table 1 show that the

Cronbach's Alpha value and the composite reliability are both more than 0.70. As a result, it can be claimed that the questionnaire used is accurate and dependable.

### 4.4 R-Square

When assessing the structural model, think of the R-Square for each endogenous latent variable as its capacity for prediction. The structural model is examined using the goodness-of-fit test known as the R-square value. Changes in the value of R-Square can be used to explain the link whether or not specific exogenous latent variables have a substantial effect on endogenous latent variables. The R-Square values of 0.75, 0.50, and 0.25 indicate that the model is strong, moderate, and weak, respectively. The model is strong, the model is 0.50 moderate, and the value is 0.25 because the R-square value is 0.75. The model is weak, according to the findings. The projected prediction value is better the greater the coefficient of determination. Figure 2 illustrates how the research value is substantially supported by the use variable (0.938). The acceptable R-square value is 0.938, meaning that 93.8 percent of the relationship between digital transformation and competitiveness and firm performance is evident, with the remaining 6.2 percent influenced by variables outside the purview of this study.

### 4.5 Hypothesis testing

The bootstrapping procedure produces T-statistical values for each relationship path that is used to evaluate the hypothesis. T-table values and the results of the t-statistic will be compared. Because the degree of precision or limit of inaccuracy () = 5% = 0.05, the value of the t-table in research with a 95% confidence level is 1.96. If the t-statistic value is less than the t-table value, Ho is approved and Ha is rejected (t-statistic 1.96). If the t-statistic value is more than or equal to the t-table (t-statistic > 1.96), Ho is rejected and Ha is accepted.

**Table 2.** Hypothesis Testing

| | Original Sampl... | T Statistics (\|O... | P Values |
|---|---|---|---|
| Competitiveness -> company performance | 0.356 | 2.903 | 0.004 |
| digital transformation -> company performance | 0.629 | 5.125 | 0.000 |

#### 4.5.1 Relationship between digital transformation and company performance

The relationship between digital transformation and competitiveness has a path coefficient of 0.626, a p-value of 0.000, and a T-statistic of 5.125 (T-statistics > T table 1.96). Given the evidence supporting the positive and significant influence that digital transformation has on competitiveness, it can be said that hypothesis 1 is supported. T-statistics exceeds T-table by 1.96, indicating that the value of T-statistics meets the requirements. These outcomes are consistent with [1], [3], [13], [14] that performance is positively and significantly impacted by digital transformation.

#### 4.5.2 Relationship between competitiveness and company performance

The relationship between competitiveness and corporate success has a path coefficient value of 0.356, a p-value of 0.000, and a T-statistic value of 2.903 (T-statistics > T table 1.96). Because it shows that competition has a good and significant impact on corporate success, hypothesis 2 is supported. T-statistics exceeds T-table by 1.96, indicating that the value of T-statistics meets the

requirements. These outcomes are consistent with [1], [3], [13], [14] which the results of competitiveness on competitiveness is both favorable and significant.

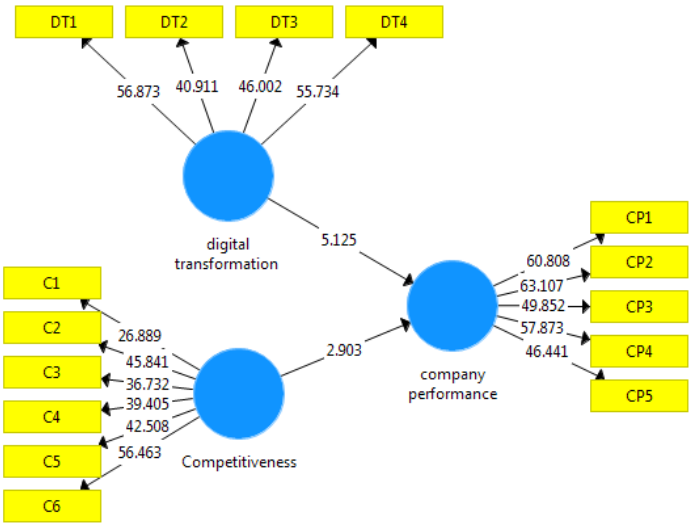


**Fig 3.** Hypothesis testing

### 4.6 Discussion

SMEs can see how the COVID-19 pandemic, which produces a business crisis, will affect their company, thus a number of indicators may be used to assess and comprehend the impact of digital change and whether it might lessen the crisis's negative effects. Consequently, SMEs must do both internal and external analyses in order to identify their business model. Referring to the statement of [1], [3], digital transformation facilitates the process of rethinking all business models in accordance with consumer expectations by not simply introducing new technology for use in already existing business activities. One of the factors propelling digital transformation is the social limitation policy, which has caused changes in consumer wants and behavior. Customers are now more likely to utilize digital as a medium for engagement. Along with the development of digital technology and the intense rivalry, it also ignites the acceleration of the digital transformation.

According to [1], [3], business organizations can embrace new organizational structures and the skills required to succeed and remain relevant in the digital environment by undergoing a sociocultural process called digital transformation. It transcends earlier notions of change enabled by information technology (IT) or by business process reengineering aimed at enhancing current processes. On the other hand, digital transformation is a process that attempts to improve an entity by causing significant changes in its attributes utilizing a combination of information technology, computing, communication, and networking. "Digital transformations" are changes and developments that are propelled by and built upon the foundation of digital technology. The movement of a business to big data, analytics, cloud, mobile, and social media platforms is known as digital transformation. A transition known as "digital transformation" relies on the principles of digital technology and results in noticeable adjustments to business operations, processes, and value creation. Organizations are always evolving and adapting to adapt to a shifting business environment. For example, [22] make a distinction between digital enhancement and digital

transformation which occurs when technology is utilized to significantly modify a company's entire operations, value generation, and in some circumstances, the way it does business. Digital transformation entails employing technology to improve a company's business processes. Organizations can integrate digital technology into many elements of their business and engage customers with cutting-edge digital innovations through digital transformation. Possessing traditional IT skills implies the ability to adapt to new digital transformations.

According to [13], [14], digitization, digitalization, and digital transformation are the three phases of the digital transformation process. Digital transformation refers to a phenomenon that affects the entire organization and has implications for a company's core business model. Digitalization is the transformation of current business operations via the use of information technology or digital technology. The process of digitizing involves transforming analog information into digital information. through the use of digital technologies. [3], [14], [23] choose a number of categories in the phase, including developing the strategy phase and milestones, strategy crucial targeting, information technology integration, and complete implementation phases.

Information technology advancements are what are causing the significant changes brought on by digital transformation. [3], [14] show that complex innovations in all societal systems, changes in market fundamentals, reshaping of borders, and fundamental changes in business models are the core hallmarks of digital transformation. [24] stated that they have discovered SMEs with a high level of maturity who are able to overcome challenges by hastening the transition to digital businesses, SMEs with financial worries and low levels of digital maturity choose to only digitize the sales function, and SMEs with extremely low levels of digital literacy but who are still able to carry out technological transformation during the COVID-19 pandemic can be categorized into three categories of digital strategies.

According to [11], consumers can now more easily and without geographic or time restrictions acquire information about the provided goods or services thanks to digital transformation. Additionally, services can be carried out more effectively in terms of shipping, making complaints about potential issues, and working through them. Therefore, it is possible to boost client pleasure through digital transformation. Businesses will benefit greatly from the use of digital technology in terms of cost and time savings [9], [17]. The use of digital technology can also enable small firms to connect with a large target audience. Prior to now, marketing could only be carried out by purchasing advertisements in print or broadcast media. The digital transformation will result in the computerization and integration of all systems. Marketing and customer services can function more efficiently. It's also possible to reduce the likelihood of human error. This endeavor is efficient and effective. According to [5], [17], digital transformation includes the growth of IT as well as any computerized and interconnected technologies. This can lessen the possibility of internal fraud in the company. Information and reports will always be stored in the database whenever there is data since there is a security mechanism in place that limits access to crucial data to those with authority. Acquiring Competitive Advantage and Profit It is evident that more hurdles must be overcome in operating a firm as a result of current technological advancements. The fierce competition between businesses is one of them. The speed of business in this digital age is extremely dynamic. If you want to stay alive in the market or at least avoid losing to rival companies, you must increase competitiveness as a businessperson by implementing digital transformation. This can increase profit.

## 5. Conclusion

The study's findings show that competition affects firm performance, digital transformation, and digital transformation in a favorable and significant way. Based on our study and debate, we draw the following conclusions: (1) External forces are the primary cause of digital transformation; internal influences are rare, especially during the COVID-19 epidemic period. The change being implemented is still reactive and tends to adhere to the transformational processes that have been created, preventing the emergence of SMEs with distinctive competitive advantages over rivals. (2) SMEs have developed a strategic imperative for them to carry out digital transformation, but they have not implemented benchmarks, making it impossible to assess the degree of effectiveness of the transformation. Businesses need to continue to adapt as a result of technological advancements, and one such adaptation is digital transformation. suggestions for SMEs in the healthcare industry to undertake digital transformation because it is a step in the business transformation process. By altering how organizations are managed, whether they are medium-sized or large-scale enterprises, digital transformation can enhance the performance of SMEs and individuals. Work efficiency will be attained through the application of digital transformation to maximize income.

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