

The Effect of Digital Transformation on University Brand Image with Ownership as a Moderating Variable

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Abstract

The digital era demands transformation from universities, including private ones. However, the effectiveness of digital transformation on university brand image can be strengthened by ownership. This research investigates the impact of digital transformation on the university's brand image, with ownership as a moderating variable. Using random sampling, we analyzed 45 private universities affiliated with Private Universities in Indonesia Region 2A. This exploratory study employed a quantitative method. The results indicate a significant positive relationship between digital transformation and university brand image, suggesting an enhancement of the university's reputation in the eyes of the public. However, the study also reveals that ownership does not mediate the relationship between digital transformation and university brand image. This suggests that each university may have different Ownership Competencies, especially in decision-making regarding digital transformation. The conclusion of this research indicates that digital transformation affects university brand image. However, specifically in the case of universities in LLDIKTI Region 2, ownership does not moderate the effects of digital transformation on university brand image. It is recommended that this research be continued using mixed methods to explore ownership moderation or test it in other regions' universities.

Keywords: Digital Transformation, University Brand Image, Ownership. Private University

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1. Introduction

The era of globalization has ushered in significant changes across various facets of life, including Healthcare Industries, Lifestyle also Education. As Digital transformation is no longer an option but a necessity for sustainability in an interconnected and complex world. The application of digital technology is inseparable from the concepts of "Digital or Die" and "Digital or Drown," emphasizing the pivotal role of digital transformation in every industry. This holds for education (Albanese & Brian, 2016). The International Association of Universities (IAU) prioritizes digital transformation as a strategic goal for global higher education development. The COVID-19 pandemic has accelerated digital transformation in higher education, making consistent efforts essential to support the United Nations Goals 2030, specifically Sustainable Development Goal (SDG) 4 on quality education ((International Association of Universities, 2022), and (UNESCO, 2022)). Nowadays, Universities worldwide are compelled to compete globally to improve their high-quality academic services. The quality of academic services encompasses academic, educational, and learning aspects (Harahap et al., 2020). To improve the quality of academic services in a digital economy era, any institution should follow the digital trend; that digital trend will lead the academic institution to enhance its reputation in this era of digital and impact its competitive advantage (Alenezi, 2021).

Organizational reputation is an assessment made by stakeholders regarding an organization's ability to meet their expectations. Reputation is multifaceted, considering organizational performance, products or services offered, and relationships with stakeholders (Arsita & Denovis, 2021). Interestingly, the reputation and prestige of educational institutions take precedence over their actual quality. This phenomenon occurs because society often judges from external factors, such as university rankings, the success of alumni, or facilities, without precise knowledge of the education quality provided by the institution (Lusianti & Santoso, 2023). According to the National Accreditation Agency for Higher Education (BAN-PT), accreditation plays a vital role in improving the quality of study programs in higher education institutions. Program accreditation serves as the soul of quality assurance in higher education, whether conducted internally through the Internal Quality Assurance System (SPMI) or externally through the External Quality Assurance System (SPME). The mandate to conduct accreditation is stipulated in Law Number 12 of 2012 concerning Higher Education (UU DIKTI), emphasizing that accreditation assessments align with criteria based on the National Standards for Higher Education (SN DIKTI) (Article 55).

In Asia Pacific, including Indonesia, a university reputation becomes a very important thing. The Latest QS University survey in 2018 highlighted that 29% of prospective students in the Asia Pacific region (including Indonesia) considered the reputation of an institution as a top motivation for choosing a university (Sharifah et al., 2020). It is also confirmed by (Gunarto & Gaffar, 2016) that to increase the university's reputation, a university must ensure that the quality of services and facilities meets university standards and aligns with student preferences in order to be chosen by the students. Another perspective by Harahap et al. (2020) is that two kinds of higher education nowadays face some challenges to private and public state universities. Especially in private universities, because their amount is bigger than private universities, their competition is more rigorous in order to be chosen by future students.(Gunarto, 2016)

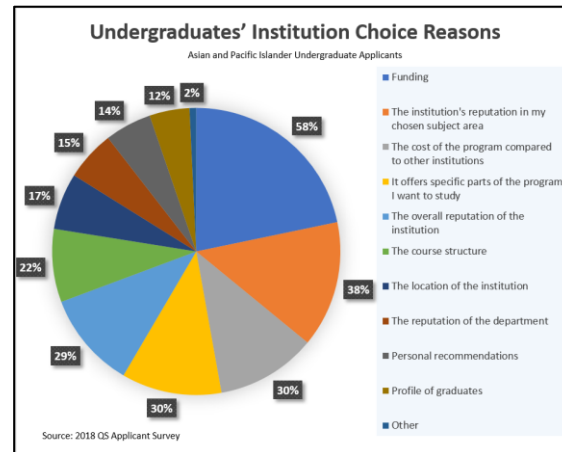


Figure 1 Student Motivation Data in Choosing a University
Source: ((Sharifah Kamariah Binte Sharomsah, 2020))

The growing competition among private universities is significant, with 3,107 universities in Indonesia in 2022, where 2,982 are private institutions and 125 are public universities (katadata.co.id, 2023). The Indonesian Private Higher Education Association, namely Private Higher Education Institutions in Indonesia Region 2A, is a crucial organization supporting and advocating for private universities nationwide, with over 3,000 member institutions and regional chapters in various Regions. Private Higher Education Institutions in Indonesia Region 2A offer various services, from representing private universities to the government to providing capacity-building and networking opportunities. are an effort to build a good brand image of an institution.

Notably, Private Higher Education Institutions in Indonesia Region 2A champions quality standards in private higher education through initiatives like the Quality Assurance Framework and Awards, contributing to improved accreditation rates and teaching quality. By supporting private universities in various ways, Private Higher Education Institutions in Indonesia Region 2A strengthen the entire private higher education sector and its valuable contribution to Indonesia's education landscape. One of the reputable regions in Private Higher Education Institutions in Indonesia Region 2A. Most university members are accredited by the National Accreditation Agency for Higher Education; as of September 11, 2023, there were 178 private universities listed. In Private higher Education Institutions in Indonesia Region 2A, there are seven private universities in LLDIKTI Region 2A, affiliated and indexed on Uni Rank (Unirank, 2023). That condition showed that Private Higher Education Institutions in Indonesia Region 2A members are competing and enriching their reputation by reaching the ranking. Private Higher Education Institutions in Indonesia Region 2A also become the research object in this research.

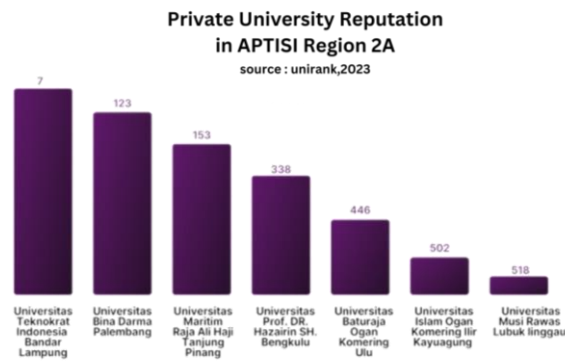


Figure 2 Reputation Data for Private Universities in Private Higher Education Institutions in Indonesia Region 2A. source: Unirank,2023

A Superior competitiveness can elevate the quality of private universities to become sought-after institutions. Competitive strategies, particularly generic or general, can be effective for private universities. As cited by Abdillah et al. (2021) suggest that the combination of segmentation and product differentiation strategies is most effective for adapting a company's product strategy to the target market's characteristics.

Ownership positively correlates with Digital Transformation. Ownership is related to who owns and controls a university and how it can meet the needs and expectations of various stakeholders such as students, faculty, alumni, and the community. Universities with transparent ownership are better equipped to address issues and provide solutions to problems ((Foss et al., 2021). Meanwhile, reputation, as part of brand image, plays a crucial role in universities (Mirzai et al., 2016).

The researcher reviewed the literature and adopted several theories related to Digital Transformation on University Brand Image. Factors influencing Digital Transformation in Universities (Tungpantong et al., 2022), Ownership as a moderating variable referring to the main theory Foss et al., (2021), and University Brand Image impacting competitive advantage Panda et al. (2019) are the main references for this study, published between 2019 and 2022.

The object of this study is the Association of Private Higher Education Institutions in Indonesia Region 2A, representing private universities in South Sumatra, Bengkulu, Bangka Belitung, and Lampung. The study aims to provide solutions and recommendations for private universities registered in Private Higher Education Institutions in Indonesia Region 2A, exploring the effect of Digital Transformation on University Brand Image with Ownership as a moderating variable.

2. Literature Review

2.1 Competitive Advantage

According to Porter (1985), competitive advantage is the ability of a company to create higher value for its customers than its competitors. This value can take various forms, including price, quality, features, or services. Competitive advantage can be achieved through various means, such as (a) Innovation: Companies can create new products or services that are superior to those offered by their competitors. (b) Efficiency: Companies can improve operational efficiency to reduce costs and enhance profitability. (c) Customer Loyalty: Companies can build customer loyalty by providing exceptional customer experiences. (d) Brand Strength:

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Companies can build brand strength by creating awareness and brand preference among consumers. Porter also identifies three generic strategies that companies can use to achieve competitive advantage: (1) Cost Leadership Strategy: Companies strive to become producers of products or services with the lowest cost in the industry. (2) Differentiation Strategy: Companies aim to create unique or valuable products or services for customers. (3) Focus Strategy: Companies target a narrow or specific market segment. Companies can choose the appropriate strategy based on industry dynamics, company resources and capabilities, and target markets (Porter, 1985)

2.2 Digital Transformation

Digital transformation is characterized by changes and transformations driven and built on technology. It unfolds as a series of revolutions where digitization progressively elevates to higher institutional levels as decision-makers apply it across all levels of the institution. Digital transformation is also marked by the presence of digital disruption and the development of digital technologies characterized by SMAC (Social Media, Mobile Application, and Cloud Computing), including Artificial Intelligence (AI), Big Data Analytics (BDA), and the Internet of Things (IoT). The goal of digital transformation is to create value for the company through an institution's business model. (Meng et al., 2022).

Overall, digital transformation has brought significant changes in how higher education faces broader access to information and knowledge through various digital platforms. It has enabled higher education institutions to confront a paradigm shift in how students and the general public create, disseminate, and access knowledge. Therefore, higher education institutions must proactively face digital transformation and take strategic steps to address it effectively.

According to Tungpantong et al. (2022), there are six components related to digital transformation in higher education, including 1) Strategy, 2) Process, 3) Products/Services, 4) People, 5) Data, 6) Technology for Digital Transformation. Here is a further explanation:

(1) Strategy involves a planned and directed plan used to achieve specific goals. In the context of digital transformation, it entails a series of planned actions to integrate technology, value change, structural change, and financial aspects to achieve organizational change success. Strategy consists of four dimensions: technology use, changes in value creation, structural changes, and financial aspects (Matt et.al, 2015). (2) Process refers to operational steps taken using digital technology to improve or replace traditional products or services. It involves creating new steps and implementing information technology to enhance process efficiency or integrate traditional processes more efficiently. (3) Products or Services are goods or services produced or provided to meet consumer needs or desires. They serve as a way to fulfill consumer needs and create value in the process. (4) People are a key element in digital transformation, changing the structure and identity of the organization and affecting all departments, roles, and responsibilities. (5) Data is a collection of information obtained from various sources or activities. In the context of digitization, data poses a challenge for organizations, including data storage, understanding the accumulated data, indexing data resources, and evaluating data quality. (6) Technology is the foundation of digital transformation efforts that allow technology to change organizations. Digital technology creates opportunities that organizations can leverage, potentially transforming aspects of the organization, especially business models, operational processes, and customer experiences.

Drawing from the literature review, it can be concluded that to achieve digital transformation goals, higher education institutions need strong leadership, skilled and competent human

resources, and adequate infrastructure. Therefore, it is crucial for higher education institutions to undergo planned and strategic digital transformation, ensuring that the transformation is supported by all elements of the organization.

2.3 Ownership

According to Foss et al., (2021), Ownership refers to the irrevocable right and control over a resource, encompassing possession, exclusive rights, and the ability to regulate its use. In economic and legal contexts, ownership grants individuals the power to organize and make decisions regarding the resource in line with their interests, with the right to exclude others from interference in its use. Concentrated ownership in competent owners can positively impact a company's value, while dispersed ownership among incompetent owners may have negative effects on the company's value.

Ownership, as a whole, is also defined as the right and control of a company over its products, businesses, and activities within the organization's scope. It is a fundamental concept in corporate strategy, organization, and governance, focusing on incentives. Owners have the right to utilize and control these resources or businesses and reap benefits or profits from their use. This ownership concept is considered crucial in the context of business strategy, as it can influence strategic decisions and the company's performance ((Foss et al., 2021); (Wang et al., 2022))

Foss et al. (2021) outline at least three components of ownership: (1) Matching Competencies, which involve the ability to determine what should be owned; (2) Governance Competencies, which involve the ability to manage ownership; (3) Timing Competencies, *referring to the ability to decide when to make the right decisions*.

Matching Competence refers to an owner's ability to forecast or formulate valuable resource combinations to achieve goals or solve problems. Owners with matching competence can envision new problems and ways to solve them by combining existing resources. This ability involves an understanding of the value of owned resources, the value of resources owned by others, and the ability to think creatively about combining resources differently. Matching competence is also crucial in creating value as it allows experimentation and creative thinking about alternative values of existing resources. Governance Competence involves an owner's ability to design the composition of resources through effective governance policies and organizational design. This relates to the owner's ability to manage profit distribution within the company in a way that encourages value creation. Owners with governance competence will organize incentives, control, and delegation arrangements in patterns that effectively generate value for a company. Timing Competence is the owner's ability to know when to invest in a project or enter a specific trend to maximize the resulting value. This includes decisions about when to follow or make decisions following a particular trend or course. Owners skilled in timing also know when to seize opportunities to make certain decisions.

2.4 University Brand Image

According to Hermiyenti & Wardi (2019), Uppal, M.A., Ali, S., and Gulliver (2018), Brand Image is the perception or belief customers hold about a product, which will be retained in their minds. It is formed through a unique set of associations in the customer's mind, reflecting the overall image and reputation of the brand. Subjective reasons and the personal emotions of customers influence this concept. A strong Brand Image results in increased customer interest and purchasing decisions, reflecting the positive perceptions and associations that customers

have with the brand.

A strong and positive University Brand Image can help enhance the trust of the community and prospective students, differentiate the university from competitors, and influence the university selection decisions of prospective students. Therefore, it is crucial for universities to build and strengthen a positive Brand Image through effective marketing strategies and good service quality (Salhab et al., 2023)

According to Cristancho et al., (2019) and Panda et al., (2019) when the Brand Image of a university improves, the university will have a higher level of competitive advantage, especially for private universities. There are at least 5 factors of University Brand Image, University Heritage, University Reputation, University Trustworthiness, University Service Quality, and Student Satisfaction.

University Heritage is an essential part of university brand image, covering history, longevity, core values, symbol usage, and the organization's belief in the importance of its history. It includes material heritage like buildings and archives, as well as immaterial heritage like culture, values, and sacred ceremonies of a university. University heritage influences students' views and intentions toward the university brand, enhancing their attachment to the brand and affecting performance expectations and the university's ability to command a premium price. University Reputation: University reputation is the stakeholders' assessment of the university's ability to meet expectations over time. It relates to the public perception of the university and can influence student choices, the recruitment of quality staff, and philanthropic support. This reputation is influenced by the university brand image and student experiences. University Trustworthiness is the perceived level of trust by students in the university's ability to meet their expectations. It involves the belief that the university will act in the students' interest, possessing reliability, security, and integrity in its services and management practices. Students' perceptions of this trust are influenced by their experiences with faculty, staff, and university policies in fulfilling their promises. This level of trust influences students' positive perceptions of the university and can be reinforced by competent, responsive, and reliable services. University Service Quality is the level of excellence in services the university offers to students. It includes students' assessment of the university's overall quality of services. Service quality is assessed based on the gap between expectations and actual performance in various aspects, such as tangibles, reliability, responsiveness, assurance, and empathy. Service quality can be measured in various areas within the university, including academics, teaching, research, administration, facilities, and extracurricular activities. Service quality is essential as it influences the overall university brand image and can impact student satisfaction. Student Satisfaction is how students feel after undergoing education at a university. If their experience is positive, satisfaction increases, and vice versa. In a competitive university landscape, student satisfaction is crucial. Satisfied students can provide positive support by recommending the university and speaking well of it. Conversely, dissatisfied students can spread negative impressions. Universities need to identify significant factors related to student satisfaction and strive to improve them.

2.5 Relationships Among Variables

Based on the literature study above, to strengthen the hypotheses or preliminary assumptions of the researcher for this study. The researcher will elaborate on hypotheses based on the literature study as follow. (Shehzadi et al., 2021) state that in today's competitive era, the strategy employed by a university in building brand image is crucial. This brand image reflects

how well a university can meet students' needs and build trust in its ability to provide the best services. In other words, the strategy chosen by the university plays a significant role in shaping its university brand image. Meanwhile, several studies, including (Mahmood et al., 2019) and (Khan, 2020) emphasize that digital transformation involves various strategies, not solely relying on technology but also on a strong vision and strategy that can influence university brand image.

Based on the summary of these statements, it can be concluded that the strategy in digital transformation plays a vital role in shaping the university brand image. This indicates that higher education institutions can meet students' needs and build trust in the services they offer. Therefore, it can be hypothesized:

H1: Digital Transformation has a positive influence on University Brand Image.

This hypothesis states that the better and more effective the digital transformation strategy implemented by the university, the more positive the university brand image becomes. In other words, a digital transformation strategy that enhances the university brand image in the eyes of students and the general public. This hypothesis indicates that the use of technology in university digital transformation can contribute positively to the university brand image, especially in developing better educational services based on literature studies by (Foss et al., 2021) and (Tungpantong et al., 2022) and (Panda et al., 2019). Ownership plays a significant role in mediating the relationship between digital transformation and university brand image. Competent ownership in terms of resource composition and timely decision-making can contribute positively to the university brand image. Effective ownership can help higher education institutions identify and optimize the strategic use of digital resources in line with the organization's vision and goals. Therefore, the hypothesis that can be proposed is:

H2: Overall Ownership Simultaneously Influences University Brand Image.

This hypothesis suggests that competent ownership is crucial in moderating and mediating the relationship between Digital Transformation and the university's brand image. Effective ownership can integrate digital resources well and make timely decisions, positively contributing to the university's brand image. The Conceptual framework of this research is serve below,

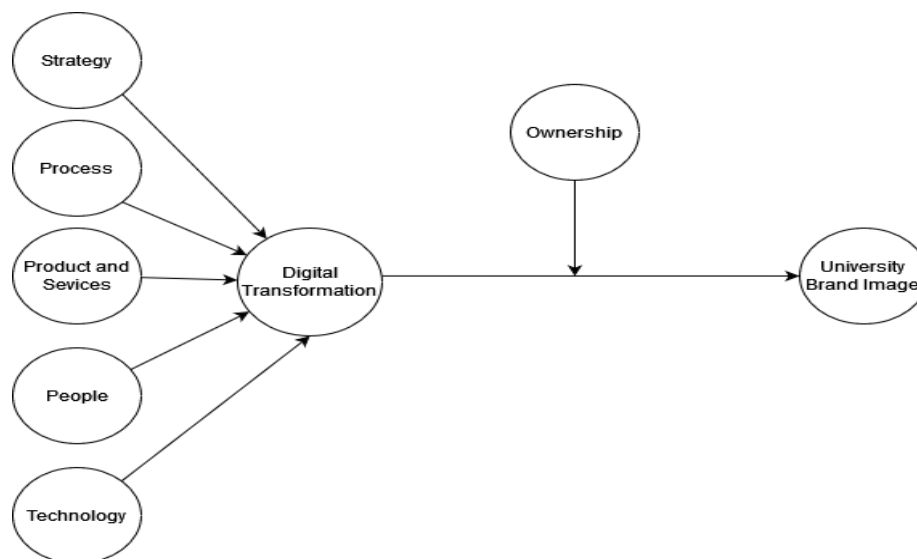


Figure 3. Conceptual Framework

Adapting theory (Tungpantong et al., 2022) (Panda et al., 2019)(Sultan & Wong, 2019)(Foss et al., 2021)

3. Research Method

3.1 Methods

This research, guided by Creswell (2022), adopts a quantitative approach, utilizing Structural Equation Modeling (SEM) to examine the relationships between Digital Transformation, Ownership, and University Brand Image. Following a defined schedule from April 2023 to March 2024, the study encompasses various stages, including data collection through questionnaires distributed to 99 respondents from 45 private universities in Region 2. Operationalizing variables is essential, covering Strategy, Process, Product and service, People, Data, Technology, Ownership, and University Brand Image, all integrated into a Structural Equation Model (SEM). The research also uses a quantitative method, employing surveys and questionnaires. Data analysis utilizes Structural Equation Modeling (SEM) to understand how Digital Transformation influences University Brand Image, considering the moderating role of Ownership. Adherence to a predefined research schedule is crucial for the success of the study, including validity testing, reliability testing, and hypothesis testing (t-test) (Hair. et al., 2017)

4. Findings and Discussions

4.1 Respondent Characteristics

The respondents in this study consisted of 99 individuals from various universities, classified based on employment status and academic position. They were also from various universities in the Association of Private Higher Education Institutions in Indonesia Region 2A and came from various provinces, like South Sumatera, Bangka Belitung, Bengkulu, and Lampung.

4.2 Analysis of the Measurement Model

The data analysis technique employed in this research involves Structural Equation Modeling (SEM) analysis. According to (Hair et al., 2017), there are seven stages in conducting SEM-PLS analysis:

In phase one, we create Path Model Specification. In this stage, the researcher constructs a flowchart illustrating the hypotheses and variables to be tested in a study using SEM-PLS. The path model is built using the SEM-PLS 4.0 application. The path model in this study is depicted in Figure 4.1

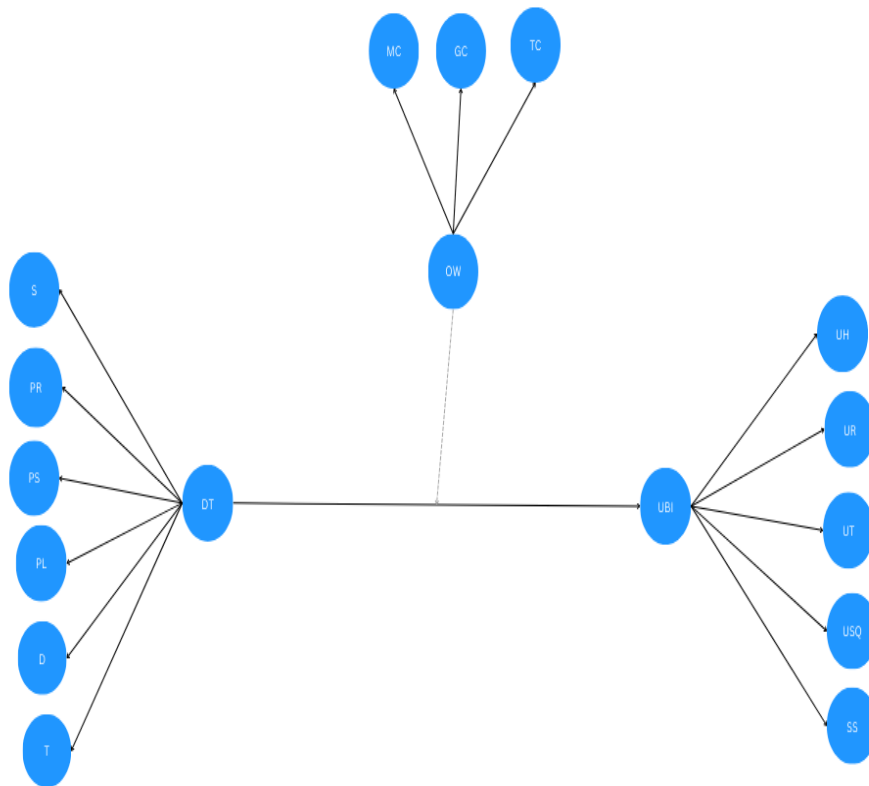


Figure 4 Path Model

Figure 4 illustrates that the path model comprises exogenous variables, namely Digital Transformation (DT), endogenous variable University Brand Image (UBI), and moderating variable Ownership (OW). The Digital Transformation (DT) variable has a direct influence on the University Brand Image (UBI) variable. Simultaneously, the Ownership (OW) variable exerts an indirect influence on the University Brand Image (UBI) variable through the Digital Transformation (DT) variable. This is indicated by the dashed lines from the Ownership (OW) variable to the University Brand Image (UBI) variable. This path model sets the foundation for further analysis, enabling the examination of the relationships between Digital Transformation (DT), University Brand Image (UBI), and Ownership (OW). The inclusion of Ownership as a moderating variable suggests that it plays a role in influencing the relationship between Digital Transformation and University Brand Image.

4.3 Creating Model Specification Model

The measurement model illustrates the relationships between concepts and their measurement instruments. This model specification must be based on the theory underpinning the model and supported by empirical evidence. The measurement model specification used in this research is depicted in Figure 4.2

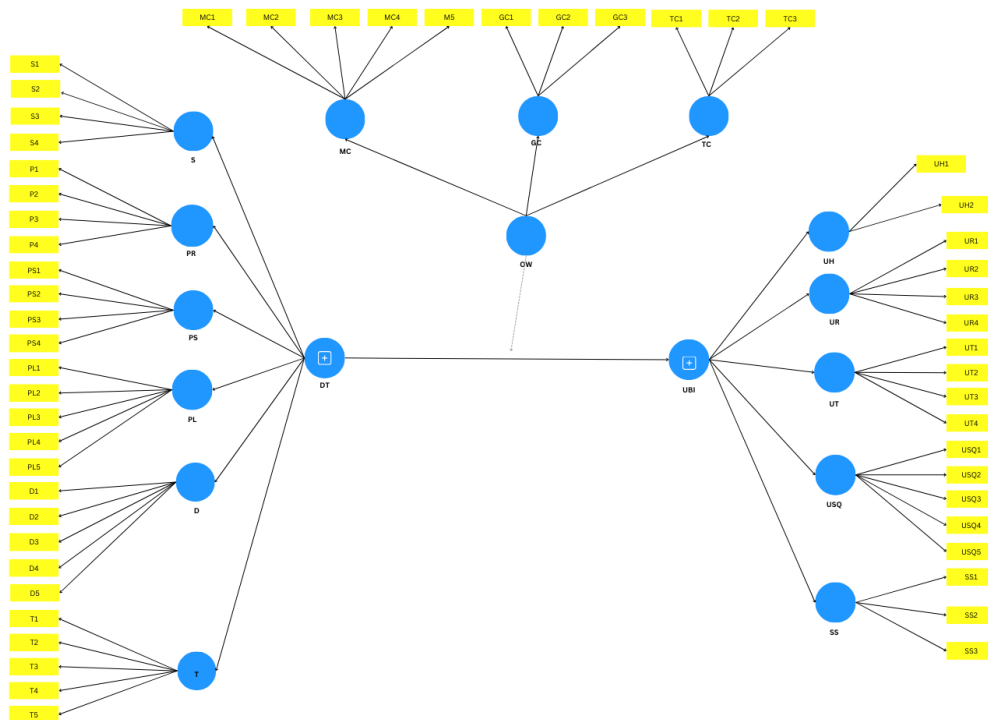


Figure 5 Measurement Model

Figure 5 elucidates that the measurement model consists of three variables and their corresponding indicators. The Digital Transformation (DT) variable has six dimensions: Strategy (S), Process (P), Product/Service (PS), People (PL), Data (D), and Technology (T). Each dimension is comprised of specific indicators. Similarly, the Ownership (OW) variable has three sub-variables: Matching competencies (MC), Governance Competencies (GC), and Timing Competencies (TC), each with its own set of indicators. The University Brand Image (UBI) variable encompasses five sub-variables: University Heritage (UH), University Reputation (UR), University Trustworthiness (UT), University Service Quality (USQ), and Student Satisfaction (SS), each with its respective indicators.

4.4 Collecting and Screening Data

The collection and screening of data represent crucial stages in SEM analysis. Data for SEM-PLS analysis can be gathered through various methods, such as interviews and surveys. The researcher interviewed Vice Rector 1, Mrs. Adelin, S.T., M.Kom, at a private university, seeking information on the digital transformation process at the institution. Additionally, interviews were conducted with the Foundation Chair of another private university to gain insights into the owner's perspective on digital transformation and the components supporting it. Subsequently, a preliminary survey using questionnaires was administered to assess the validity of the variables employed in the study.

4.5 Validation and Reliability

Table 1 shows that the outer loading values for all dimensions and indicators indicate that the values from dimension to indicator and latent variable to indicator are >0.7 , resulting

in valid and reliable values meeting the rule of thumb. The significant values generated by the outer loading indicate the reliability and validity of the measurements.

Table 1 Values of Validity and Reliability for Digital Transformation

<i>Laten Variable</i>	<i>Dimensi on</i>	<i>Indicat or</i>	<i>AVE</i>	<i>CR</i>	<i>Cronbac h Alpha</i>	<i>V or TV</i>	<i>R or TR</i>
<i>Digital Transformation (DT)</i>	<i>Strategy (S)</i>	<i>S2</i>	<i>0.717</i>	<i>0.807</i>	<i>0.803</i>	<i>V</i>	<i>R</i>
		<i>S3</i>					
		<i>S4</i>					
	<i>Process (P)</i>	<i>P1</i>	<i>0.749</i>	<i>0.890</i>	<i>0.888</i>	<i>V</i>	<i>R</i>
		<i>P2</i>					
		<i>P3</i>					
		<i>P4</i>					
	<i>Product and Service (PS)</i>	<i>PS1</i>	<i>0.665</i>	<i>0.834</i>	<i>0.832</i>	<i>V</i>	<i>R</i>
		<i>PS2</i>					
		<i>PS3</i>					
		<i>PS4</i>					
	<i>People (PL)</i>	<i>PL1</i>	<i>0.720</i>	<i>0.904</i>	<i>0.903</i>	<i>V</i>	<i>R</i>
		<i>PL2</i>					
		<i>PL3</i>					
		<i>PL4</i>					
		<i>PL5</i>					
	<i>Data (D)</i>	<i>D2</i>	<i>0.801</i>	<i>0.917</i>	<i>0.917</i>	<i>V</i>	<i>R</i>
		<i>D3</i>					
		<i>D4</i>					
		<i>D5</i>					
	<i>Technolo gy (T)</i>	<i>T1</i>	<i>0.694</i>	<i>0.902</i>	<i>0.889</i>	<i>V</i>	<i>R</i>
		<i>T2</i>					
		<i>T3</i>					
		<i>T4</i>					
		<i>T5</i>					
<i>Digital Transformation (DT)</i>			<i>0.564</i>	<i>0.969</i>	<i>0.967</i>	<i>V</i>	<i>R</i>

Detail: V= Valid, NV = Not Valid, R = Reliable, NR = Not Reliable, Based on the research (2024)

Next, the researcher calculated the Average Variance Extracted (AVE), Composite Reliability (rho_a) value, and Cronbach's alpha value to determine whether the Digital Transformation (DT) variable's values exhibit validity and reliability, as shown in Table 4.2

The results of the measurement model for the Digital Transformation (DT) variable demonstrate validity and reliability values that meet the rule of thumb (>0.7 and <0.5). The overall AVE value for the Digital Transformation (DT) variable is 0.564, CR value is 0.969, and Cronbach's alpha value is 0.967. Thus, it can be concluded that the testing of the Digital Transformation (DT) variable is valid and reliable for each dimension and its corresponding indicators.

Table 2 Values of Validity and Reliability for the Ownership

<i>Laten Variable</i>	<i>Dimention</i>	<i>Indicato r</i>	<i>AVE</i>	<i>CR</i>	<i>Cronbach Alpha</i>	<i>V or TV</i>	<i>R or TR</i>
<i>Ownersh ip (OW)</i>	<i>Matching Competenc es (MC)</i>	<i>MC1</i>	0.852	0.966	0.956	<i>V</i>	<i>R</i>
		<i>MC2</i>					
		<i>MC3</i>					
		<i>MC4</i>					
		<i>MC5</i>					
	<i>Governanc e</i>	<i>GC1</i>	0.918	0.956	0.955	<i>V</i>	<i>R</i>
		<i>GC2</i>					
		<i>GC3</i>					
	<i>Competenci es (GC)</i>	<i>TC1</i>	0.875	0.929	0.928	<i>V</i>	<i>R</i>
		<i>TC2</i>					
		<i>TC3</i>					
	<i>Ownership (OW)</i>		0.814	0.980	0.977	<i>V</i>	<i>R</i>

Det : V= Valid, NV = Not Valid, R = Reliable, NR = Not Reliable, Based on the research (2024)

The results of the measurement model for the Ownership (OW) variable yield validity and reliability values that meet the rule of thumb (>0.7 and <0.5). The overall AVE value for the Ownership (OW) variable is 0.814, with a CR value of 0.980 and a Cronbach's alpha value of 0.977. Therefore, it can be stated that the testing of the Ownership (OW) variable is valid and reliable for each dimension and its corresponding indicators.

Table 3 Values of Validity and Reliability for the University Brand Image Variable

<i>Var. Laten</i>	<i>Dimensi</i>	<i>Indicator</i>	<i>AVE</i>	<i>CR</i>	<i>Cronbach Alpha</i>	<i>V atau TV</i>	<i>R atau TR</i>
<i>University Brand Image (UBI)</i>	<i>University Heritage (UH)</i>	<i>UH1</i>	0.893	0.881	0.880	<i>V</i>	<i>T</i>
		<i>UH2</i>					
	<i>University Reputation (UR)</i>	<i>UR1</i>	0.781	0.905	0.95	<i>V</i>	<i>T</i>
		<i>UR2</i>					
		<i>UR3</i>					
	<i>University Thrustworthines s (UT)</i>	<i>UR4</i>	0.709	0.865	0.862	<i>V</i>	<i>T</i>
		<i>UT1</i>					
		<i>UT2</i>					
		<i>UT3</i>					
	<i>University Service Quality (USQ)</i>	<i>UT4</i>	0.785	0.932	0.931	<i>V</i>	<i>T</i>
		<i>USQ1</i>					
		<i>USQ2</i>					
		<i>USQ3</i>					
		<i>USQ4</i>					
	<i>Student Satisfaction (SS)</i>	<i>USQ5</i>	0.773	0.857	0.852	<i>V</i>	<i>T</i>
		<i>SS1</i>					
		<i>SS2</i>					
	<i>University Brand Image (UBI)</i>		0.563	0.955	0.954	<i>V</i>	<i>T</i>

Det : V= Valid, NV = Not Valid, R = Reliable, NR = Not Reliable, Based on the research (2024)

The results of the measurement model for the University Brand Image (UBI) variable yield validity and reliability values that meet the rule of thumb (>0.7 and <0.5). The overall AVE value for the University Brand Image (UBI) variable is 0.563, with a CR value of 0.955 and a Cronbach's alpha value of 0.954. Therefore, it can be stated that the testing of the University Brand Image (UBI) variable is valid and reliable for each dimension and its corresponding indicators.

4.6 discussion

The evaluation of the structural model testing results is a process to assess how well the structural model aligns with the data. To measure the structural model, the researcher first designs the structural model using SmartPLS 4.0 software. The complete model of this research, designed by the researcher, is depicted in Figure 4

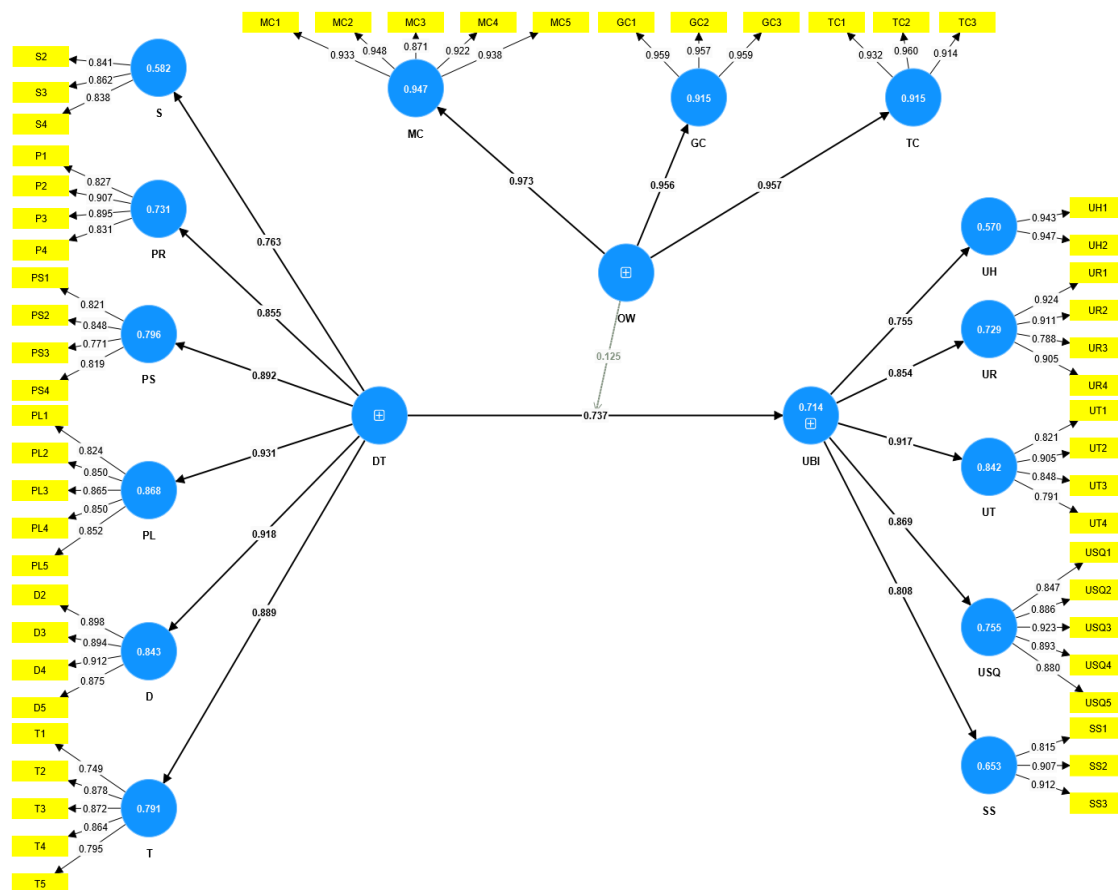


Figure 5 Measurement Model

In Figure 4, the overall model of the research conducted by the researcher is displayed, which can be formulated into a Structural Equation Model (SEM) as seen in Figure 4.4

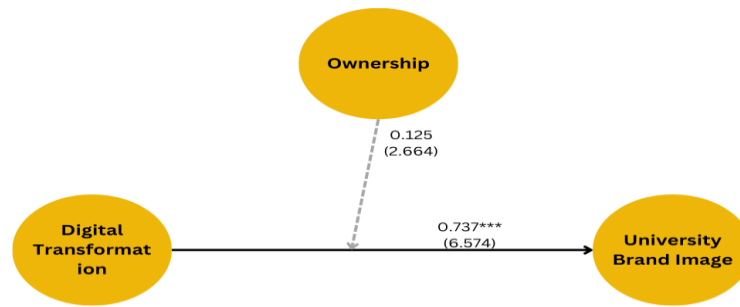


Figure 5. Measurement Model

In Figure 5, it illustrates the relationship between the Digital Transformation and University Brand Image variables, which can be considered as latent exogenous and endogenous variables. Latent exogenous and endogenous variables can influence each other directly, indirectly, or both. The magnitude of the direct influence between latent variables can be measured by path coefficients. Significant path coefficients indicate a significant influence between latent variables. Path coefficients are used to measure the magnitude of the direct influence between latent variables. Straight lines in the figure indicate significant influence paths, while dashed lines indicate the presence of non-significant influence on the Ownership variable.

Subsequently, the researcher tabulated the comprehensive results of the structural model equation testing, as evident in Table 4

Table 4. Results of Comprehensive Testing of the Structural Model Equations

SS	Var. Endogenous	Var. Exogenous	Path Coef.	t-stat.	P-value	Ket	F ²	R ²	Q ²
I	DT	← UBI	0.737	6.574	0.000	Significant	0.538	0.714	0.687
II	OW	← UBI	0.125	2.664	0.071	Not Significant	0.119		

Note: SS=Structural, DT=Digital Transformation, UBI=University Brand Image. Rule of Thumb

4.7 Interpretation of Results and Drawing Conclusions

Before interpreting the results and drawing conclusions, the researcher conducted a substructure analysis of the structural equations in the overall model. Substructure I and the path coefficient (t-stat) values are shown in Figure 4.5

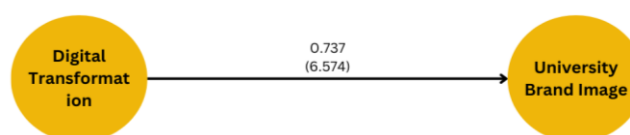


Figure 6. Substructure I and Path Coefficient (t-stat) Values

In Figure 6 the Digital Transformation variable positively influences University Brand Image with a value of 73.7%. Statistically, it is deemed significant with a t-stat value of 6.574, exceeding the threshold of 1.64, and a p-value of 0.000, which is less than 0.05. The test results indicate that the higher the value of digital transformation, the higher the value of a private university's brand image.

The ability of Substructure I to predict endogenous latent variables can be assessed through several evaluation values of the structural model (inner model). These values are:

The R2 values, guided by the rule of thumb, indicating that R2 values of 0.67, 0.33, and 0.19 denote high, moderate, and low model predictability (Chin, 1998). The obtained R2 value of 0.714 in Substructure I demonstrates that the model can predict the population with high accuracy, explaining 71.4% of the sample data variation. The effect size f^2 , obtaining a value of 0.538 in Substructure I, signifies that Digital Transformation Orientation is a highly significant factor in the emergence of University Brand Image. This aligns with the rule of thumb categorization stating that values of 0.02, 0.15, and 0.35 represent low, moderate, and high effect size, respectively (Chin, 1998). The Q2 predictive relevance, measured through LV prediction in the PLSpredict/CVPAT menu, is an indicator of the model's ability to predict endogenous latent variables. In Substructure I, the Q2 value is 0.687, indicating high relevance in predicting the University Brand Image variable.

5. Conclusion

The research findings a comprehensive understanding of the intricate relationships among Digital Transformation, Ownership, and University Brand Image in the context of private universities. Firstly, the study underscores the significance of competitive advantages in elevating the quality of private higher education institutions, making them more appealing to students. Competitive strategies emerge as crucial solutions in navigating the competitive landscape among these institutions. Furthermore, a positive correlation between Ownership and Digital Transformation is identified, emphasizing the role of transparent ownership in effective problem-solving and solution provision. The study categorizes six components of Digital Transformation in universities, encompassing Strategy, Process, Product/Service, People, Data, and Technology. Additionally, the University Brand Image is dissected into five factors, including University Heritage, Reputation, Trustworthiness, Service Quality, and Student Satisfaction. The examination of Ownership reveals three key components: Matching Competences, Governance Competencies, and Timing Competencies.

Extensive validity and reliability testing ensure the robustness of the research instruments, addressing challenges encountered during the initial measurement modeling. The recalibration process, especially in the Data dimension, results in a reliable measurement model for Digital Transformation. The evaluation of the structural model involves R2 values, effect size (f^2), and Q2 predictive relevance. Substructure I demonstrates a high R2 value of 0.714, indicating accurate population prediction. A substantial effect size (f^2) of 0.538 underscores the pivotal role of Digital Transformation Orientation in shaping University Brand Image. The Q2 value of 0.687 affirms the model's relevance in predicting endogenous latent variables.

Finally, hypothesis testing affirms that Digital Transformation significantly and positively influences University Brand Image (73.7%). However, the hypothesis asserting that Ownership simultaneously influences University Brand Image is not supported, with a low Path Coefficient for Ownership (0.125). In conclusion, the research offers valuable insights into the dynamics of private university contexts, highlighting the importance of strategic adaptation to foster competitiveness and enhance overall quality.

Ownership does not significantly strengthen the relationship between digital transformation and University Brand Image. This may be possible because some private universities do not fully involve Ownership (Foundation) directly in decision-making processes.

Based on the conclusions drawn from the research, several recommendations are offered for future studies. Firstly, it is suggested that the research can be enhanced by delving into moderating variables through qualitative research to fortify the relationship between Digital Transformation and University Brand Image. Qualitative methods may offer a more nuanced understanding of the moderating factors, complementing the quantitative findings. Secondly, for subsequent research endeavors, it is recommended to explore the potential impact of Ownership as a significant moderating variable on University Brand Image. Given the context of Private Higher Education Institutions in Region 2, where Ownership may not play a predominant role in decision-making, investigating this relationship further could provide valuable insights. Lastly, the scope of future research could be broadened to encompass factors influencing Brand Image in universities beyond private institutions, incorporating public universities as well. This expansion would contribute to a more comprehensive understanding of the intricate dynamics shaping Brand Image within the broader landscape of the higher education sector. These recommendations aim to guide future research efforts in uncovering additional layers of understanding within the relationships examined in the present study.

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