

Original Article

Analysis of External Drivers and Digital Transformation Phases at PT. Sami Aji Tekstil Using Verhoef's Digital Transformation Flow Model

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Abstract: In support of the government's making industry 4.0 movement towards 7 priority industrial sectors that implement changes in production systems to be more efficient and flexible by combining the intervention of digital and physical technology. The focus of this research is on the overall activities of the company and the involvement of digital technology assistance in it. This study aims to determine the driving factors of digital transformation and the digital transformation phase of PT Sami Aji Tekstil as a company engaged in the textile and textile products industry by analyzing the driving factors of digital transformation in order to see the extent to which the company needs the application of digital transformation for its production processes. Using a qualitative method by conducting interviews with internal parties of PT Sami Aji Tekstil regarding the implementation of the company's digital transformation. After being analyzed using the Atlas. Ti analysis tool, it was concluded that the phase that PT Sami Aji Tekstil is going through is the digital transformation phase, and what is the driving factor for PT Sami Aji Tekstil's digital transformation is the company's need for the application of digital technology in an effort to assist company activities, and so far the company has involved digital technology in activities in the company, such as starting to introduce the company through digital media to reach a wider market, facing digital competition with a cooperation strategy with shaded brands and adjusting interaction patterns with digital consumers. There are research findings that are visualized through 5 categories: Company potential, No application in the company, Utilization in the Company, Positive Impact on the Company, and Things that the company does not yet need.

Keywords: Digital Transformation, Digital Transformation Drivers, Digital Transformation Flow Model.

I. INTRODUCTION

The direction of digital transformation in Indonesia has been prepared by the government for 2024 in supporting the Indonesian economy; based on government information quoted from the wantiknas.go.id page, Indonesia's digital economic growth target must reach 3.17% to 4.66% by 2024 and based on the technocratic draft of the National Medium-Term Development Plan for 2020-2024 Bappenas outlines that after the Making Industry 4.0 Movement the Government will utilize the digital economy to increase upstream-downstream efficiency.

The Ministry of Industry's program named "Making Industry 4.0", or the application of Industry 4.0, has the aim of prioritizing the development of 7 industrial sectors in implementing digital technology in their production processes to be considered more efficient and competitive. The 7 priority industrial sectors include the food and beverage industry, chemicals, textiles and textile production (clothing), automotive, electronics, pharmaceuticals and medical devices. The object of this research is the textile industry, which is one of the industries that has a very big influence on the Indonesian economy because, in addition to being a source of funds for the state, the textile industry is also an industry that can prosper many workers. Based on BPS data related to the Gross Domestic Product (GDP) shown in Figure 1 about the Textile and Apparel Industry quoted from dataindonesia.id in 2022, it increased by Rp. 139.33 Trillion, an amount increase of 9.34% compared to the previous year which obtained a GDP of Rp. 127.43 Trillion in 2021.

PT Sami Aji Tekstil has quite capable capabilities when viewed from its performance, but it must continue to get strategic direction and support to strengthen the company in running its business, especially in the digital era like today. As explained by Rahim and Radjab (2017), the benefits of implementing strategic management are to help companies adapt to changes that occur and make companies effective. According to the internal party of PT Sami Aji Tekstil, the production process at PT Sami Aji Tekstil is one of the 5 company activities that are considered the most vital because this production process has a very high influence on various activities afterwards, and it is concluded that the company's production process needs a short, efficient but still accurate process according to the order.



The author relates the problems being faced by this company to the theory of Industrial Revolution 4.0 which is considered to have the potential to have a positive impact on PT. Sami Aji Tekstil is facing Digital Transformation because in the industrial revolution 4.0, the competition will be tighter. After all, it is not only business activities that are competitive, but there is a digital role in it. According to Verhoef et al. (2021), Various phases of digital change towards digital transformation have important strategic importance for companies. It can be concluded that analyzing the external drivers of the company's digital transformation and knowing the phase of digital transformation being faced by the company aims to assess how digital transformation can be studied in various fields to overcome phenomena. Therefore, it is hoped that the author can help describe the driving factors for the need for digital transformation of PT Sami Aji Tekstil, find out the phase of digital transformation that the company is currently going through, as a basis for providing imperative strategies for PT Sami Aji Tekstil.

II. LITERATURE REVIEW

A) Digital Transformation

A shift in how work is done utilizing information technology to increase productivity and effectiveness is known as "digital transformation." (Danuri, 2019). In the scope of business, digital transformation is needed by all companies so as not to be left behind by companies that have adopted technological digitization. This understanding is relevant to the definition put forward by (Hadiono and Santi, 2020); the process of implementing digital transformation is considered radical and exceptional, requiring the utilization of available resources, such as digital technology, to garner support from the company and offer novel experiences. This new experience can be manifested as a new value obtained by consumers. Figure 2, which explains the Digital Transformation Flow Model discussed by Verhoef et al. (2021) regarding the need for digital transformation, is motivated by 3 main factors originating from the external environment, namely:

1. Digital technology today has also affected the company's cost structure by no longer using human resources while providing services with the aid of robots and virtual agents or when utilizing AI and Blockchain to optimize logistical flow and lower supply chain costs.
2. Digital Competition has changed drastically because not only is the competition global, but the intensity has become greater.
3. Consumer behavior that has changed in the face of the digital revolution. Market players are changing their behavior in transactions to online stores, and digital touchpoints have a very important role in the consumer journey, which has an impact on online and offline sales.

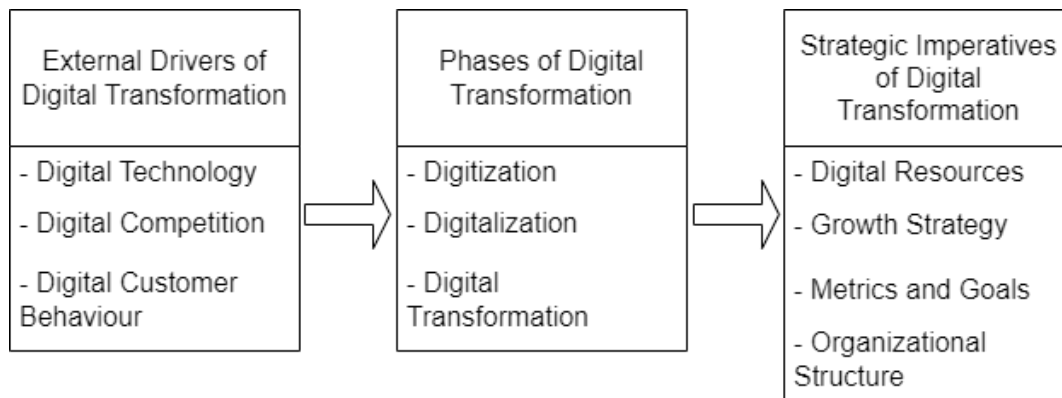


Fig. 1 Verhoef's Digital Transformation Flow Model

The focus of the framework on identifying external factors of the company can occur because changes in technology, industry trends, and competition often trigger digital transformation.

B) Digital Technology

According to Danuri (2019), Digital technology is an information technology that prioritizes activities carried out by computer / digital compared to using human labor. In modern times like today, digital technology has become the main driver of transformation in various aspects of life including the business world. According to Cochoy et al. (2020), The growth in the application of digital technology cannot be separated from digitalization, consumer life and changes in consumption patterns. S. H Wibowo et al. (2023) define digital technology as a technology whose operating system no longer requires much intervention from human resources, and its purpose is to start utilizing automated systems with computer systems.

C) Digital Competition

Digital competition in business is the breadth of information and the use of digital technology that can create a competitive space in the competition for customers (Sijabat et al., 2022). Digital competition can help companies continue to increase innovation, reduce costs and provide a better customer experience. Tricahyono and Sudrajat (2022) said that for MSME business owners who want to achieve success in the digital era, it is necessary to evaluate their capabilities, especially in the digital field. Bradenburger and Nalebuff (2021) suggest that there are many reasons for competitors to cooperate as an effective strategy to overcome increasingly fierce market competition. According to Bradenburger and Nalebuff (2021), there is a term for combining competition and cooperation called co-opetition. Co-opetition is the activity of working together with competitors to achieve a common goal (Bradenburger & Nalebuff 2021).

Co-opetition is a broad concept covering various types of strategies in which companies compete and collaborate at the same time (Ruutu et al., 2017). Collaboration and Teamwork methods are increasingly used by companies in introducing digital innovations and as a strategy to overcome challenges in the era of digital change (Yun et al., 2020; Sijabat et al., 2022).

D) Digital Consumer Behaviour

The rapid growth of digital technology in the era of the digital economy has had a real impact on consumer behavior. According to Febriani & Asmara (2019), Consumer behavior in the digital era has undergone significant changes due to the adoption of technology in their daily activities. According to Verhoef et al. (2021), changes in consumer behavior occur in response to the digital revolution. Technological growth affects changes in consumer behavior because of the increasing number of internet acceptance in daily activities, one example is the revolution in the way of doing business, and it has become a major part of modern trade in the digital era (S. H. Wibowo et al., 2023). Currently, all interactions that occur between individuals are established through social media, both at close and long distances, because the use of social media has had a significant influence in helping daily activities, and this is evidenced by the research of Noviaristanti et al. (2023) regarding the influence of social media on the performance of MSMEs which found that social media has a positive influence on company performance.

E) Framework

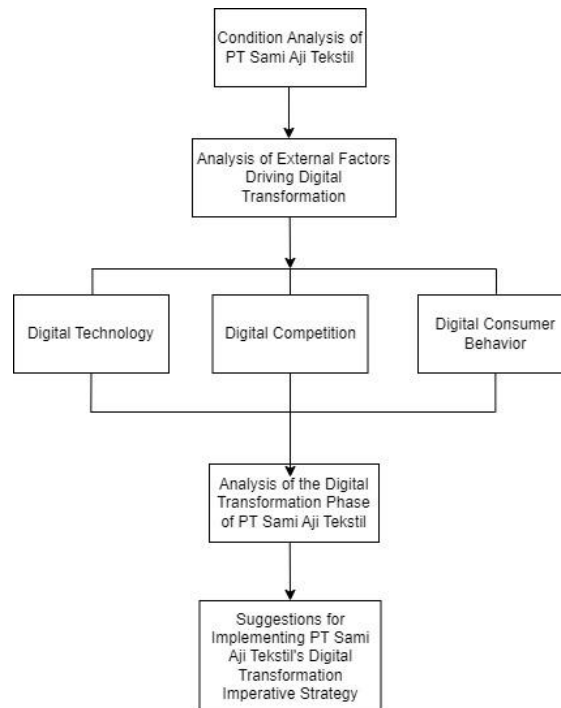


Fig. 2 Framework

III. RESEARCH METHODOLOGY

The research method is a process used by research in an effort to collect data, evidence, or phenomena used for analysis, interpretation, and making conclusions and decisions. This research uses qualitative methods because it is an approach to conducting research that is oriented toward natural phenomena and symptoms (Abdussamad, 2021). Qualitative research starts from the emergence of an assumption using an interpretative theoretical framework that informs the study of research problems

that discuss the meaning ascribed to a social problem by both individuals and organizations (Creswell & Creswell, 2018). Qualitative methods allow researchers to obtain detailed and in-depth information and produce a more detailed description of the phenomenon under study. This research has a unit of analysis at the organizational/company level, namely at PT Sami Aji Tekstil. The involvement of researchers in this study is minimal, without any manipulation. According to Sekaran & Bougie (2016), the amount of researcher intervention is related to whether the research question is correlational or causal and the importance of establishing a causal relationship without any doubt. Based on the time span of the study, in this study, researchers used cross-section, which refers to research at one specific time.

The data collection stage was carried out through interviews with five resource persons from PT Sami Aji Tekstil who came from different divisional backgrounds, documented through recordings and converted into interview transcripts. Before conducting interviews, researchers have conducted informal interviews related to the real conditions of the company to facilitate researchers in categorizing research questions. In the process, researchers will collect data directly through Zoom meetings with sources from PT Sami Aji Tekstil. The interview data that has been converted into verbatim form is analyzed with a qualitative analysis tool, Atlas.Ti 9, to find out the pattern of the source's answers and convert it into a network visualization.

IV. RESULT AND FINDINGS

A) Condition Analysis of PT Sami Aji Tekstil

Analysis of External Drivers of Digital Transformation

a. Digital Technology

1. Digital Artifact

This section describes the application of digital artifacts and the application needs that exist at PT Sami Aji Tekstil. PT Sami Aji Tekstil already has digital artifacts containing company-related information that can be found on digital media. The company's container in introducing the company profile is packaged in a digital portfolio in the form of videos and product images that are distributed in digital media called e-catalogues as a production efficiency effort and marketing tool. In this flow, the company's internal parties become the most influential pawns for change decisions (Kitsios et al., 2023). According to Amoah et al. (2021) in Pangandaheng et al. (2022), the course of change, especially for digital transformation, can run inappropriately even though when viewed from readiness, the business sector is referred to as a sector that is ready to face digital transformation because it has the strength in the form of more capable and user-friendly technological readiness, digital transformation will not run when as an internal part of the company does not have the adaptability to accept new things.

2. Digital Platform

The application of the digital platform at PT Sami Aji Tekstil refers to the utilization of digital platforms as a tool for every activity in the company and as a forum for internal companies to interact. The implementation of the digital platform of PT Sami Aji Tekstil has been running as it should, and the results of interviews with the five interviewees concluded that the company has great potential to implement Intelligence Apps to assist activities in the company, especially to help manage tasks that depend on the use of machines, so that the work done by human resources in the company can be productive to work on strategic tasks.

Referring to previous research using the Generic Process Transformation Model Theory according to Hernaus (2008) in Muhajir et al. (2023) explains that there are 3 stages in the model, namely: (1) The strategic phase, which discusses an organization or company at the point where they recognize and feel the importance of transformation to develop the company; (2) The transitional phase is a period where the organization/company will make changes in various aspects; and (3) The operative phase is where the company implements transformation to replace the activities carried out in the organization/company.

3. Digital Infrastructure

At PT Sami Aji Tekstil, the application of digital infrastructure has not yet been implemented, and companies tend to have many internal considerations before deciding to implement it. For now, PT Sami Aji Tekstil mentions that the use of digital infrastructure is not much needed for activities in the company, and even if the application is needed, the company already has a third party to help with these activities. For example, in activities that require printing machines, PT. Sami Aji Tekstil has cooperation with special stakeholders only to carry out the printing process according to requests from clients.

In addition to the company's need for the application of digital infrastructure that is still not needed, the company actually has a lot of knowledge and awareness related to the application of digital infrastructure to assist company activities. The obstacles for now are consideration of the company's needs and priorities, costs and also inadequate operational references. After all, digital transformation is a long-term and sustainable process that certainly requires adjustments to the activities of adopting business processes and company services. The implementation will direct PT Sami Aji Tekstil with the objectives mentioned by the five speakers, namely facilitating processes and services for the company. This is a great potential for the company because, in the future, it will result in a good relationship between the internal company and stakeholders regarding the

company's progress (Kitsios et al., 2023). The use of digital systems in helping work also provides benefits for employees and companies. Employees can work more easily and safely with the help of the system, while for companies, it can increase productivity and efficiency (Liere-Netheler et al., 2018).

b. Digital Competition

In this section, the researchers took Bradenburger & Nalebuff's Coopetition-Based Business Model theory (2021) and concluded that PT Sami Aji Tekstil had implemented these four points by building a company-owned brand that is still tied to the company, although, of course, the goals of the company and the brand are different, both will still benefit by collaborating like this. With that, PT Sami Aji Tekstil's market will become wider because the segmentation is not centered on 1 market segmentation; it can be divided into many segmentations from many interests. Likewise, the utilization of company resources is even more productive with this shade brand; the allocation of company interests is more focused.

According to Widnyani et al. (2021), currently, digital transformation is not only driven by the application of digital technology, but there is a role of intense competition. Supporting this statement as mentioned by previous research, companies often experience a decrease in revenue earned due to increasingly complicated competition. Because everyone is competing to develop their business with the help of advanced technology. However the technology is applied to the company, whether for strategic or operational, it will certainly help the company face competition in the digital era (Liere-Netheler et al., 2018).

c. Digital Consumer Behavior

Interactions built with consumers through social media lead consumers to the purchasing process; as mentioned earlier, the company has shared information on its products and services through digital media called e-catalogs, and there is also the use of Instagram social media for its brand. The response to both applications has a good enough influence on consumers so that they finally get information about PT Sami Aji Tekstil's products and services. PT Sami Aji Tekstil also has the principle that the application of social media aims to be used to build interaction and socialization for digital media users.

This is implemented as an effort by the company to adjust the habits and ways of communicating with the wider community using digital media. Changes to the way organizations work that are influenced by the use of digital technology are the process of digital transformation (Muditomo & Wahyudi, 2021).

Analysis of the Digital Transformation Phase

Referring to the overall answers from the five interviewees who mentioned that PT Sami Aji Tekstil has more or less implemented digital technology to assist activities in the company. Moreover, said to be heading towards the digital transformation phase.

According to Verhoef et al. (2019), there are 3 phases of digital transformation, including Digitization, Digitalization and Digital transformation. Digitization is the foundation of the digital transformation phase, which includes the process of transferring/converting analog information into digital form; digitization has a focus on effectiveness, which includes processes where there is a combination of digital technology and activities in changing existing business processes, while digital transformation rests on innovation and the creation of a certain culture or value in the company.

Imperative Strategy for Digital Transformation

In accordance with the results of interviews with the five internal sources, it was concluded that the company already has several notes for innovation and the company's long-term strategy. Starting from telling the application of VR technology, which is currently in the assessment stage on the internal side because, in fact, the company already needs this technology in the company, to several company strategies in facing digital competition.

Pangandaheng et al. (2022) explain that currently, the digital strategy directs the roadmap or long-term plan made with the aim of utilizing digital technology to achieve business goals. This strategy needs to be aligned with the overall business strategy. Referring to the results of interviews that have been conducted with 5 resource persons of PT Sami Aji Tekstil, researchers found several research findings that are relevant to the Suggestions for implementing imperative strategies for PT Sami Aji Tekstil which are discussed in the Research Findings.

B) Findings

To facilitate the visualization and categorization process, the researchers divided these findings into 5 categories, namely: Company potential, No application in the company, Utilization in the Company, Positive Impact on the Company, and Things that the company does not yet need.

a. Company potential but not yet implemented

The potential of the company will be seen when there is a need for the application of 1 thing, followed by the possible effects that will be obtained. An example depicted in Figure 3 explains the company's potential arises because the company has not implemented an automation system, which the company actually has the potential to have. After all, it can minimize losses, simplify, and help the manual workload, and especially if an automatic cutting machine is applied, the company will

be more accurate and faster in the process of cutting fabric. The visualization depicted has a relationship that the company's potential exists because there are several things that the company has not implemented.

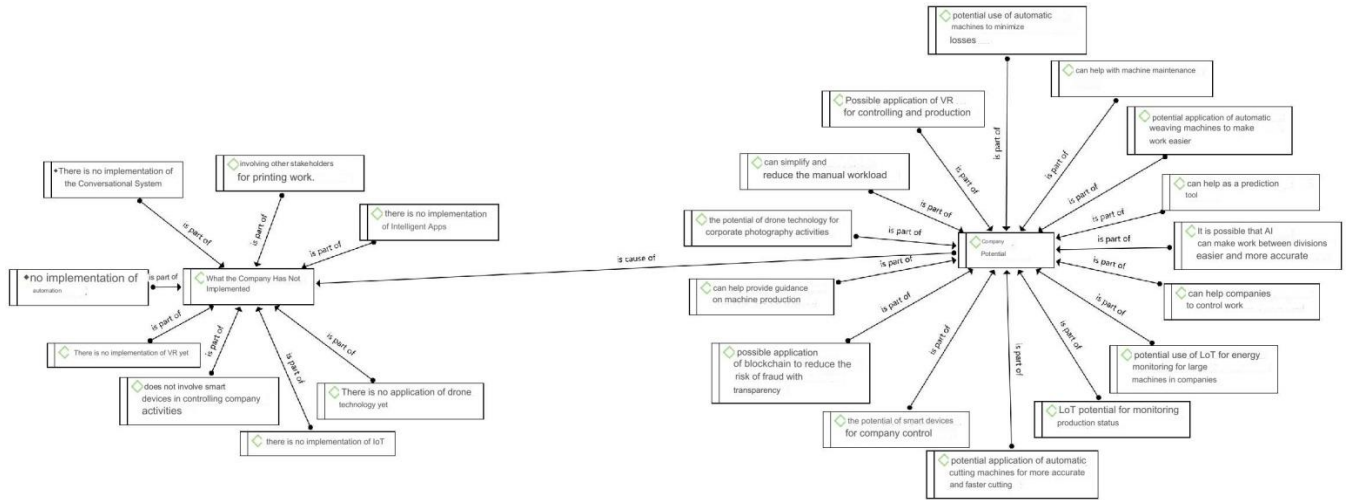


Fig. 3 Visualization of Company's Potential

b. Utilization in the Company and its positive impact

Researchers focused on the implementation of facilities that use digital technology, the implementation of company strategies in facing digital competition, and also the use of digital technology to adapt to digital consumer behavior.

Figure 4 visualizes the relationship between these applications and the positive impact felt by PT Sami Aji Tekstil. The company gets feedback and interaction from customers through digital platforms, the company's exposure increases, customers can recognize the company's products, the company experiences an increase when applying digital media, and the company gains trust through the digital portfolio.

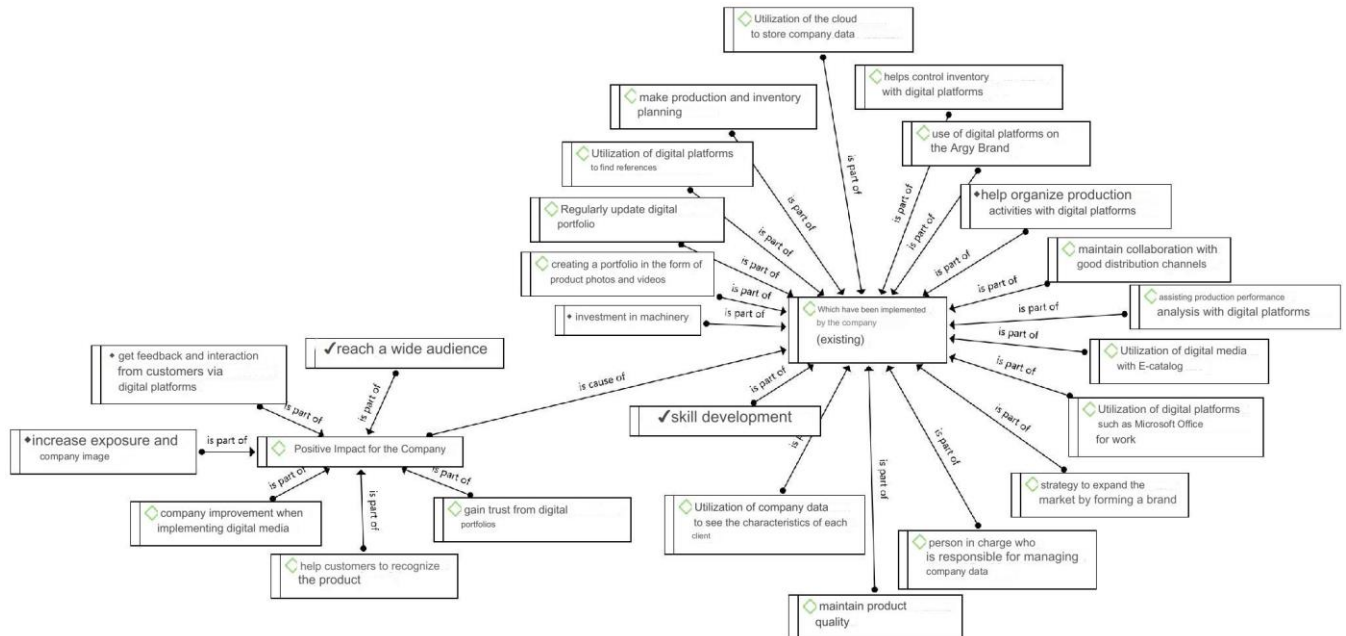


Fig. 4 Visualization of Company Implementation and Positive Impact

c. Things the Company Does Not Need

There are 3 points that the company does not yet need regarding digital facilities or technology, including (1) PT Sami Aji Tekstil does not need a conversational system for communication intermediaries, and there are things that the company does not yet need because (2) there are cost, infrastructure and operational constraints for implementing smart devices and (3) PT Sami Aji Tekstil explains that there is still a need for manual controlling by employees.

d. Urgent-Important Matrix

Researchers made an Urgent-Important Matrix as input for PT Sami Aji Tekstil in preparing future planning for the company by classifying the company's priorities seen from the potential owned by PT Sami Aji Tekstil. The following is a mapping of the company's potential when viewed from current priorities and needs:

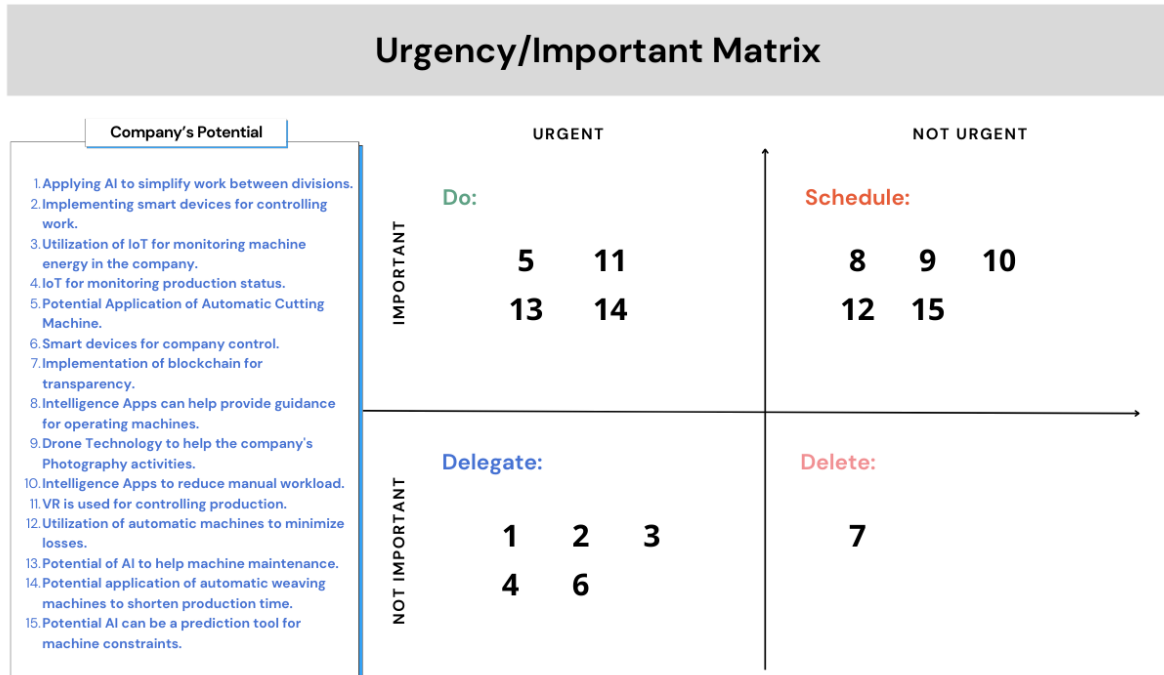


Fig. 5 Urgent-Important Matrix

As depicted in Figure 5, the company's priorities are divided into 4 quadrants, namely:

1. Do/Important and Urgent

Quadrant 1 explains the potential of the company, which is considered to have an important and urgent urgency; in the results of this interview, generally, the five interviewees explained that the company really needed this.

2. Schedule/Important but Not Urgent

Quadrant 2 discusses the placement of company potential that is considered less urgent but still a company priority. At points no. 8 and 10 explain the importance of implementing intelligence apps to assist in machine operations and help reduce manual workloads; indeed, it has been mentioned earlier that the application of intelligence apps has a lot of potential for the company, and one of them is the application to assist in machine operations. This application is considered important because if, in the future, PT Sami Aji Tekstil implements automatic machines such as those in quadrant 1, PT Sami Aji Tekstil's human resources will also need Intelligence Apps to support the work of these machines.

3. Delegate/Not Important but Urgent

In quadrant 3 it discusses the placement of company potential that is urgent but actually not very important. Usually, small things may need to be implemented immediately, although it will not affect the company's long-term goals. From the results of the interview, 5 points were obtained, namely no. 1 regarding the application of AI to facilitate work between divisions, no. 2 implementing smart devices to help control, no. 3 IoT for monitoring energy usage in the company, no. 4 IoT to help monitor production and no. 6 smart devices for company control. The five points above may need to be rushed into the process because seeing that the company is starting to need these tools to help employees work more efficiently, but actually, if there are no five things, PT. Sami Aji Tekstil will not experience a big loss because the company has human resources capable of carrying out these activities.

4. Delete/Not Important and Not Urgent

In quadrant 4, it explains the placement of the company's potential, which is considered not important and not urgent. Researchers placed point no. 7 in quadrant 4 because during the interview yesterday, the company did not explain and tell the specific urgency regarding the application of blockchain for transparency. This will be an obstacle for the company in developing digital technology if the company's potential to be implemented is not aligned with the company's needs/priorities and future goals.

V. CONCLUSION

A) Conclusion

Based on the results of research that has been conducted through an approach to digital technology variables, digital competition, and digital consumer behavior, it can be concluded PT Sami Aji Tekstil, with all its resources, has a lot of potential to be developed in the era of digital transformation. The company has an awareness of the benefits of implementing digital technology, and indirectly, the positive impact will lead the company to continue to grow in this digital era.

B) Suggestions

a. Academic Advice

It is hoped that this research can be a reference for future research to see/analyze a driver of digital transformation with different perspectives and objects.

b. Practical Advice

The suggestions that researchers can give to the object of research, namely PT Sami Aji Tekstil, after conducting research are:

1. Increase the involvement of digital media, especially for PT. Sami Aji Tekstil introduced the company's existence, not as a company that houses a brand.
2. Acceptable mapping of company potential in the Urgent-Important Matrix as an overview of utilization priorities that the company needs to develop first at PT. Sami Aji Tekstil.
3. Gradually, it is necessary to evaluate the company's needs from time to time. As time goes by and the number of requests increases, PT. Sami Aji Tekstil needs to adjust the demand with the increasing supply capability.

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