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Obstacles to the Implementation of Digital Transformation: A Case Study of the Yayasan Al Huda Islamic Education Center Metropolitan

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INFORMASI ARTIKEL

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ABSTRAK

Dalam rangka memosisikan diri di ranah persaingan global, Yayasan Al Huda Islamic Education Center Metropolitan (YAIECM) menghadapi kendala dalam implementasi transformasi digital Sistem Informasi Sekolah Terpadu (SISTesi). Tujuan dari penelitian ini adalah untuk mengidentifikasi dinamika yang terjadi dalam implementasi transformasi digital di YAIECM dan mengidentifikasi hambatan yang muncul. Penelitian ini menggunakan pendekatan penelitian kualitatif deskriptif dengan menggunakan metodologi studi kasus. Kajian ini menggunakan Technology Acceptance Model (TAM) dan Diffusions of Innovation (DOI) dalam kerangka teorinya. Data primer diperoleh dari wawancara dan observasi. Wawancara dilakukan terhadap guru, staf, ketua yayasan, dan salah satu pendiri PT. Exi Global Application, pencipta SISTesi, sistem yang digunakan oleh yayasan. Proses inovasi transformasi digital yang dilakukan YAIECM melibatkan integrasi seluruh unit, mengubah sistem manual menjadi digital. Temuan penelitian mengungkapkan bahwa dinamika proses inovasi transformasi digital meliputi komunikasi inovasi, proses inovasi itu sendiri, kesiapan sumber daya manusia, dan teknis implementasi. Terkait dengan komunikasi inovasi, terlihat bahwa pegawai belum sepenuhnya memahami keinginan pimpinan sehingga menyebabkan kurangnya sinergi antara pengurus yayasan dan pegawai. Lebih lanjut, studi ini mengidentifikasi hambatan dalam penerapan sistem transformasi digital, termasuk komunikasi yang tidak efektif, perencanaan yang tidak memadai, sumber daya teknologi dan literasi digital yang tidak mencukupi, serta tantangan teknis yang menghambat efektivitas dan efisiensi meskipun infrastruktur sudah mapan. Temuan penelitian ini diharapkan dapat menjadi referensi berharga bagi organisasi lain yang memulai perjalanan transformasi digital mereka.

INTRODUCTION

The pandemic has helped accelerate the implementation of digital transformation in an organization. The acceleration of the implementation of digital transformation is then increasingly urged to follow various developments, such as innovation and technological developments. These innovations and developments are continuously created and increasing global economic competition. This

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happens because of a continuous and rotating learning process to be able to adapt to an ever-evolving competitive environment (Nurrosyidah, 2021). In the implementation of digital technology innovation, organizations usually experience failures and difficulties in being able to utilize the use of digitalization in accordance with expectations caused by several factors. Schaffer and Thomson (1992), quoted from Setyawan (2007) , stated that there are many factors that cause failure in implementing organizational change, such as changes that are not in accordance with organizational goals, rejection from individuals, wrong strategies in implementation, or lack of knowledge about the importance of aspects of change management that need to be understood by Top Management. This statement is supported by Chou et al. (2014) , who stated that apart from digital complexity factors caused by technological infrastructure factors and business processes, social and organizational factors are also the reasons for the failure of the implementation of this system.

To position itself in the realm of global competition, the Yayasan Al Huda Islamic Education Center Metropolitan (YAIECM) actively participates in digital transformation in its organizational structure. This effort seeks to achieve transparency in performance management and supervision, improve information quality, and ensure effective and efficient management of human resources. However, YAIECM's digital transformation efforts hit a roadblock after the implementation of the *Sistem Informasi Sekolah Terintegrasi* (SISTesi). SISTesi is one of the digitization systems developed by PT. Exi Global Application to increase the efficiency and effectiveness of the educational process is a new thing to be introduced to the public (SISTesi, 2022). Based on the description above, this study aims to identify the dynamics that occur in the implementation of digital transformation in YAIECM and identify obstacles that arise.

LITERATURE REVIEW

Communication is considered important, and it's important for creating interdependent information networks in organizations. Everyone in the YAIECM organization is involved in conveying messages formally or informally to exchange information and meaning to achieve some organizational goals and individual goals. To achieve organizational and individual goals successfully, people between organizations must communicate effectively. Organizational communication is said to be effective when everyone in the organization has the same perception and perspective in understanding and implementing the organization's vision and mission (Morissan, 2009; Siregar et al., 2021).

Changes and developments within the organization need to be implemented to encourage the organization to progress and compete globally. Organizational development is a process of applying and sharing knowledge to make improvements to an organization's strategies, structures, processes, and overall system to increase effectiveness. In contrast with organizational development, organizational change has two related topics, namely, change management and organizational change (Cummings & Worley, 2009).

Digital transformation is a process for organizations to transform into a digital company, where the company uses technology to move from traditional media forms (such as paper documents and photos) to digital media forms. However, digital transformation is not just about technology. People and businesses are also involved in it (Priandono, 2021; Wijayanto & Harsadi, 2021).

In implementing digital technology innovation, organizations usually experience

failure and obstacles in being able to utilize digitization. Obstacles are defined as obstacles or obstacles experienced in implementing a program (Rismayanti, 2018).

This obstacle may occur due to several factors, such as digital complexity, social and organizational factors. According to Schaffer and Thomson (1992), quoted from Setyawan (2007) , many factors cause failure in implementing organizational change, such as changes that do not match organizational goals,

resistance from individuals or organizational groups, wrong strategies in implementing them, transition period, or lack of knowledge regarding the important aspects of change management that need to be understood by Top Management. This statement is supported by Chou et al. (2014), who state that apart from digital complexity factors caused by technological infrastructure and business processes, social and organizational factors are also the reasons for the failure to implement this system.

SISTesi is one of the digitization systems developed by PT. Exi Global Application to increase the efficiency and effectiveness of the education process. The use and implementation of the SISTesi application in the management of YAIECM is a step in the idea of digital transformation. SISTesi was held with the aim of integrating and monitoring each unit easily and supporting the smooth running of educational activities in schools (SISTesi, 2022). By implementing this system, the chairman of the foundation hopes for a digital transformation in its management with the aim of bringing transparency in managing and supervising organizational performance, improving the quality of information, as well as helping human resource management within it to run effectively and efficiently.

The research was conducted at Yayasan Al Huda Islamic Education Center Metropolitan (YAIECM), which is located at Jalan Utama Raya No.2 RT.9/ RW.2, Cengkareng, RT.6/ RW.3, Cengkareng, West Jakarta City, Special Capital Region of Jakarta, from January to June 2023. YAIECM was first built in 1962 by Alm. K.H. Nukman Muhasyim. This foundation began with the construction of a simple madrasah as an educational unit equivalent to a junior high school. The first building of the foundation was also very simple, with bamboo rooms and stucco floors. As time went by, followed by the enthusiastic support of the people of Cengkareng, the Madrasah that was once underestimated was finally able to fly as one of the large Islamic private schools in the West Jakarta area (Adnan, 2010).

Madrasah Al Huda, which has been established for more than 50 years, has changed its name many times, with the intention of changing the content and content of the educational institution it leads able to change for the better. This method is considered effective because it is able to bring even greater welcome and support from the community (Adnan, 2010). YAIECM has been able to expand its education business wings to add several units to 3 sections: SMP Al Huda IECM, SMA Al Huda IECM, and SMK Mutiara Bangsa. YAIECM has also now produced more than 70,000 alumni spread throughout the archipelago, which are divided into various professions. To be able to compete better in the world of education globally, YAIECM is currently continuing to strive for change and development in its foundation (Gunawan, 2022).

Theoretical Framework

In this study, there are two main theoretical frameworks used by researchers to understand and analyze the dynamics and obstacles to implementing digital transformation in YAIECM using the theory of Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI). The Technology Acceptance Model (TAM) is a model developed in 1986 by Fred D. Davis to analyze and understand the factors that can influence the acceptance of information technology. In adopting and applying information technology, four models are used in this theoretical research: perceived usefulness, perceived ease of use, attitude toward using, and actual system use.

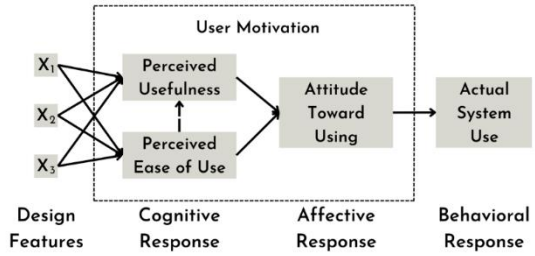

Figure 1. Technology Acceptance Model (Davis, 1989)

Based on the illustration in the picture above, perceived ease of use and perceived usefulness fall into the category of cognitive responses. Perceived ease of use affects perceived usefulness, where if the system is easy to use, then the system is useful for users. Davis (1989) , in his research, showed that the perception of convenience can explain the user's reasons for using the system and explain why the system is acceptable. These two previous perceptions will then influence the form of the user's affective response in the form of acceptance or rejection of the system. The acceptance or rejection of this system will then influence the form of the attitudinal responses that are usually seen. This can be seen and measured through the frequency of use that indicates liking or aversion to a product or system. The latest example of the application of this theory can be seen in the previous research by Fahlevi et al. (2019) , which shows that the iJateng application provides ease of use and fulfills perceptions of usefulness that lead to acceptance of the system. Application usage iJateng provides convenience in the activities of librarians and users who use the application. Users can easily search and read books and control the application according to user needs. The content and menus of the iJateng application can quickly facilitate the work of librarians and users.

Diffusion of Innovation (DOI) is a theory proposed in 1983 by Everett M. Rogers, and this theory discusses the concept of accepting an innovation in the social system. DOI has four main elements: innovation, communication channels, time, and social systems. Innovation, according to Rogers, is an idea, practice, or object that is considered new, while Diffusion is a process by which an innovation is communicated over time through certain channels among members of a social system (Rogers, 1983). In this case, time means the period needed to adopt an innovation, starting from receiving information about the innovation, the length of time for the innovation adoption process, and the level of system adoption (Fatonah & Subhan, 2008). Innovation is not only related to individual use but also has the potential to cause social change in the social system. Individual's doubt and reluctance are major obstacles to adopting an innovation (Nurrosyidah, 2021) . The second component that is considered important in the diffusion of innovation is effective communication. Communication is carried out to motivate the acceptance of an innovation by providing knowledge and understanding related to the innovation it adopts.

In the process of innovation communication, there are several stages carried out to implement innovation in a social system, such as knowledge and understanding of technology (with emphasis on human cognitive functions) and persuasion, which results in the decision-making stages of individuals and groups (emphasizing the affective function of human interests and attitudes towards innovation), selective perception becomes an important part in determining individual behavior at the stage of persuasion. After the decision related to the acceptance of innovation, the next stage is the implementation and confirmation stage. The implementation and confirmation stage are the stage where the individual or group is confident in the decision-making that has been made.

The two theories mentioned above help researchers design questions and analyze research. In this research, TAM is used by researchers to analyze and understand the factors that can influence the acceptance or rejection of technological information. This theory is used as a basis for researchers to form basic questions that will be used to interview designated informants. Then, for DOI, this theory is used by researchers to analyze the answers given by informants. By paying attention to the components and stages in the DOI, researchers have a deeper understanding of analyzing answers regarding the acceptance and rejection of innovation in a company, in this case, YAIECM.

RESEARCH METHOD

The method used in this study is a case study research method with a qualitative approach and a descriptive type of research. The qualitative approach is based on the philosophy of post-positivism, an interpretive and constructive paradigm, which is used to examine natural conditions, with the research instrument being the researcher himself

(Sugiyono, 2019) . The case study research method is one type of research tool that can answer several objects or issues of a phenomenon used to evaluate events or situations in the real world (Yona, 2006).

The subjects of this study were selected by purposive sampling taken from Staff or Teachers at Yayasan Al Huda Islamic Education Center Metropolitan (YAIECM) who knew the SISTesi implementation information and had been directly involved in disseminating SISTesi as a data source. The staff and teachers who were used as informants came from three units under the auspices of YAIECM, namely SMP Al Huda IECM, SMA Al Huda IECM, and SMK Mutiara Bangsa. four administration staff and two teachers who each teach and have a position as vice principal in the units of Al Huda Junior High School, Al Huda High School, and SMK Mutiara Bangsa under the auspices of the YAIECM. Other informants involved in finding further information regarding the research were the Chairman of Yayasan Al Huda Islamic Education Center Metropolitan (YAIECM) and the co-founder of PT. Exi Global Applications offers an Integrated School Information System (SISTesi). Researchers also gained access and tried directly the activities of using SISTesi as a form of participatory observation to gain an understanding of the system used (Stainback & Stainback, 1988; Sugiyono, 2019).

The informants in this research are then detailed as follows:

Informant A: Deputy Principal for Student Affairs & Mathematics Teacher at Mutiara Bangsa Vocational School

Informant B: Head of Administration (TU) of Mutiara Bangsa Vocational School

Informant C: Administration Staff (TU) of Mutiara Bangsa Vocational School

Informant D: Deputy Principal for Curriculum & Sociology Teacher at Al Huda IECM High School

Informant E: Administrative Staff (TU) of SMA Al Huda IECM

Informant F: Administrative Staff (TU) of Al Huda IECM Middle School

Informant G: Chairman of the Al Huda Islamic Education Center Metropolitan Foundation,

Informant H: Co-Founder of PT. Exi Global Application

We use interviews, participatory observation, and documentation to collect the same data and obtain information from different sources. This is done to validate an existing data source. Interviews with experts are conducted to gain a deeper understanding of the problem being studied so that the data obtained can be validated through the opinions of experts.

RESULT AND DISCUSSION

The findings of this research show some of the obstacles that cause failure in implementing digital transformation at the YAIECM using SISTesi (Integrated School Information System). From the research objectives described earlier in the introduction, the obstacles that occur in the implementation of digital transformation at the YAIECM based on the findings in the study are as follows:

Digital Transformation Process

The government first initiated digital transformation through the DAPODIK (Basic Education Data) system, which is used nationally for all schools in Indonesia. The government uses DAPODIK to monitor school administration data for approval of various matters related to the Education process, Education funding, and others. To date, the Al-Huda Islamic Education Center Metropolitan Foundation (YAIECM) also uses this system as an obligation to facilitate the administration of school data and connect to the government.

This digital transformation effort is not limited to the use of DAPODIK alone. During the pandemic, each of the school units inevitably had to use a digital system for approximately two years in order to continue the daily learning and teaching activities. The digital system used to support the running of KBM (teaching and learning activities) is different for each unit. SMK Mutiara Bangsa has been using the *Learning Management System* (LMS) from First Klaz, and Al-Huda IECM High School and Junior High School have been using Google EDU to support running school KBM for two years. Until now, digital systems related to KBM have not really been used anymore in post-pandemic.

So, it can be concluded that the implementation of digital transformation in this foundation is actually not a really new thing to

do. In previous implementations of digital transformation, these foundation schools only made implementation efforts to keep up with obligations and circumstances. For example, the use of DAPODIK, which the government requires, is a pandemic situation that limits face-to-face school activities and must be carried out from the homes of each teacher and student.

The recent digital transformation implementation was held in 2022 using SISTesi when the foundation initiated digital transformation efforts. SISTesi is used to integrate all of the units under the auspices of the foundation, which then gave birth to a new slogan, namely: "United Spirit!" Previously, all of the units under the auspices of the foundation used a different digital management platform to facilitate the administration of school data.

The form of a school data administration management system that can integrate all units under the auspices of the Yayasan Al Huda Islamic Education Center Metropolitan (YAIECM) is a new thing emphasized by Informants. As mentioned earlier, schools only depend on the school information system from the government, namely DAPODIK (Basic Education Data). This DAPODIK cannot be accessed directly to be checked and monitored by the chairman of the foundation.

> *"Yes, because I saw the presentation time, and everything was integrated. Because we have three units, they must be integrated from junior high, high school, or vocational school. So that with this one system all can be assimilated and monitored in one door, that is the goal for one door." – Informant G*

The chairman of the foundation wants to implement SISTesi as a school and foundation data system, with the aim of being able to bring transparency in managing and supervising the performance of the foundation, improving the quality of information, as well as to help human resource management in it to run effectively and efficiently. This is also offered by Informant H, who is a *co-founder* of PT. Exi Global Application when offering SISTesi to the foundation.

The chairman of the foundation also hopes that various manual systems that are still adopted in this foundation can be turned into digital systems. Some manual systems that are still adopted in this foundation include teacher and student attendance, payment systems, financial reporting, and communication between teachers and students. The disruption of digitization and the desire to develop the foundation to compete well globally are also reasons for the digital transformation efforts at this foundation.

Communication Between The Stakeholders

Doubt and reluctance from individuals are major obstacles in the process of adopting an innovation. Therefore, communication is considered an important element in the communication process of digital transformation innovation to eliminate doubts and reluctance in the practice of using and implementing SISTesi to employees.

Innovation communication is carried out to motivate acceptance of innovation by providing knowledge and understanding related to the innovation it adopts. In this case, the role of providing knowledge and understanding of the SISTesi system should have been given to PT employees. Exi Global Application in the form of socialization and training. The head of the foundation, assisted by the principal, has a role to remember and communicate continuously about the system that is being adopted. This is done as an effort to motivate and remove the reluctance felt by employees in using and implementing the use of SISTesi in their daily performance.

In this case, the selection of the right communication channel is considered important. The communication channels that can be chosen to communicate the message of this innovation are twofold, namely, mass communication and interpersonal communication. This channel can be selected by taking into account the purpose of communication and the characteristics of the recipient of the message. The communication channel that can be chosen in case of obstacles at the YAIECM is interpersonal communication carried out by the chairman of the foundation to the principal through *coffee morning* activities. Then, the message of the communication can be forwarded to other employees, such as teachers

and staff, through mass communication through group messages or by communicating directly during *a briefing* in the morning.

Based on interviews and observations made by researchers, what should be done and what happens in reality is different. Socialization of the use of the system so far has only been carried out 1-2 times, which is not enough. According to employees, encouragement and motivation from superiors to use the system are also less obtained. In this case, the employees involved in adopting the system stated that they lacked motivation to use the system and sufficient understanding of its use.

Time in the process of adopting an innovation is important and cannot be overlooked. Time involvement in this process is the decision-making process carried out by individuals, the speed of understanding and mastery of the system, and the number of members who adopt this system within a certain period of time. In the process of individual decision-making, there are various stages involving innovative communication with individuals, such as stages of knowledge (cognitive), persuasion (affective), decision-making, implementation, and confirmation.

Based on our interviews and observations, these stages in the individual decision-making process are incomplete and run well. The employees are not even fully familiar with what is socialized about using SISTesi and also have not opened and tried the application independently. Communication of this innovation has not been completed to the confirmation stage and just disappeared. This is thought to occur due to a lack of preparation in the implementation process. This is supported by the following statement of a teacher:

> *"So, if you don't have enough preparation, huh... Finally we... Yes, like this, mentally in the middle of the road. Because of the lack of preparation and planning, that's it. Right, actually, we plan to continue to follow up, right? Execution is just follow-up. There is continuous evaluation. Now we just planned, just want to follow up, have stopped, that's it... So, yes, the hell... If you want to make activities or plans like this, you should be carefully prepared first." – Informant D*

Based on a statement from the chairman of the foundation, some of the employees at this foundation have not been able to realize the importance of learning, changing, and developing along with technology. This happens because of the lack of innovation and communication carried out by the foundation board. Foundation management, in this case, does not motivate and encourage their employees to use systems that are considered to facilitate their work through communication.

> *"... the second uh... What factor... environment or uh... The staff themselves are still not technologically literate, and the third is what is called... There must be changes that are still not literate for changes that may be a big challenge, well, so those who are used to or these habits that are still not uh... They understand what the benefits or advantages really are, so actually, the system directs the system, which will definitely make it easier, but maybe this point they still don't know... literate for that." – Informant G.*

In addition, one of the obstacles in implementing this system is superiors, such as the head of the foundation and school principals, who have their own stances and opinions in managing schools under the auspices of the foundation. So, the chairman of the foundation has not been able to instruct and impose his will to integrate the administrative systems and data in the school.

From what has been explained above, it can be concluded that the purpose of the innovation desired by the chairman of the foundation is not fully understood by the employees. This happens due to ineffective communication factors, inappropriate communication channels, and incomplete stages of the decision-making process by employees.

Then, there needs to be synergy among the foundation's management so that they can unite to equalize each other's views, opinions, vision, mission, and goals without coercion through interpersonal communication.

To resolve the problem of these obstacles, researchers suggest that foundations develop a comprehensive communication strategy tailored to meet stakeholder's needs, concerns, and motivations. Implement regular training, workshops, and engagement initiatives to foster awareness, understanding, and support among employees, management, and other stakeholders.

Human Resources

The discussion of human resources includes abilities seen from cognitive aspects and willingness seen from affective aspects towards the use of the system, then the attitude of use towards the system can be seen from the two aspects mentioned earlier. Cognitively, through the knowledge and ability of users to use the system, Informant G, as chairman of the foundation, mentioned that less than 80% of employees lack the knowledge and skills to use digital technology to support their work. Most systems running in foundation school units still use manual systems, such as grades, absences, and finances. There are also several educators who still teach in this foundation school unit aged 60 years and over.

> *"Almost 80% of it, uh... Still, those who are not technologically literate, yes, if the language is still old school, well, whether it's with its own age level that has been... what is it called above 60, so we have to need extra effort to be able to tell slowly, but that's for sure." – Informant G.*

Then, viewed from the economic-social aspect, most of the target students registered by their parents to the foundation school unit come from the middle to lower economy. Thus, most parents of these students lack the ability to operate digital devices, including how to operate application systems and virtual school payments.

The statement of the chairman of the foundation was then supported by the *co-founder* of PT. Exi Global Application that the digital literacy of the management at this foundation is still very lacking. He saw that most schools, from the teachers and administrative staff (TU), had difficulty adapting and learning new things by switching the system from manual to digital.

> *"... Curriculum, or TU (Administration), when those who used to be manual were changed to digital it, they... difficulty, to adapt and learn new things. So, in terms of human resources, the first one..." – Informant H*

Effectively, most teachers and staff involved in socialization activities feel less motivated or encouraged to use the system, both by the principal and the head of the foundation. This lack of communication encouragement and motivation from superiors can be one of the causes of system use or digital transformation implementation being hampered due to a lack of persuasion in the use of the system by superiors. One of the problems for employees who feel reluctant to use SISTesi is also mentioned, that the existing system is considered less efficient and instead adds to their workload. The efficiency of this system will be discussed later in points on technical implementation.

According to the foundation's chairman and *co-founder* of PT. Exi Global Application, it takes extra effort to slowly but surely so that management, employees, and parents understand the need for digitalization to advance the quality of education at YAIECM. Most of these employees and parents actually do not understand the advantages of a system as a tool to make it easier.

Co-founder of PT. Exi Global also regrets the failure of the implementation of this system and hopes that later, the parties involved in the foundation can understand that the world is currently running in the process of digital transformation. There needs to be repetitive reminders from superiors to motivate them to continue to try to learn and implement digital systems into various school administrative matters.

Based on the explanation above regarding human resources, it can be concluded

that employees of the YAIECM need to carry out activities, training, or socialization related to digital technology and digital literacy. Employees also need more drive and motivation to innovate. The implementation of socialization about digital technology and digital literacy also needs the foundation to hold parents/ guardians of students to help educate and support the smooth process of implementing information technology systems such as SISTesi.

To resolve the problem of these obstacles, researchers suggest that foundations for prioritizing human capital development initiatives, including targeted training, skills development, and motivation strategies, cultivate a digitally proficient, engaged, and empowered workforce capable of driving digital transformation initiatives to the front.

Technical Implementation

The discussion on this technical implementation includes the system's ease of use from the employees' perspective and the constraints that cause employee reluctance to use the system. Technically, through data from the results of the study, some employees stated that this system tends to be easy to understand and use. This statement was conveyed by employees of the administration staff who have directly carried out the practice of using the SISTesi application system. Although this system's use is considered to be easy, some of these employees also complain of problems in manually *Input* Data, which is considered troublesome. This problem is considered by informants as burdensome and troublesome for them at the time of input of student and teacher data because each of these units has a number of students/ students numbering above 1000 people.

One of the Administration staff also complained about the problem of *payment input,* which would most likely be thrown to the Administration department. This has to do with finance employees who are likely to find it difficult to learn and do not have the ability to use the system due to age and birth in the transition generation to digital (Generation X and Generation Y). In addition to the problem of manual data input in technical implementation, other things that are also a problem are the SISTesi system and the DAPODIK system from the Ministry of Education and Culture (Kemdikbud), which cannot be integrated or synchronized. Dapodik does not provide access to SISTesi for data integration and synchronization. This causes employees who use this system to have to *input* data twice and feel reluctant to use SISTesi. Unlike student data, whose *platform* is provided by the Ministry of Higher Education (Kemendikti), Kemendikti provides access to application makers and developers to integrate and synchronize data, for example, the University version of SISTesi.

> *"...the Dapodik did not open access. So, as a result, yes... uh... we can't synchronize. Indeed, that's Dapodik's problem. But, if you have... university, uh... it can..." – Informant H*

To resolve the problem of these obstacles, researchers suggest that foundations address technical challenges, including data integration, synchronization issues, and system usability, through collaborative partnerships, technical support, and user-centric design principles. Explore opportunities to enhance system functionality, interoperability, and alignment with organizational objectives.

Implementation Planning

In implementing a digital system as a new thing to carry out digital transformation efforts, good and measurable planning and preparation need to be done. With good and measurable planning and preparation, the purpose of holding digital transformation efforts has a good possibility of being successfully implemented. Some of the things that need to be well prepared in this case are Human Resources, Infrastructure Readiness, and Budget Funds.

In the opinion of one of the teachers who teaches at the foundation he thought that the implementation of the SISTesi digital system was not planned and implemented seriously. As a result of this, when the implementation of the system is running for testing, it is hampered and not implemented properly in the middle of the process. Funds, infrastructure, and human resources need to be well prepared so that the implementation of this system can be successful.

> *"... Now we just planned, just want to follow up, have stopped, that's it... So, yes, the hell... If you want to make activities or plans like this, you should be prepared carefully first. Especially the source of funds, right? Continue... The source of man—the source of funds and human resources, must also be prepared. Don't until later we do training, cut off halfway, and finally... is just a waste... fund." – Informant D*

This opinion was later supported by the *co-founder* of PT. Exi Global Application, Informant H, that the three things mentioned by the teacher earlier are indeed the main obstacles in implementing digital transformation. He also added that SISTesi failed to be implemented at the YAIECM because the foundation itself claimed it was not ready regarding infrastructure, budget, and human resources.

> *"Yes, if it's from external... uh... 2021 (supposedly 2022), we also chatted with the foundation and the school, not ready. That's not ready, huh? Both in terms of infrastructure and uh... budget and human resources." — Informant H*

To minimize obstacles in implementing digital transformation, in its planning, the foundation needs to prepare the following things:

Human Resources

Along with technology development, training and human resources development are needed to keep up. Currently, there are many alternatives for human resources to be able to train and develop themselves, especially for those who work in companies affected by digital technology disruption. The training that employees receive must be adjusted to the needs of the company or organization, adjusted to the existing *budget*, prepared at the right time, and periodically evaluated to see the effectiveness of the training and development that employees receive.

Especially for employees of YAIECM, the foundation needs to prepare employee training and development related to digital technology and digital literacy for its employees. Socialization to parents for the introduction of the system to be adopted is also needed to support the smooth process of digital transformation. So that school facilities intended for parents/ guardians of students can be used optimally to help monitor children's development and schooling.

Infrastructure Readiness

The readiness of infrastructure, such as internet facilities and needed devices, needs to be prepared in the process of implementing digital transformation. Internet facilities and speeds that are capable of being used by a number of employees need to be prepared to support the smooth process of digital transformation. This is very important to be prepared because to work digitally with various devices and data that need to be processed in real-time, and the internet will definitely be needed. In addition, devices that work according to the required performance also need to be prepared and used by employees who do not have the device. These required devices can be given personally to employees or used together as needed. So, for this, foundation management, especially for facilities and infrastructure, needs to evaluate and assess the needs of employees based on the system that they will use.

The data findings show that *Wi-Fi* and devices to support implementation activities already exist. But for the employees of the foundation, the infrastructure still has some shortcomings. The obstacle intended by employees is that the network connection is not good and likes to be interrupted during the year of implementation of this digital transformation.

However, after recent observations, the feasibility of devices and networks being able to integrate the overall data of one foundation is good enough to support the process of implementing digital transformation in this foundation. This developing infrastructure is expected to support its human resource activities to learn and understand the urgency of implementing digital transformation.

To further maximize the implementation of the system, one of the teachers who teaches

at the foundation also voiced his opinion. According to him, there must be at least one computer unit provided specifically to access the application.

> *"... prepared, the tool is what is needed, we cannot operate it only, for example, using a mobile phone" Laughed. "-Personal or personal laptop, it's not possible. We have to prepare a special computer unit to access the application." – Informant D*

Budget Funds

In carrying out digital transformation efforts, there will definitely be sufficient budget funds to be spent. Various training, employee development, completeness of infrastructure, and use of the adopted system definitely require a lot of money. For this reason, this is also considered important and needs to be given special attention. Mentioned by *the co-founder of* PT. Exi Global Application, implementing digital transformation at YAIECM, using the SISTesi application, experienced obstacles due to administrative and budgetary issues. Even though the required applications had been prepared at that time, the process of migrating the data of the batch of students who wanted to be used as experiments had been carried out. Perhaps, in this case, the budget provided by the foundation at the time was poorly prepared.

> *"Well, the Al Huda Foundation was actually yesterday, uh... We haven't run yet, Angela. So... Yesterday, still stumbled over what problem? Maybe administration and budget times, huh? So it's not just a way if it's in Al Huda." – Informant H*

The points mentioned above, which have been explained earlier, show that the system was not planned and prepared properly for digital transformation efforts at the time of its implementation. From the human resources themselves, there has been no briefing on technology and digitalization. Providing an understanding of the urgency of digital disruption is also not carried out. In terms of infrastructure, the foundation was not very ready before, but after recent observation, the infrastructure to support digital transformation efforts is quite good. Then, budget funds in the year of digital transformation efforts were poorly prepared, so the implementation process was simply interrupted due to administrative or budget problems.

To resolve the problem of these obstacles, researchers suggest that foundations adopt a holistic planning approach encompassing infrastructure readiness, budgetary considerations, stakeholder engagement, and strategic alignment to foster successful digital transformation initiatives. Evaluate and assess organizational needs, priorities, and capabilities to inform planning, resource allocation, and implementation strategies effectively.

Based on the content of the discussion above, the Integrated School Information System (SISTesi) is considered to be in accordance with the foundation's goals, vision, and mission. However, in this implementation, the foundation has experienced many obstacles and difficulties in being able to utilize the use of digitalization in accordance with expectations caused by some of the factors above.

Through further interviews with the *co-founder* of PT. Exi Global Application about barriers to SISTesi implementation found that barriers similar to the above are also found in other schools that have implemented SISTesi. Implementation barriers related to human resources, infrastructure, and funding are not only found at the YAIECM. Most schools discontinue using SISTesi after they have used the system for six months to a year.

> *So after they put on... six months or a year... They finally didn't go on anymore. " "... which now continues... uh... three. Only three are still running." "If the total of... In 2019, it was about 230 schools" – Informant H*

This is also because there are other systems that can support school needs systems more cheaply and easily accessible, such as Google EDU. Starting from 2019, out of a total

of 230 schools offered by SISTesi, only three schools could adopt using SISTesi.

For further continuous evaluation and improvement, the foundation and other educational institutions may resolve the problem of these obstacles by implementing a robust monitoring, evaluation, and feedback mechanism to continually assess the progress, impact, and effectiveness of digital transformation initiatives. Foster a culture of continuous improvement, innovation, and adaptability to navigate challenges, leverage opportunities, and drive organizational success in the evolving digital landscape so that the foundation and other institutes can improve furthermore globally.

CONCLUSION

SISTesi is a digital system chosen and considered in accordance with the goals, vision, and mission of Yayasan Al Huda Islamic Education Center Metropolitan (YAIECM). However, in the implementation of digital technology innovation, YAIECM experiences obstacles and difficulties to be able to utilize the use of digitalization in accordance with expectations caused by several factors.

The implementation of digital transformation in this foundation is actually not a really new thing to do. In previous implementations of digital transformation, these foundation schools only made implementation efforts to keep up with obligations and circumstances. The innovation referred to in this case is the form of the system that can integrate all units under the auspices of the YAIECM. It is also hoped that various manual systems that are still adopted in this foundation can be turned into digital ones.

The innovation desired by the chairman of the foundation is not fully understood by the employees. This happens due to ineffective communication factors, inappropriate communication channels, and incomplete stages of the decision-making process by employees. Then, synergy among the foundation's management is needed to equalize each other's views, opinions, visions, missions, and goals without coercion through interpersonal communication.

Employees of YAIECM need to carry out activities, training, or socialization related to technology and digital literacy, and they also need more encouragement and motivation to carry out innovation. The implementation of socialization about technology and digital literacy also needs the foundation to hold parents/ guardians of students in order to help educate and support the smooth process of implementing information technology systems such as SISTesi.

When using the system, employees of YAIECM experienced various obstacles, including the system being considered inefficient and data input work being carried out twice and done manually. It also deals with data integration and synchronization with systems that are not granted access by the government.

From the points in the previous discussion, the implementation of the system for digital transformation efforts has not been planned and prepared properly. From the point of human resources, there has been no preparation of briefing on digital technology and digital literacy as an understanding of the urgency of digital disruption. In terms of infrastructure, the foundation was not very ready before, but after recent observation, the infrastructure to support digital transformation efforts is quite good. Then, the budget funds in the year of digital transformation efforts were poorly prepared, so the implementation process was simply interrupted due to administrative or budget problems.

In conclusion, the study identifies key obstacles to the implementation of digital transformation systems, including ineffective communication, inadequate planning, insufficient technological resources and digital literacy, and technical challenges that hinder efficacy despite having a well-established infrastructure.

From the results of the research conducted, the suggestions that researchers can give are as follows: (1) The foundation can pay more attention and can apply effective ways of communicating within the organization, to equalize perceptions and perspectives in understanding and implementing the vision and mission and goals of the organization, (2) The foundation can make better and measurable planning, In order for the objectives of digital transformation implementation to be more

successful and successful in its implementation, (3) The foundation can prepare human resources, infrastructure and funding more effectively, because the three things mentioned earlier are the main obstacle factors causing failure in implementing digital systems, (4) The foundation can provide training and understanding related to digital literacy and the urgency of digital transformation to develop its human resources, (5) The foundation can develop and improve infrastructure better to support its human resources and support the implementation of digital transformation Furthermore, (6) The implementation of socialization about technology and digital literacy also needs the foundation to hold parents/guardians of students, to help educate and support the smooth process of implementing information technology systems such as SISTesi. (7) Integrated School Information Systems can further develop their application software with the aim of increasing efficiency through better system automation. (8) The government, especially the Ministry of Education and Culture, can provide access to application software to be integrated and synchronized for ease of use of shared technology.

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