IMPLEMENTATION OF AGILE ADOPTION BEST PRACTICE (STUDY CASE IN PT TELKOM INDONESIA)

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Abstract *The rapid development of telecommunications in the world means that all telecommunications companies must be able to continue to develop and adapt according to market needs. This research uses three main indicators as reference material for analysis, namely team dynamics and activities, program operations, and organizational environment. This research is a qualitative research with a literature review of scientific articles and company reports with discussions related to company transformation, especially the Five Bold Moves with the implementation of agile adoption best practice. The findings show that good implementation of agile adoption best practices can support the system or transformation strategy of telecommunications companies in Indonesia, namely PT Telkom Indonesia. Implementation of a strategic transformation program through Five Bold Moves by implementing agile adoption best practices in its implementation is the key to the transformation process to obtain maximum processes and results. The results of this research can be developed by continuing to pay attention to the implementation process of the DigiCo program, which is one of the Five Bold Moves that has not been implemented.*

Keywords: *Agile, Agile Organization System, Agile Adoption Best Practice, Five Bold Moves, Corporate Transformation*

Introduction

With the development of various technologies in the industrial revolution 4.0, the world we live in today is in the VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) era. Everything in the world today moves quickly, changes rapidly, changes are uncontrollable and are influenced by various factors. Therefore, business people must rack their brains in dealing with conditions full of current uncertainties so that they can remain stable and develop.

Within this condition, companies need to have a good strategic management to gain competitive advantage to survive in the VUCA era. Sustainable competitive advantage can be gain from the process of Resource Based View (RBV). According to Barney in (Madhani, 2010) the Resource Based View (RBV) examines and evaluates an organization's resources to see how it maintains a competitive edge over time. The RBV focuses on the idea that a company's hard-to-copy qualities can provide both competitive advantage and higher performance.

According to Madhani (2010) The term "dynamic capabilities" refers to a company's resource-using operations, particularly those that integrate, reconfigure, acquire, and release resources. The dynamic capability focuses on how these resources and capabilities need to adapt over time to remain relevant in the ever-changing marketplace, whereas RBV primarily focuses on the kinds of resources and capabilities for their strategic value. The dynamic capabilities approach looks at how to gain a competitive edge in a globalized market that is changing quickly. To gain periods of competitive advantage in such dynamic marketplaces where the competitive environment is changing quickly, managers of enterprises must establish capabilities inherent in the organization that are based on sequences of route dependent learning. According to Teece *et al.* in (Madhani, 2010), The dynamic capacities concept is particularly pertinent in the modern world, when industry landscapes are being altered by global competitive forces. In this more globalized world, strategies for gaining a competitive edge are rapidly evolving. Because of this, businesses operating in this industry need to have quick plans, adaptable infrastructures, and the capacity to combine resources and skills in novel ways.

One of Asia's fastest-growing telecommunications sectors is Indonesian. The gross domestic product (GDP) of Indonesia is boosted by the technology and communications industry to the tune of approximately 748.75 trillion rupiah. The industry includes mobile phone services as well as fixed and mobile broadband subscriptions. It is anticipated that the telecommunications sector would continue to expand quickly as Indonesia gets more digitally connected (Statista Research Department, 2023). Indonesia also has a well-developed telecommunication infrastructure where it can be seen from the presence of 100.000 mobile towers that stand throughout the country. This infrastructure allows Indonesia to have a very well 4G connection, and Indonesia is entering and start introducing the 5G connection to be used throughout the country.

In this case, PT Telkom Indonesia's urgency in implementing Agile Adoption Best Practice can be seen from the meaning, function and also the form of the holding company. Currently, PT Telkom Indonesia as a holding company in the telecommunications sector is not only focused on strategic, financial and market planning for the telecommunications sector but is also still carrying out the product sales process which should be the task of the subsidiary. This is proven by the still functioning of several directorates whose function is to sell products, such as the Directorate of Enterprises and Business Services and the Directorate of Wholesale and International Services. Not only that, this aspect also impacting to the market capitalization value of the company is stuck in Rp300-Rp400 trillion every year. In 2019, the market capitalization value of the company is Rp 393 trillion, in 2020 was in the number of Rp 328 trillion, in 2021 was in the number of Rp 400 trillion, and in 2022 was in the number of Rp 371 trillion. Based on the Annual Report of PT Telkom Indonesia (2022) and Annual Report PT Telkom Indonesia (2021), the segment financial performance in the company is fluctuating.
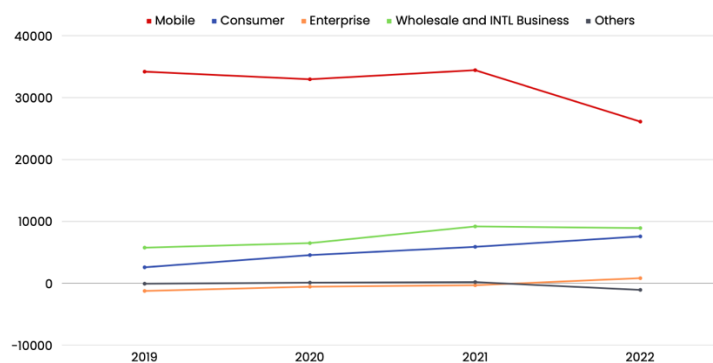
Figure 1. Segment Financial Performance
Source: Annual Report PT Telkom Indonesia

PT Telkom Indonesia transform their organizational structure to a segmented typed of organizational structure. PT Telkom Indonesia also needs to accelerate digital transformation on the operational of the company with several kinds of strategic planning and programs to achieve it. In 2022, PT Telkom Indonesia accelerate their digital transformation with the theme "Enhance digital capability and business performance for sustainable growth". The realization of this theme was by 3 main program which are: Deliver the best quality of services with excellent customer experience; Excel in the 3 digital domains and unlock business leveraging group synergy; and Accelerate digitalization and lean organization development for impactful operation.

Not only that, PT Telkom Indonesia also initiated a value unlocking strategy which is called "Five Bold Moves". This strategy is aimed to develop competitive advantage in the digital connectivity, digital platform, digital services, and strengthen the position of PT Telkom Indonesia to be a world class telecommunication company. The Five Bold Move are: Fixed

Mobile Convergence (FMC); InfraCo; Data Center Co (DC Co); B2B Digital IT Service Co; and DigiCo.

Theoretical Framework

Strategic Management

The art and science of developing, putting into practice, and assessing cross-functional decisions that help a company accomplish its goals is known as strategic management (objectives) (Nugraha, 2019). Strategic management takes on various roles in an organization because of course each line of the organization has its own functions and objectives that must be achieved with various strategies. Strategic management is divided into 2 main components, namely strategic planning and strategic implementation.

Organization

A formal gathering of people with one or more common objectives is called an organization. Sociologists define "organization" as the deliberate, planned, and coordinated actions of people toward the creation or gathering of a shared good or service, whether it be intangible or tangible. Form (institutional regulations) and formal membership typically frame this activity. In sociology, the terms "planned formal organization" and "unplanned informal organization," or "spontaneously formed," are distinguished (Boella & Van der Torre, 2006). Based on Azwani (2023) The following are some organizational goals that are generally used as the goals of organizational development, namely (1) Increase the independence and ability of the resources they have; (2) A platform used for individuals who really want to have positions, awards and a clear division of labour; (3) Platform to have control and power; (4) Helping every individual in it so that they can increase their association and make optimal and useful use of free time; (5) A place that helps to make profits together with well-divided cooperation; (6) Helping to manage the environment together; and (7) Achieving goals effectively and efficiently in accordance with the initial goals of an organization.

System

McLeod (2001) on Simanungkalit (2012) characterizes a system as a collection of integrated parts working toward a common objective. The system boundaries are suitable for a certain functional area as well as an organization or business. The organization is made up of several resources, all of which are employed to accomplish a specific objective set by the owner, management level, or leader. Furthermore, Marimin et al. (2006) on Simanungkalit (2012) characterizes a system as a business entity made up of interconnected components that work to accomplish a task in a challenging environment. Based on the definition by Simanungkalit (2012), from the definition of the system, we can understand that something can be declared as a system if it fulfills the following conditions, namely (1) The system must be set up to accomplish the goal; (2) Elements of the system must have a defined plan; (3) There is a relationship between the elements of the system; (4) The basic elements of the process (flow of information, energy, and materials) are more important of the system elements; and (5) Organizational goals are more important than elemental goals.

Agile Organization System

The Agile approach was articulated in 2001 by 17 software developers where they called themselves the Agile Alliance. Based on GAO, Agile Assessment Guide: Best Practices for Agile Adoption and Implementation (2020), the Agile Alliance came up with the "Agile Manifesto" and through the work it came up with 4 values which are (1) Individuals and interactions over

processes and tools; (2) Working software over comprehensive documentation; (3) Customer collaboration over contract negotiations; and (4) Response to change over following a plan.

Agile Adoption Best Practice

The process of transitioning an organization into an agile organization system is very difficult to do all at the same time. Therefore, agile adoption best practice is present to prioritize aspects of the transition process. If an organization prioritizes the order of adoption, it can end up giving individual practices from the groupings of practices—team dynamics and activities, program operations, and organization environment—more weight than the total collection of practices from any one group (GAO, Agile Assessment Guide: Best Practices for Agile Adoption and Implementation, 2020). Based on GAO, Agile Assessment Guide: Best Practices for Agile Adoption and Implementation (2020), there are 3 main aspects in agile adoption best practice, these three aspects are (1) Team dynamics and activities; (2) Program operations; and (3) Organizational environment

Table 1. Agile Adoption Best Practice

Agile Adoption Best Practice	Summary
Team Dynamics and Activities	
Team composition supports Agile methods	• Agile teams are self-organizing • The role of the product owner is defined to support Agile methods
Work is prioritized to maximize value for the customer	• Agile teams use user stories to define work • Agile teams estimate the relative complexity of user stories • Requirements are prioritized in a backlog based on value
Repeatable processes are in place	• Agile programs employ continuous integration • Mechanisms are in place to ensure the quality of code being developed • Agile teams meet daily to review progress and discuss impediments • Agile teams perform end-iteration demonstrations • Agile teams perform end-iteration retrospectives
Program Operation	
Staff are appropriately trained in Agile methods	• All members of an Agile team have appropriate training, since techniques used are different from those used for Waterfall development programs • Developers and all other supporting team members have the appropriate technical expertise needed to perform their roles
Technical environment enables agile development	• System design supports iterative delivery • Technical and program tools support Agile
Programs controls are compatible with Agile	• Critical features are defined and incorporated in development • Non-functional requirements are defined and incorporated in development

Agile Adoption Best Practice	Summary
	• Agile teams maintain a sustainable development pace
Organization Environment	
Organization activities support Agile methods	• Organization has established appropriate life-cycle activities • Goals and objectives are clearly aligned
Organization culture supports Agile methods	• Sponsorship for Agile development cascades throughout the organization • Sponsors understand Agile development • Organization culture supports Agile development • Incentives and rewards are aligned to Agile development methods
Organization acquisition policies and procedures support Agile methods	• Guidance is appropriate for Agile acquisition strategies

Source: GAO (2020)

Method

The type of research used in this research is a type of qualitative research using a qualitative descriptive approach. Research on the analysis of the implementation of the agile organization system was carried out at PT Telkom Indonesia which is located at The Telkom Hub area, Telkom Landmark Tower, 39th Floor, Jalan Jenderal Gatot Subroto Kav. 52, West Kuningan, Mampang Prapatan, South Jakarta, DKI Jakarta, Indonesia 12710. The types of data in this study are divided into 2, namely words and actions, and written data sources. Both types were obtained by researchers through interviews and literature studies. Primary data was obtained by interviewing PT Telkom Indonesia employees who met the criteria. Secondary data in this study are in the form of reports in the Annual Report which are published on the official website of PT Telkom Indonesia and news related to PT Telkom Indonesia available in the media. In this study, the data collection techniques that being used are interview, literature review, and passive participatory observation. In this research, data quality is being obtained by conducting credibility test, transferability test, dependability test, and confirmability test. The data analysis and interpretation is done by data reduction, data presentation, and conclusion drawing.

Result & Discussion

Analysis of Urgency of Implementing Agile Adoption Best Practtice

In implementing or carrying out a strategy, change, or other action either within the company or anywhere, of course you must first know what are the driving factors and the urgency of a strategy, transformation or other action to be implemented. This is the same as implementing Agile Adoption Best Practice at PT Telkom Indonesia, especially in the transformation strategy for digital acceleration, especially in the 5 (five) bold moves implemented. The urgency in implementing Agile Adoption Best Practice at PT Telkom Indonesia is based on 3 (three) important aspects, namely the company strategy aspect, the corporate form aspect as a holding company, and competition with OTT (Over-The-Top) companies.

Analysis of Implementation of Agile Adoption Best Practice

Table 2. Fixed Mobile Convergence (FMC)

Indicator	Analysis
Team Dynamics and Activities	Most of the aspects contained in this indicator are fulfilled by the systems that already exist in Probis. However, of course it would be better if you did not use the role of consultant in any process within the probis, including the project management function. It would be better if there was better training for employees who are responsible for the project management function so that they can carry out their functions without the help of consultants and this will be a long-term investment for the company.
Program Operation	There are several aspects that have not been fulfilled. This is because Probis does not use automated tools in its project management process. This has an impact on the absence of technical and program tools that support agile and raises the potential for changes in the work pace of probis. Then, it would be even better if all employees involved in probis had received training related to agile systems.
Organization Environment	Most of it has been fulfilled. Things that can be given more attention in this indicator are of course the incentives and rewards given to employees and special guidance in the business consolidation process related to the agile system implemented in the company where the business consolidation will be carried out.

Table 3. Infrastructure Company (InfraCo)

Indicator	Analysis
Team Dynamics and Activities	Most of the aspects contained in this indicator are fulfilled by the systems that already exist in Probis. However, of course it would be better if you did not use the role of consultant in any process within the probis, including the project management function. It would be better if there was better training for employees who are responsible for the project management function so that they can carry out their functions without the help of consultants and this will be a long-term investment for the company. Then, it would probably be better if we continued to hold daily meetings to become a forum for direct monitoring and evaluation of each deputy.
Program Operation	This Probis excels when implementing automated tools in the project management process carried out. This of course has an impact on the existence of technical and program tools that support agile and work pace is likely to be maintained better. However, it would be better if Probis carried out product development that could be used as automated tools later by new entities that are established or by maximizing the behavior of using automated tools that have been implemented in new entities later. Then, it would be even better if all employees involved in probis had received

Indicator	Analysis
	training related to agile systems and this would be a long-term investment in the company.
Organization Environment	Most of it has been fulfilled. Something that can be given more attention in this indicator is of course the incentives and rewards given to employees. This will of course continue to have an impact on employee performance in probis and after leaving probis and returning to their respective workplaces.

Table 4. Data Center Company (DC Co)

Indicator	Analysis
Team Dynamics and Activities	Almost all aspects of these indicators are fulfilled. The thing that is of concern is only aspects related to employees in the task force who are not employees who are dedicated to the task force. This is because employees in the task force continue to carry out their respective duties according to their position and section in their place of origin. Although this is anticipated by the existence of very good behavior with daily, weekly and monthly meetings, however, it would be better if the employees in the task force are employees who are dedicated to the task force, especially the task force chairman.
Program Operation	Most of it can be said to be fulfilled by employee behavior and automated tools provided by consultants. This has an impact on the task force's work pace being consistent with meeting existing targets. However, it would be even better if the task force could carry out product development that would be used as automated tools used in new data center company entities that would be adapted to the company's needs. Then, it would also be better if all employees in the task force had received training related to agile and this would later become a long-term investment for the company.
Organization Environment	Almost all aspects of this indicator are fulfilled with goals that align with the objectives, incentives and rewards provided, and the presence of senior leaders and several employees who have agile certification. However, the aspect that can be paid more attention is the guidance aspect in the business consolidation process related to agile. Of course, this will make it easier for new entities to work with a work system that is already in line.

Table 5. B2B Digital IT Service

Indicator	Analysis
Team Dynamics and Activities	Almost all aspects of these indicators are fulfilled. The thing that is of concern is only aspects related to employees in the task force who are not employees who are dedicated to the task force. This is because employees in the task force continue to carry out their respective duties according to their position and section in their place of origin. Even though this is anticipated by the existence of very good behavior with daily, weekly and monthly meetings, however, it would be better for the employees in the task force to be employees who are dedicated to the task force.

Indicator	Analysis
Program Operation	There are several aspects that have not been fulfilled. This is because the task force does not use automated tools in the project management process carried out. This has an impact on the absence of technical and program tools that support agile and raises the potential for changes in the work pace of the task force. Then, it would be even better if all employees involved in the task force had received training related to agile systems.
Organization Environment	Almost all aspects of this indicator are met with goals that align with the objectives, incentives and rewards provided, and the presence of senior leaders and several employees who have agile certification. However, the aspect that can be paid more attention is the guidance aspect in the business consolidation process related to agile. Of course, this will make it easier for Telkom Sigma to work with a work system that is in line.

Digital Company (DigiCo)

Looking at current conditions where digital companies are in "Winter Season" where no investors are aiming to invest to digital companies, this impact is also felt by the digital business owned by PT Telkom Indonesia. This also makes Telkom careful in investing in digital business. Telkom also does not want to make large investments in its digital buses and will study various influencing aspects. Of course, this has an impact on the Digital Company (DigiCo) that Telkom is planning, which in the end, currently Telkom will only focus on reviewing digital business developments and let the digital business develop organically and focus more on completing the other four Bold Moves first.

Analysis of Constraints in Implementing Agile Adoption Best Practice

Team Dynamics and Activities

The constraints that may occur in the indicator of team dynamics and activities are (1) If the product owner is not a dedicated resource, the developers may find that person unavailable to answer questions when needed. If questions are not addressed in a timely manner, the developers may make assumptions in order to continue with development to meet commitments. If these assumptions do not match the expectations of the product owner, significant rework may be necessary. This can slow the development process; (2) Without continuous integration using automation, reliable, dependable software handoffs may not occur; (3) Without automated build and testing tools, the program may experience challenges in delivering the product on time and may have a limited assurance of product quality; (4) Without daily standup meetings, the team might also not identify impediments which may result in rework or schedule delays; and (5) If used as a status update by management instead of focusing on progress and impediments, the meetings could last too long.

Program Operation

The constraints that may occur in the indicator of program operation are (1) Without training, there might be a lack of common understanding in the program about the Agile methods to be used; (2) Without effective training based on a strategic human capital analysis, the program will be challenged in helping to ensure that the required capabilities and mission value will be delivered in a timely and cost- effective manner; (3) Without automated tools, the program risks

inconsistent implementation of processes across teams, which may negatively affect product delivery and understanding of the program's progress; and (4) Large programs not using automated tracking tools could miss key dependencies between user stories and features.

Organization Environment

The constraints that may occur in the indicator of organization environment are (1) If programs are unable to tailor life cycle activities, then the organization's oversight process could negatively affect the cadence established by the Agile team, resulting in less predictable development efforts; (2) If collaboration is not occurring regularly, then priorities regarding requirements will not be known and the result may not meet the program's vision or customer's needs; (3) If appropriate organizational entities, such as human resources, are not considered, changes to incentive and reward systems might be slow and ineffective, preventing team cohesion and unity, and restricting productivity; (4) Changes to incentive and reward systems might be slow and ineffective, preventing team cohesion and unity, and restricting productivity unless there is active involvement from the appropriate organization entities, such as human resources and employee unions; and (5) If organizational incentives are not structured to promote improved team performance, competitiveness or a lack of respect among team members might increase, impacting team behavior, productivity, and output.

Conclusion

Based on the results of research regarding agile adoption best practice with a case study at PT Telkom Indonesia, the following conclusions can be drawn (1) The transformation process carried out by Telkom is of course also due to the urgency that occurs both internally and externally from the company. The urgency for this transformation process to occur is caused by 3 (three) things, namely the realization of the company's WINDIGITAL strategy, the formation of PT Telkom Indonesia as a holding company, and market competition with the emergence and development of Over-The-Top (OTT) companies; (2) Implementation of Fixed Mobile Convergence (FMC) has started in 2021 and has a probis in the transformation implementation process. In 2024, the hope is to show synergy between fixed and mobile broadband, work efficiency, and produce a growth story in the years to come; (3) InfraCo implementation has started in 2021 and has a probis in the transformation implementation process. In 2024, it is hoped that the new entity can continue to learn and mature its operational processes by managing Telkom's assets. Mitratel as a company that has had an IPO also hopes to continue producing a good growth story; (4) Implementation of the Data Center Company (DC Co) has started in 2021 and has a task force in the process of implementing the transformation. In 2024, it is hoped that the new entity can continue to increase collaboration with partnerships, build a second campus in Karawang, and continue to move towards achieving the data center target of 400-500 MW and controlling a 25-30% market share; (5) Implementation of B2B Digital IT Service has started in 2021 and has a task force in the process of implementing the transformation. In 2024, Telkom Sigma as the main vehicle in the B2B Digital IT Service business will continue to transform the company's organization and employee capabilities; (6) The implementation of Digital Company (DigiCo) can be said to be a bit hampered due to the 'Winter Season' that is occurring among digital business companies and also trends that have changed after the pandemic and caused many digital businesses to go bankrupt. PT Telkom Indonesia will continue to review the condition of its digital business and develop this digital business organically; and (7) None of the constraints that occurred in the implementation process of the Five Bold Moves were fatal and all indicators of agile adoption

best practice have also been implemented. However, there are several indicators of agile adoption best practice that can be developed in its implementation to get maximum results and minimize potential problems that will arise.

Suggestions

Based on the conclusions outlined previously, several suggestions can be made that can be beneficial and useful for companies and other parties in efforts to implement agile adoption best practice in the company transformation process. The suggestions given are (1) Even though the agile system was basically born from the product development process, the agile principles can be used, adapted to the company's needs, and maximize the various potentials of the agile adoption process, such as automated tools and team dynamics; (2) As a company that has talents at the forefront of the company's transformation process, PT Telkom Indonesia in the transformation process is expected to reduce the role of consultants in the process and focus more on improving the capabilities of existing human resources which can become a long-term investment for the company. In future research, researchers can pay more attention to the implementation of the agile organization system in Telkom subsidiaries, especially those that are the subject of transformation in the Five Bold Moves; and (3) For companies or other organizations, the implementation of agile adoption best practice can be supported by long-term investment in human resources through training related to agile organization and maximizing automated tools that can have an impact on the company's work system. The application of Agile Adoption Best Practice implemented by PT Telkom Indonesia can be a model that can be imitated and developed for the better.

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