

Abdullah al Mumen

TRANSFORMING INTO AN AGILE ORGANISATION

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ABSTRACT

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<p>The twenty-first-century market has its challenges. The fourth industrial revolution brought digitalization what made the business environment ever-changing, the power of social media created better-knowledged customers, competition has never been harder. To survive enterprises must find a solution so that they will enjoy facing a changing environment, and earn the best outcome, be able to understand the customer better and provide the fittest product. Agile software development caught the eyes of enterprise leaders as it had ideas to create a system that supports the issues but in a smaller frame. Thus, scaling agile at the enterprise level has been developed. Understanding, accepting something completely new, and work with its value can be very difficult. Even after so much afford when the new system starts performing, sustaining it can also be challenging. Enterprise has to be dedicated, motivated, and monitored at a constant pace.</p> <p>The purpose of the thesis was to provide a brief explanation of how an organization can achieve agility. The first chapter of the thesis discussed fundamentals of the Agile with its long and widespread history. The Organization agility is discussed in the third chapter, followed by the success story of three Agile organizations: PayPal, Bosch, and Spotify. The fourth chapter shares statistics of the market regarding Agile. And, in the end, the findings are concluded.</p> <p>Literature has been used for theoretical knowledge. Agile is still new, and proper literature was difficult to find.</p>		

<p>Key words Agile, agile mindset, agile organization, customer focused, Kanban, lean, organization agility, scaled agile framework</p>
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CONCEPT DEFINITIONS

ART Agile Release Train

LACE Lean Agile Centre of Excellence

RTE Release Train Engineer

SAFe Scaled Agile Framework

SPC Certified SAFe Program Consultant

ABSTRACT
CONCEPT DEFINITIONS
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1 INTRODUCTION

The current market is incredibly competitive. Organizations have to ensure the best quality, the most adequate pricing, fast delivery and keeping up with the constant changes in the market. Agility brought a new way of thinking to do things, to be more customer focused and to become lean. Agility can be used all over the organization. All the departments in an organization such as the process, management, logistics, human resource, strategic level can use this philosophy to achieve better solutions. For instance, in a meeting, when one plan to use agility, the mindset will help to reduce waste, and earn the outcome within the shortest time.

The goal of the thesis was to explain the fundamentals of organization agility, how to achieve a successful transformation into an organization, giving reasons for professionals to embrace it. Since many companies are on the process of transformation or planning to introduce agility into their organization, this thesis aimed to ease their effort.

In the second chapter, the fundamentals of agile are presented briefly with its history, definition, manifesto, frameworks, 4 values and 12 principles comprise agile manifesto to support its original concept, ways of work. There are several agile frameworks with their unique qualities, and they share the agile manifesto at the same time. Organization agility will be discussed as well in the third chapter. Agile transformation journey of a few big organizations such as Pay Pal, Bosch, Spotify will help to realize the practical use of the discussed literature in chapters 2 and 3. It was fascination to learn how such big enterprises were able to change as a whole or a big part of it and gained desirable outcomes. In chapter 4, statistical data from a survey from over 40000 agile leaders, executives, employees around the world is discussed. Findings were knowledgeable and motivational.

We are experiencing the 4th industrial revolution. At present, to gain competitive advantage, businesses need to consider a few tactics such as digitalization, connection to the market, adaptation to the speed and change of behaviors of customers. Agility has helped organizations for their solutions for a long time sharing a better way to think and solve problems, creating a better workplace. In chapter 5, the writer discusses the meaning of business Agility, solutions to transformation challenges.

2 AGILE

Being a major part of the global economy, software industries have to face different challenges related to quick delivery, quality product, adaptability to the constantly changing market. To solve the issues, agile came with an iterative, incremental approach for the development of a quick quality product ensuring room for flexibility and adaptability. In the global era, to gain a competitive advantage, adopting the latest trend is crucial. Agile is a modernization of work culture in software development replacing uncertainty by continuously providing working software in every sprint. Flexibility is another term, made agile more acceptable in the ever-changing environment. (Guru99 2021.)

2.1 History of agile development

To improve products and processes, Walter Shewhart of Bell Labs began applying Plan-Do-Study-Act (PDSA) cycles in 1930 and mentored W. Edward Deming applied it extensively while working in Japan in the years' post-World War 2. Deming developed the Toyota Production System, while he was hired to train the company's managers, and it was the primary source of 'lean'. In the article "The New New Product Development Game" the "rugby" approach was introduced in place of "relay race" for a faster process and product development used by successful industries then. The rugby approach was about moving forward in a unit by passing between the team which represents an incremental approach. In 1993, Sutherland was involved in a product development project which was seemed impossible with the deadline. He started researching to maximize organizational productivity. His background was strong in methodologies such as rapid application development object-oriented design, PDSA cycles, and skunk-works. A Bell Labs article suggested one idea is daily short team meetings increased group productivity dramatically. Sutherland inspiring by the rugby approach, and thorough research developed Scrum. Scrum made his project successful, and he presented the methodology to the public in 1995. (Rigby, Sutherland & Takeuchi 2016.)

The word agile has a history itself. The creator of the software development methodology extreme programming Kent beck organized a meeting with proponents of extreme programming and some outsiders at the Rogue River Lodge in Oregon in the spring of 2000. Though nothing formal occurred a word

'Light' got voiced support from the meeting attendees. Later in different articles all the discussed methodologies Extreme programming, adaptive software development, crystal, SCRUM were mentioned as 'Light' or 'Lightweight' methodologies. Since no official approach came out, with an email Bob Martin started building attention for next meeting. The email was, "I'd like to convene a small (two day) conference in the January to February 2001 timeframe here in Chicago. The purpose of this conference is to get all the lightweight method leaders in one room. All of you are invited; and I'd be interested to know who else I should approach." And also set up a Wiki site and the discussions raged. It results a meeting in Wasatch mountains of Utah in 2001, with seventeen people related to the software movement where they ski, relax and share ideas. With an urge to a change of the current way of working to create a working environment where they would want to work and get the best output, they presented their current methodologies, and their views. Thus, agile manifesto cultivated and officially signed. Martin Flower introduced the term 'Agile' in lieu of 'lightweight'. (Highsmith 2001.)

The authors behind the Agile manifesto were: Kent Beck, Mike Beedle, Arie van Bennekum, Alistair Cockburn, Ward Cunningham, Martin Fowler, James Grenning, Jim Highsmith, Andrew Hunt, Ron Jeffries, Jon Kern, Brian Marick, Robert C. Martin, Steve Mellor, Ken Schwaber, Jeff Sutherland, Dave Thomas (Highsmith 2001).

2.2 Manifesto

Agile is a philosophy, a way of working, and a mindset. There are several methodologies that follows the agile manifesto in their implementation, for example, Scrum, Extreme programming, Lean software development, Kanban etc. Agile focuses on the most efficient and effective way of interaction between every level from the business owner to the developers. It welcomes changes in any time of development for the betterment of the customer's end goal. Reducing documentation, stringiness of a project, creating a working environment that encourages employees, promotes creativity, innovation is among a few of the purposes of agile. Manifesto comprises four core value and 12 principles. (Guru99 2021.)

2.2.1 Core values

Core values of agile manifesto include,

- Individuals and interactions over process and tools
- Working software over comprehensive documents
- Customer collaboration over contract negotiation
- Respond to change over following plan. (Highsmith 2001.)

In traditional methods process and tools were given priority. Waterfall is one of the most popular traditional methodologies. It is a 5-step process, which were asked to be followed gradually during the course of the development project. Following a strict process make the project inflexible. Moreover, the problem created during the project, could not be helped with the well-defined project. Rather, Empowering the team, giving the priority can bring a better solution through their interactions, creativity, and confidence. Agile values individuals and interactions over process and tools. (Guru99 2021.)

In the waterfall method, a good amount of documentation has been carried out prior to start in a project about features, specifications layouts, requirements, test cases and a few others. It seems to be a responsible approach but there were issues found as a few of the documented features could get outdated by the time project finished. All the effort and time used they would be useless and new features in the market would have to face challenges to be in the development because of the documentations. Because of all these drawbacks agile manifesto favors working software over comprehensive documents. A working software with the basic features will be given for the feedback to stakeholders and end-users. On the

basis of the feedback further development will be carried out. This way there will be a working software with the latest trends and much time will be saved. (Guru99 2021.)

Processes of the traditional methods followed a contract which negotiated at the beginning of the project. Customers would only be able to experience the product at the end of the whole project or may be a few meetings during the project if any change had to be made. It was difficult to satisfy the customer's need with the beginning thoughts in the contract. Moreover, agile favors a constant customer collaboration during the project which brought better solution at the end. A stringent plan throughout the project made projects inflexible, where market has always been constantly changing. By the time many projects completed, it was outdated. On the other hand, agile values respond to changes over following plan. That made the changes to be looked as an opportunity to put additional value to the software. (Guru99 2021.)

2.2.2 Principles

Oxford dictionary defined principle as a moral rule or a strong belief that influences someone's action (Oxford University Press 2021). Agile principles were declared to help to embrace Agility. They were a complete guideline to the mindset. A happy customer is the main goal, and continuous delivery of software will build trust and engagement of the customer. An agile mindset is to be ready to act in the quickest way to the change whenever it comes along. Silos of information between businesspeople and developers were solved by letting them work together directly and not through a medium. Decentralized decision-making is quite important to Agile, and it is only possible when there will be trust among leaders and employees, so motivated employees are essential for a healthy Agile work environment. Other things discussed were face to face communication to solve the problem rapidly and better engagement, the importance of technical excellence, self-organizing teams to realize their full potential, regular reflection, and adjustment. (Guru99 2021.)

12 principles of agile manifesto are as follows:

1. The biggest priority is to satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

4. Businesspeople and developer must work together daily throughout the project.
5. Build project around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7. Working software is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to the technical excellence and good design enhance agility.
10. Simplicity-the art of maximizing the amount of work not done-is essential.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly. (Highsmith 2001.)

2.3 Scrum framework

Scrum is the most popular agile framework, used by over 12 million software professionals around the world. The website named Scrum.org is behind the guidance of the Scrum framework. Ken Schwaber and Jeff Sutherland developed Scrum, and it has been in use since the early 1990s. Scrum's definition by Scrum.org, "A framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value." It has been used to develop software, hardware to business operations, and almost everywhere to continuously improve the product, the team, and the working environment. The Scrum Team consists of a Product Owner, the development team, and a Scrum Master. The Product Owner is the sole person to manage Product Backlog. He is also responsible to instruct the development team what to do but not how to do it. The development team is self-organizing and cross-functional. There are no titles inside the development team, though each team member can be specialized in a specific area. An accountability for any issue belongs to the team. Scrum Master ensures that Scrum Team members understand goal, scope, and product domain, that Scrum is being followed. Scrum Master facilitate Scrum events, and that helps Product Owner on prioritizing Product Backlog. (Schwaber & Sutherland 2017.)

A complete Scrum project is a result of several short and time-boxed periods which is known as Sprint. Sprint is the heart of Scrum, and the duration of the Sprint should not be longer than one month. Sprint

consists of, Sprint Planning, Daily Scrum, the development work, Sprint Review, and Sprint Retrospective. In the Sprint Planning, the team decides what increment will be Done in the Sprint, and thus they decide the Sprint Goal. Sprint Backlog displays the Sprint goal, and the development team start working to accomplish the sprint goal. Daily Scrum is a 15-minute time-boxed event that is held every day at the same time and place to forecast the upcoming 24h Sprint work and inspect previous 24h Sprint work. Product Owner invites the Scrum Team and the stakeholders for the Sprint Review end of the Sprint to realize the Done increment within the Sprint. The Product Owner reviews the Product Backlog and estimates the delivery date of the product. They discussed the upcoming Spring Goal and review of the timeline, budget, potential capabilities and marketplace for the next anticipated releases of the functionality of the product. Sprint Retrospective is for the Scrum Team to inspect itself concerning people, relationships, processes and tools. They plan ways to improve quality. The Scrum Master encourages the Team and discusses how they can make it more effective and enjoyable for the next Sprint. It can go for 3 hours or be shorter. The new Sprint starts immediately after the conclusion of the previous sprint. (Schwaber & Sutherland 2017.)

2.4 Kanban framework

Kanban is a Japanese word for the visual signal. Kanban helps organizations to visualize their work and bring predictability. It values open conversation with clear and straightforward language, balanced and collaborative culture, customer-focused system, continuous workflow, inspiring leadership at all levels, commitment, and respecting people. (ThinkThyme 2020.)

Kanban allows an organization to start as its current structure by adding Kanban features. The use of the Kanban Board increases the visualization of the work and the process. The board should show what solution to work on, delivery point, a clear understandable policy of each stage, and work in progress (WIP) Limits. WIP Limits helps maintain the continuous flow to increase efficiency. There are two roles to support the framework. Service Request Manager prioritize the work items based on customer's needs and expectations and desired outcome. Often a product manager, or a product owner, or a service manager performs the role. Service Delivery Manager facilitates Kanban practice for continuous flow and delivery to the customer. Kanban lifecycle consists of different feedback loops: Quarterly Strategy Review, Monthly Operational Review, Monthly Risk Review, Bi-Weekly Service Delivery Review, Weekly Replenishment Review, Daily the Kanban Meeting, and Delivery Planning Meeting. (ThinkThyme 2020.)

3 BUSINESS AGILITY

Adopting business agility has already become an essential feature in the current market. Bureaucracy, silos, useless meetings, a large backlog of works not done, missing deadlines, inconsistency with the business priorities, slow delivery, and less customer satisfaction are amongst the issues business professionals want to solve by bringing agility in the organization. Companies like IBM, GE Suncorp, Barclays Bank, and so on trusted agile to shape their way of working. Business agility means an ability that leads an enterprise to achieve its fastest possible approach to deliver values. The enterprise will be able to respond quickly to changes or any issues, and also can strive through those changes. An Agile organization is adaptive, flexible and lean. It contains self-organized teams with dynamic capabilities. Agility encourages organizations to be more customer focused. By being Agile, any entity will be able to successfully effect, cope with and/or exploit changes in circumstances. (Albert 2011.)

3.1 'Doing Agile' vs 'Being Agile'

Adopting agile methodologies still may not be enough to achieve the result the agile has to offer. The agile mindset among the organization is the only way to experience the best outcome of the practice and adopting agile methodology is one of the acts of it. Following only the values and principles of Agile methodology will help to build a structure but embracing the Agility into the culture will give life to the structure. (Albert 2011.)

Agility is a composition of six components. Responsiveness is one of the components of enterprise Agility. The entity has to have the capability to take certain actions in any event of a change in the market in ample time. Response time affects the actual performance over expected performance. Enterprise with Agility should take immediate action according to the type of change without waiting to observe the market reaction or bureaucratic time waste. When the market condition changes significantly, responsiveness will not bring the expected result, and versatility is the capability to achieve an acceptable or most effective outcome. We can think of the current market under the covid-19 spreading. Versatility will help organizations to find ways to operate in different market conditions. Flexibility is the culture to choose an alternate path than the planned for certain situations without being rigid onto any plan as our priority is to achieve the best result not following the plan. The most effective and efficient way of communication is to face-to-face communication but for the sake of the priority of a certain time, it can

be adequate to arrange online meetings. It allows us to move forward and reduce time waste. Resilience is the capability to recover from a setback or unfortunate damage. A rapid response to reconstruct or creating new from the damaged, destroyed position represents resilience. Innovativeness speaks itself from its meaning. The organization will continuously be researching for new and better approaches or tactics for growth. This practice will help in some situation innovation become a necessity and then it is not a new thing to practice. Adaptability means an organization to change its way of doing things in a new way to gain a competitive advantage in the market. (Mundra, Rising & Xiao 2018.)

3.2 Agility health radar

Agility health radar is a set of topics that helps to measure the current maturity level of agility across an organization. At the same time, it assists an organization to grow as an agile organization. Enterprise Business Agility radar is one of the radars that helps an organization in their transformation journey, and it helps to create a sustainable foundation. It consists of seven pillars such as Customer Seat at the Table, Lean Portfolio Management (LPM), Organization Structure and Design, Agile Framework and Mindset, Leadership and Culture, Make it Stick, Enterprise Agility Metrics. (AgilityHealth 2020.)

Customer seat at the table: Customers can have a variety of meanings as a person to a company with different purposes of their own. At the same time, the enterprise must understand that, in the end, they are the purpose of all the efforts. A chef cooks to create a good meal experience for a person, and by doing that, he receives payment. Above all, the person's experience matters most, as that is what the actual purpose and profit come along. Agility health radar emphasizes that we should understand our customer, and their need in a customer-centric way. Detailed analytics of sales and marketing can give a brief overview of their behavior. Agile organizations try to understand what customers think, and how they feel, and identify who their primary customers and secondary customers are to help making their strategic decisions. (AgilityHealth 2020.)

Lean Portfolio Management (LPM) means creating outcome-based strategies. It breaks down three years or a one-year plan into quarters. This brings better visibility of the strategies. LPM encourages working in a sustainable way. It empowers the team to achieve the desired outcome. Everyone together, leaders and the team members work toward the same goal in their minds regardless of their position. It reduces complexity in the organization and teams which makes it easier to collaborate, align, and deliver value to the customer. Value-based prioritization is important in every aspect. Funding is crucial in the field.

LPM prefers stable team-based funding, value-based funding over project-based funding which brings a better solution to achieve the end value. Every portfolio should be considered as a mini startup, where leaders know their outcomes and what value they need to deliver. (AgilityHealth 2020.)

Traditional organizational structures are dense bureaucratic structures and rigid with reporting relationships, following hierarchy and their decision. The process creates less engagement of the employees who get the work done, time-wasting reports and meetings, and a constant increase in the sum of incomplete work. Agility brought a different approach where there is clear value-based strategic outcome. It encourages the team to be self-organized, and the manager works to support them as a coach. Several small teams can be connected to achieve the core value or product. There are of course different specific roles such as product owner who represents stakeholders or investors, team lead/Scrum master who works as a coach and supports the team member on their journey by facilitating the agility through the process. Additional roles can be present for greater value. A self-organizing team is essential, with a combination of the cross functional team member. Agile frameworks are used to support agility across organizations. Within the tech team scrum, Kanban is widely used. SAFe is the most popular framework while scaling agile framework at the enterprise level. (AgilityHealth 2020.)

The agile mindset has reached beyond tech teams to marketing, sales, finance, talent acquisition, and other departments. When dealing with complexity, uncertainty, and change, Agile Culture is about creating an environment that is underpinned by values, attitudes, and practices that allow companies, teams, and people to be more adaptive, agile, creative, and resilient (Gogate 2018). Leadership in this new environment has to be supportive, flexible, people oriented, empowering, resilient and feedback oriented. The leadership team has to build trust across organization. They have to be adaptive and think challenges or changes as opportunity for competitive advantage, not get stuck at a failure but rather look for altercate and act right with the team to achieve a better outcome. The clarity of strategic outcomes on every level is essential in agility. The leadership team should be aware of that as they are key behind any organization movement. As agility prefers self-organized team, team should be able to make decision on their process. Delegation of power can be sometimes confusing and difficult for the leaders and executives. (AgilityHealth 2020.)

‘Making it stick’ means sustainability. It is the sixth pillar of agility health radar. To sustain, an enterprise can Build internal agents such as coaches for all the pillars. As discussed before, always having an experienced agile coach or coaches who understand all the framework and culture, the journey can be shared to all new member before welcoming them and also, make sure that, he understands it. Enterprise

should have a healthy growth measurement metrics, collect data across the enterprise, analyze it as a team and create a growth plan. Data to be used in the metrics should only have the purpose to enable growth not to create judgement. Technological Agility is important to gain quality efficiency by technical excellence, innovation, improving continuously technical culture, processes and tools. (AgilityHealth 2020.)

3.3 Scaled Agile Framework (SAFe)

Since 2011, more than 20000 enterprises across the world have experienced SAFe and benefitted. By implementing SAFe, Organizations have experienced a 35% increase in employee engagement, 50% faster delivery time, 35% better quality, and an increase in productivity. The Scaled Agile Framework help enterprises to scale Agile across the enterprise. It synchronizes alignment, collaboration and delivery for large numbers of Agile teams. It leverages three primary bodies of knowledge: Agile development, Lean product development, and System thinking. Reaching the tipping point is the first step in the transformation roadmap. At this stage, a vision is set, which creates a clear purpose, motivates involved personnel to stir through changes, align the significant workload. Two conditions were mentioned to get the vision for change; a burning platform where it is quite clear the failure to compete, providing the desired value, and visionary leadership where the leaders take initiative to avoid coming failing to compete and add competitive advantage to the enterprise. (Scaled Agile Inc. 2019.)

The understanding of Lean-Agile Mindset and SAFe principles must be rooted for the vision for change. After establishing the vision for change, enterprise will take an economic view of the process and the benefits the change will bring, and then they should share it with the participants. The enterprise should also describe any other specific goals they want to achieve, and of course, different case studies provide information on how this change affected their organization. Why the current state is unsustainable, strategy, metrics for the process are also critical questions to discuss. At the same time, leaders have to understand the big change, many implementations, and they should continuously evaluate the current system and the new mindset, principles, practices, and their alignment with their desired goal. Constantly making sure their track to the vision is critical to the success of the transformation. The regulatory need to be addressed as it is vital in so many cases, ‘SAFe for Government’ is there to help on this occasion. (Scaled Agile Inc. 2019.)

SAFe is a proven framework for scaling Agile, a clear vision, compelling reason for the change with a powerful guiding coalition from committed leaders will result in a successful transformation. A successful transformation process of an organization can follow eight stages, such as:

- The organization should establish a sense of urgency for the transformation process. This establishment will bring motivation and sustainability along the process.
- The powerful guiding coalition is important since a strong line of leadership can provide the power that can be required at any time of the transformation process.
- With a clear vision and strategy, the transformation process will move toward a known destination.
- The organization should communicate the change vision at a regular rate with everyone engaged in the process.
- The organization should empower employees for broad-based action.
- The transformation is a long process. If the Organization generates short-term wins, it will keep the employees motivated.
- once the initial process has been completed, the organization should focus on sustainability and improvement.
- The new approaches in the culture must be practiced and monitored. (Kotter 1995.)

Certified SAFe program consultants (SPCs) are recommended as Lean-Agile change agents for the right knowledge and dynamicity to steer the transformation. Leaders, executives and managers should be trained to enlighten their journey and empower their journey. Leaders should be able to inspire and provide continuous energy and support to the change process. The training of the leaders, executives, managers should provide them enough knowledge with a correct view of their actions for the transformation process. The training should also include how to be executing and releasing value through ARTs, building large systems with large solutions SAFe, building an Agile portfolio, leading a Lean-Agile transformation at an enterprise scale. By thinking lean and embracing agility leaders can exhibit their lean-Agile mindset. Total acknowledgment of SAFe principles is critical. Creating a Lean-Agile Center of Excellent (LACE) is the next step on the roadmap. It is a small Agile team according to the enterprise size that supports the transformation process by communicating business needs, urgency, and vision for the change. It develops an implementation plan and manages the transformation backlog. LACE also maintains the metrics, facilitates the training activities, and expands the lean mindset across the enterprise. (Scaled Agile Inc. 2020.)

LACE starts removing impediments in the process, identifying and releasing Agile Release Train (ART), presenting their small success on the way to empower the process. Proper consideration is a must as Value Streams and ARTs are the organizational backbones of the implementation process. The flow of steps toward the value with a lead time create a value stream. Operational values that deliver end-user value and Development Value Stream that develop the business solution are the two types of the value stream. ART comes next to realize the value. An ART usually have 50 - 125 people. It has stable teams that constantly deliver value, and can release independent of other ARTs. With clear products or solutions, leadership support, collaborating teams, the opportunity the first ART is selected. Preparing the launch is the following step. Supported by members of LACE, SPCs often lead the launch. Training the ART leads and stakeholders, agile teams, assess and evolve launch readiness, and program backlog preparation are the activities involved in the process. Big room training is recommended in the learning process. Continuing from the first ART launching, the first Program Increment (PI) Planning, coaching ART execution to support the journey and their learning from the training is very important. A new way of working in different solutions with the launch of additional ARTs, measurable benefits in lead time, quality and productivity is in sight. Implementation focuses on maturing the portfolio. (Scaled Agile Inc. 2020.)

3.4 Agile transformation of a business

After experiencing the success of agile in team level business leaders started wondering how a whole enterprise would seem with the mindset agile represents. As of now, some big drivers of the world economy like Amazon, Google, Bosch etc introduced agility in their whole enterprise and brought a huge competitive advantage in the market. Clearly, transformation of a large organization is a major task, a big risk, noticeable financially, if the approach has been taken in the right harmony with consideration of the current company status, better outcome will be achieved. (Mundra, Rising & Xiao 2018.)

3.4.1 Pay Pal transition into agile

Pay Pal started their agile journey in May 2013 to be more customer-focused and increase the pace of innovation. eBay owned the company in 2002 while it was still a small company. By 2008 it became the world's leading payment method and started facing issues with innovation deceleration and constant

increase in product release cycle time from weeks to months and more. There are 6 reasons they were backing down, such as:

- A detailed documentation was a requirement prior to starts any project. A good amount of time was required for the ‘Product Requirements Document’ (PRD) and by the time the document is ready, it can go outdated as the market requirements are constantly changing.
- To increase flexibility in planning ‘Technology quarterly Planning’ (TRP) was introduced. Although it brought more flexibility, it added complexity.
- PayPal divided the environment into 85 unique domains and aligned a developer accordingly so that they deepen expertise and improve quality. The primary purpose was achieved, but at the same time discrete domain bottleneck started within key areas (e.g. risk, compliance, core payments).
- To keep pace there was a practice of involving same developer in different project which reduce productivity.
- Traditional waterfall method was being followed by teams and across the enterprise.
- To ensure quality testing was done rigorously. 6-week integration and regression tests were a requirement for even the smallest change. (PayPal Inc. 2015.)

Everything was taking too long, and executive managers were frustrated. As a result, confidence were down in technological delivery. Customer focus was reduced. Something needed to be done to keep PayPal in the market. David Marcus, as he got promoted to be the new president in 2012, quickly focused on customer experience and product innovation. As the challenges were visible, he formed a team of leaders to overcome the challenges and transform PayPal fundamentally. Kristen Wolberg, experienced agile at scale from her former workplace salesforce.com had collaborated across the organization for defining the Agile path forward. Executive sponsorship aligned with visionary leadership accompanied by broad base support from employees for the transformation. With the senior leaders in the product and technology organizations, a core team was built, which made some key decisions as a foundation of the transformation. Scheduling the process, defining enterprise soring cadence, investigating, choosing, and configuring the enterprise lifecycle management tool, and creating a dashboard to assess the progress of the process was done by the core team. (PayPal Inc. 2015.)

PayPal chose ‘Big Bang’ over the gradual transition to change. High interdependency between teams and the need to establish a framework for staffing, delivery, and governance encouraged the decision. Over 150 employees formed multi-disciplined teams for different departments to tackle the challenges.

Company also formed over 300 cross-functional delivery teams with the required product and technical domain knowledge expertise from employees in eleven worldwide development centers and train them in Agile practice so that they can adopt scrum. Scrum Master and Product Owners received additional role-specific training. Scaled Agile Framework and Large-Scale Scrum were at the organization level. The New Product architecture model comprised of 17 Product Lines, 31 Sub-Product Lines, and 87 Delivery Groups. This structure enhanced team co-location, dedication, and stability. The number of on-premise agile coaches increased from 4 to over 20 ensuring at least 1 agile coach in every development center. And one or more accountable coach for product lines. (PayPal Inc. 2015.)

As all the teams were aligned with two weeks sprint cycle, reflected an emerging consensus from ad hoc practices. While some teams had practiced a longer cycle time, the emphasis was put on the shorter sprint. Numbered sprint ended mid-week and allowed joint planning across teams that different in countries where products or technology were localized. It used a single tool to manage all the agile teams, thus enterprise partnership was built with the vendor. Each team had their area of working, and they could view other team's plans and established inter-team dependencies. The Core Team tracked the dashboard regarding adopting new practices inside the Agile teams. The dashboard included measures for the team's co-location and size. Scrum Master/Product Owner provides support in the process of staffing and forming teams by the managers across the company. Tool's data was used for measuring the progress of other factors. Leaders and employees discussed major changes across the organization. In 2014, within just two years, PayPal was a different organization. All the team went through many challenges, as all were new for many of them. PayPal expresses its vision as not limited to becoming an agile enterprise that is willing to disrupt itself for significant gain just as we disrupt the way people view and use money. (PayPal Inc. 2015.)

3.4.2 Bosch transformation journey

Bosch was founded in 1886. Currently it has around 400,000 employees spread across 60 countries. This giant corporation embraced agility from top down and has seen amazing outcomes. Bosch's success story is an inspiring example for other large corporations who are still deciding. Bosch has been in the market more than 130 years, and it has become a leading innovator in the market. Starting with automobile products, it expanded into other sectors including consumer products, industrial goods and products connected to internet of things. As the market is different now, innovation at Bosch means fast delivery, customized solutions and connectivity. CEO Volkmar Denner realized that true agility could assist in

keeping up with the pace and demands of the market. 'Dual organization' was the initial plan for the CEO and other executives. Innovation and groundbreaking product-related groups would become agile and the rest of the company would remain the same. Soon, they realized that dual organization would not deliver their purpose. They decided to transform the entire organization into agile. Though, starting did not go smoothly. They give the responsibility to Felix Hieronymi to start the transformation process, who was involved in a few agile projects. (Howard 2017.)

As typical project work, he started planning it a big waterfall process which leads to failure. Then the real journey started with an agile leadership team by the CEO and the board with a Product Owner and Scrum Master. The team started interactive meetings by asking the question, standing, and holding conversations and they also used a planning wall. The rest of the executives also formed into scrum team of 5-6 members with their own Product Owner and Scrum Master. Prioritizing the backlog for the entire organization, allowed them to focus on how changes are happening across the organization. Leadership became more responsive. They adopted continuous planning and funding in place of annual planning and budgeting. They were also able to identify the common barriers across the company and tackled them for progress. (Howard 2017.)

3.4.3 Spotify engineering culture

Spotify CTO felt that they needed to take initiatives to become truly global, bigger to keep the organization in the future market as there were organizations such as Google and Apple in the competition and stepping ahead was the only way to survival. The challenges that came in front were setting up strategies to get more subscribers, hiring a big number of talented and motivated professionals and managing the upcoming big team or teams. At the point when the engineering team had 300 people from 100 people, they wanted to build a structure of 30 teams where there will be a proper connection between the teams, and the structure will create harmony towards their business value. (Kamar 2018.)

The scaling method is structured with Tribes, Squads, Chapters, and Guilds. The squad is the core unit of development which is like a Scrum team. The squad should consider themselves as a mini startup. Each squad is independent, and it must be provided with all the resources that are needed for the operation. Each Squad has a product owner who helps to prioritize the backlog, and a small-sized motivated team. In Squad, there is an agile coach who helps them maintain the Agile mindset throughout their operation. The team members have a long-term mission for certain areas of the enterprise. The long-

term involvement on a certain task will allow achieving the highest-level expertise as they are also to be working as a mini startup. A quarterly survey was run to monitor and accelerate the growth concerning product owner, agile coach, influencing work, easy to release, process that fits team, a mission, organization support. (Kniberg & Ivarsson 2012.)

A tribe is the sum of a few squads that work in related areas – such as the music player. Tribes are independent of one another. They are sized based on the concept of the “Dunbar number”, which says that maintain social relationship with over 100 people is not possible for most people. Thus, a Tribe is designed to be smaller than 100 people. Members should be physically in the same office. Each Tribe has a tribe lead to provide the best possible habitat for the squads within the tribe. They have regular basis informal gatherings to give an overview of their contribution. People with the same knowledge and skills build chapters, such as the tester chapter where they can discuss issues regarding their work area and tools. Another component of the organization culture is Guild. The guild is with people interested in a certain task. They get together to share insight and visionary ideas among each other. The guild is open to everyone interested in a certain area including professionals or just motivated people. (Kniberg & Ivarsson 2012.)

4 STATE OF AGILE SURVEY LEARNING

The State of Agile is a survey by Digital.ai that publishes agile trends, the best practices and feedback of transformation stories, and the report claimed that it is the largest, longest-running and most widely cited agile survey in the world. The survey received responses from over 40000 Agile executives, practitioners, and consultants between August to December in 2019 around the globe. The responders are from North America 41%, Europe 31%, Asia 13%, South America 11%, Africa 2% and Oceania 2%. Among the organization's that participated in the survey, one-fourth had more than 20000 employees. 41% of the respondent organizations have less than 1000 employees, 19% have 1000 to 5000 employees, and 15% have 5000 to 2000 employees. It shows that Agility has been welcomed by organizations regardless of size. Respondents of the survey are from diverse roles, such as ScrumMaster or Internal coach, Technical roles, Development Leadership, Development Team, External Consultants, C-Level Executive, Business Analyst, DevOps and others. One of the most fascinating facts is that the survey covers almost all type of industries from Technology 27%, Financial Service 17%, and 7% from Professional Services, Government, Insurance, Manufacturing, Telecommunication, Healthcare, Education, Retail, Media, Transportation, Energy, Non-Profit, and others. (Digital.ai 2020.)

Among the participant organizations, 95% answered positively regarding practicing Agile development methods. Only 18% of the participants answered that all of their teams are Agile. Organizations having less than half of the fully Agile teams were 44%. This reflects that Agile adoption is still growing and there are opportunities in that process. Agile methodologies have been the most critical for software industries. In this survey, among the different departments of the agile organizations, the most popular department is Software Development 37%, and then, IT 26%, Operation 12%, Marketing 7% HR 6%, Sales 5%. Agile adoption is spreading to all areas of the organization. Agility is about improving the working process, making it transparent, customer-focused, increasing value, reducing waste so adopting the practice with the department's harmony can bring better results. Face-to-face communication is one of the agile principles. However, 81% of the respondents had non-co-located Agile team members and 71% had co-located Agile teams collaborating across geographic boundaries. As there are tools available for video conference and better online meeting experience, becoming Agile had not stopped during the recent pandemic, and of course, Agility focuses greater value with the most available resources. (Digital.ai 2020.)

While responding the reasons for adopting Agility, 71% responded to accelerate software delivery, 63% were to enhance the ability to manage changing priorities, and 47% to improve Business/IT alignment. Other popular reasons are to enhance software quality, enhance delivery productivity and to reduce project risk, improve project visibility, improve team morale, reduce project cost, improve engineering discipline, better manage distributed teams. The survey also discovered that reducing project cost for adopting Agile dropped popularity by 15% and at the same time reducing project risk gained 7% popularity as a reason for adopting Agile. Altogether, 54% of organizations responded that they are still maturing, while 84% were below a high level of competency with Agile practices. On the other hand, the most top four popular responses on benefits of Agile were the ability to manage changing priorities, project visibility, Business/IT alignment, delivery speed/time to market. Other benefits after Agile adoption were team morale, increased team productivity, project risk reduction, project predictability, software quality, engineering discipline, managing distributed teams, software maintainability, project cost reduction with a better percentage than the response for the reason of adoption. This clearly represents Agility has a positive outcome for their organization. (Digital.ai 2020.)

Scrum with 58% responses was the most practiced methodology. A total of 7% of the respondents were using Kanban, 10% preferred ScrumBan, and became the second most preferred method. Extreme Programming had 1% of the response while 8% were using the ScrumXP hybrid method. Lean Startup, Iterative Development, and a few others were also used combined 17%. The top six popular Agile techniques were Daily standup 85%, Retrospective 81%, Sprint Planning 79%, Sprint Review 77%, Short Iteration 64%, and Kanban 63%. In the category of, popular frameworks for scaling Agile across an organization, Scaled Agile Framework (SAFe) has the highest response 35%, which is 30% higher than 2019, and that indicates increasing in acceptance. Altogether, 16% responded to use Scrum of Scrums in scaling Agile. 28% do not know or mention a new name which indicates something fit with their organization and at the same time embracing different Agile techniques. (Digital.ai 2020.)

Organizations measure their Agile transformation success through positive momentum in different area of businesses. From the survey, popular business areas for this measure are customer satisfaction 58%, business value 54%, on-time delivery 48%, business objective achieved 44%, productivity 40%, organization culture 37%, process improvement 35%, predictability 35%, project visibility 29%, and product scope 15%. It is noticeable to see how Agile organizations set priority on customers, quality and value over achieving business objectives. That makes them more successful and open to ever evolving world. However, individual Agile projects prefer in sequence, business value, customer, velocity, budget and actual cost, and other issues with their productivity in the process. Change is always difficult, and Agile

brings a new philosophy to the business environment. Thus, it is obvious the transformation challenges organization had to be faced. (Digital.ai 2020.)

According to respondents, general organization resistance to change was the top challenge with 48% responses. The survey found that the second most common challenge in the transformation process is not enough of the executive leader's participation was the second in the list. Other challenges are inconsistent process and practice across teams, organizational culture at odd, lack of skills and insufficient training, the pervasiveness of traditional method, measuring technique, regulatory compliance. Atlassian JIRA with 67% responses was the most practiced Agile project management tool. Other tools were: Microsoft Excel 40%, and Microsoft Azure DevOps 23%, so on. Plans to use automated acceptance tools in the future increased in 2019 by 7% compared to 2018. General popular tools were Kanban board, Taskboard, Bug tracker, Spreadsheet, Agile project management tool, Wiki, Automated build tool, Unit test tool, Wireframes, Product roadmapping, Static analysis, story mapping tool, and others. (Digital.ai 2020.)

5 CONCLUSIONS AND DISCUSSION

The research problem of the thesis was related to giving an overview of the considerations for embracing Agility into an organization. The questions to be solved here were: What is Agile? What is the history of Agile? How can we explain the meaning of an Agile organization and the pathway of the transformation? How beneficial it is for those organizations who went through the transformation?

Agile is philosophy, a mindset and a way of doing things. The agile mindset creates its foundation with the values and principles from the manifesto. The end goal is to embrace Agility for higher performance and excellence, not adopting a certain framework. Thus, the organization has flexibility in its approach, to choose a framework. In chapter 2, One of the pioneer ideas behind the scrum was the “rugby” approach. This idea was used by a few successful industries back around 1980 for increasing producibility and fast delivery. So, it started outside of IT and was adopted widely and became very popular in the software industries after the signing of the Agile manifesto in 2001. In this fourth industrial revolution where digitalization is a key factor and technology has reached in all areas, organizational Agility became an important term for competitive advantage. The value and principles of Agile manifesto had shared that Agility is all about putting the customer first, delivering continuous value, building a self-managed work environment with proper communicative structure, having minimal waste and bureaucracy, decentralized decision making with motivated team members.

To stay in this highly competitive global market embracing the Agility is essential. In chapter 3, the purpose of Agility is to build a high performing culture which will be responsive, customer-centric, able to deliver value fast, able to strive through change, innovative, self-organized, transparent. Organization Agility means embracing the value of Agility. The framework will help to set the structure so that people can practice the new way of working at the same time framework will adjust according to the business needs. Regardless of the organization’s size, all areas of an organization can practice Agility, such as customer management, portfolio management, leadership and culture, human resource, development and operation, information system. Before starting the transformation, leaders, executives and the organization should have a clear understanding of their need to change and how Agility can help for the solution. PayPal, Bosch, and all other organizations have done it and believed in Agility for their solution. The transformation will start with leaders and executives so that they can lead by example and empower the whole organization in the journey. The organization must ensure the sustainability of its accomplishment by continuous inspection, growth plan, and learning. Successful transformation provided great value for

organizations, such as PayPal, Bosch, Spotify and others. In chapter 4, the survey shows Organizations are still maturing their Agility, and the future is more Agile. Agile has steady benefits which give reason to embrace it.

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