Driving Organizational Effectiveness: Implementing Safe Agile Framework for Team Alignment in Large Organisations.

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Abstract

Implementing the Scaled Agile Framework (SAFe) in large organizations is crucial for achieving organizational effectiveness, especially as they expand globally. The SAFe framework, initially designed for software development, has evolved to cater to diverse industries like health, manufacturing, engineering, and financial services. The study elaborates the significance of implementing SAFe agile framework for team alignment in large organisations. SAFe operates at four levels: Team, Program, Large Solution, and Portfolio. Efficient collaboration, communication, and coordination, the three Cs of SAFe Agile, are essential for synergy across these levels. To practically implement SAFe and achieve team alignment, organizations should follow ten SAFe principles. These principles include taking an economic view, applying systems thinking, assuming variability, building incrementally with fast learning cycles, basing milestones on objective evaluation, ensuring uninterrupted value flow, applying cadence, unlocking intrinsic motivation, embracing decentralized decision-making, and organizing around value. Balancing bottom-up and top-down approaches through a middle-out method ensures effective SAFe implementation. This approach combines the strengths of methods, fostering cross-functional collaboration and effective communication channels from teams to the portfolio level. In conclusion, large-scale businesses may enhance organizational success through the transformational process of applying the SAFe framework

Recent Research Reviews Journal, June 2024, Volume 3, Issue 1, Pages 16-33
DOI: https://doi.org/10.36548/rrrj.2024.1.002

for team alignment, which improves alignment, cooperation, efficiency, flexibility, and continuous improvement.

Keywords: SAFe, Team Alignment, Agile Implementation, Agile Principle, Large Organisation

1. Introduction

Agile was the foremost framework developed for small organisations to coordinate their project management approach (Sheedy & Shankara, 2013). However, as such organisations grow and expand from mere traditional or local businesses into one that caters to their worldwide audience, there is a need for a more suitable approach to organisational effectiveness. For this reason, there is a need to "scale agile" since many large-scale organisations need to be involved in large projects, coordinate employees' activities, and ensure smooth information sharing among their teams worldwide.

Previously, the scaled Agile framework (SAFe) was used for software-developing organisations. However, the concept has since extended to all other industries, like health, manufacturing, engineering, and financial services (Almeids & Espinheira, 2021). To implement effective SAFe and ensure team alignment, every organisation needs to ask questions like;

1. How should we scale Agile transformation, top-down or bottom-up?
2. How can we align our team to serve common goals and objectives of the SAFe framework?
3. How will we coordinate and plan releases across multiple Agile Release Trains (ARTs)?
4. How will scaling Agile framework benefit our organisation regarding efficiency, collaboration, and value delivery?
5. How will the current organisational structure need to evolve to support the principles of SAFe?
6. Have we conducted a thorough analysis of our current value streams to identify problems and areas for improvement?

7. What key performance indicators (KPIs) will we use to measure the success and effectiveness of our scaled Agile framework implementation?

2. Literature Review

2.1 Scaled Agile Framework (SAFe)

The concept of SAFe Agile is needed for large organisations, and this article explores how to use Dean Leffingwell's principles to implement SAFe Agile in large organisations. Several kinds of literature (Stojanov et al., 2015; Paasivaara, 2017; Christopher & De Vries, 2020; Block, 2023) have talked about how to Scale Agile in large organisations, but their concepts have usually deviated from the basic guiding principles. This deviation often results in myopic and overly stressed guidelines for many Agile organisations.

Therefore, this article delves into the significance of implementing SAFe in large organizations to achieve organizational effectiveness, addressing critical aspects like scaling approaches, team alignment, release planning, organizational structure, value stream analysis, and performance measurement.

2.2 SAFe Principles Significance in Achieving Organizational Alignment and Effectiveness

Having dealt with the SAFe levels and having seen the necessity of proper collaboration, communication, and coordination among these levels, the question remains, "What is the practical approach to implement SAFe Agile within various levels and ensure synchronization across all levels in terms of team alignment?" Looking at the SAFe principle will answer this question and other questions that have been raised in the introductory part of this article. This principle is based on ten specific approaches to help large-scale organisations implement SAFe Agile and effortlessly align their team members (Knaster & Leffingwell, 2020). They are;

2.2.1 Take an Economic View

To take an excellent economic view, organisations should consider their customers' needs and how well to satisfy them. In every organisation, this approach is necessary to its project and strategies because customers' make decisions within an economic context. They

will only purchase your product or patronize your services if it will do them well (Alahyari et al., 2017). Anything short of that means there is a problem in communication, collaboration, or coordination of an organisation's Agile Release Train (ART). Hence, organisations need to consider the economic impact of their product decision process and use this to make an informed decision.

For instance, an organisation can look at the proposed gain for a product and use the market with the highest ability to yield a better return on investment (ROI). An economic view helps organisations align team members to serve common goals and objectives within the SAFe framework, as every member aligns with the organisational and customer's economic benefit (Hussain et al., 2022).

2.2.2 Apply Systems Thinking

There are three major pathways to implement the SAFe Agile "apply system thinking" principle:

- The enterprise building system
- The value streams and
- The solution itself.

The enterprise building system refers to the people who work within the organisation and the process used to manage these people. Hence, one advantage of the enterprise building system is that it helps easy coordination among multiple ARTs (Leffingwell, 2018).

Therefore, large organisations should encourage cross-function among various units or departments. The enterprise building system permits easy value flow within the organisation because it would have defined the basic management concept, which translates to cash or profit, and the transition is referred to as the value stream. However, for the money or profit to be made, there is the need for a product or service; the product or service is the solution itself.

Moreover, the "economic view principle" would have made the "solution" provided something the customers are eager to use.

2.2.3 Assume Variability; Preserve Options

Assuming variability means that every organisation should recognise that designing a product or solution for human consumption is uncertain because it is still being determined whether it will yield the desired result. An organisation should assume variability by relying on empirical data from the "economic view" approach (Purvis et al., 2014). This data will inform decision-making and give room for various viable options if there is a need for more proffering a solution through organisation products or services. The approach makes it easy to look inwardly at the enterprise building system and its value stream, identify probable gaps in the solution, and preserve options that can generally improve it (Theobald & Schmitt, 2020).

2.2.4 Build Incrementally with Fast, Integrated Learning Cycles

Now that risks have been assessed and there are open options to mitigate them, it is necessary to do this in a series of short iterations. These short iterations are called Program Increment (PI). They are the learning cycles because they allow for customer feedback, which can eventually be implemented before the official release of the solution/product. In this case, any solution that cannot reach the market is a prototype for customer validation and market testing. The solution becomes the minimum viable product (MVP), which connotes that the solution can be worked upon and extended or improved based on changing economic views (Kazakevich & Joiner, 2023).

2.2.5 Base Milestones on Objective Evaluation of Working Systems

It is insufficient to base decision-making processes on ephemeral evaluation of success; organisations must know what will work better. They should consider how scaling Agile framework benefits the system regarding efficiency, collaboration, and value system delivery. Therefore, the team and other stakeholders must be involved in decision-making. Hence, solutions will be evaluated through its development life cycle. The internal coordination between several ARTs and other stakeholders will ensure a seamless and progressive working pattern to better the value system delivery (Putta et al., 2019).

2.2.6 Make Value Flow without Interruption by Visualizing and Limiting Work-In-Progress (WIP), Reducing Batch Sizes, and Managing Queue Lengths

If an organisational structure effectively supports the SAFe, then, after developing and knowing what works better for them, they should use it flawlessly. Using it connotes that they should make the system flow and give teams and sub-teams the autonomy to implement the value stream (Kowalczyk et al., 2022). Now, when they do this, there should be no work overlap; each value proposition should be executed one after the other and in small batches. These small batches allow easy validation, which will inform the decision of whether to continue with the initial proposition or not. This value flow avoids the problem of total overhaul of a proposition that already consumes time, money, and energy but does not eventually factor into the economic view of the people who will use the solution.

2.2.7 Apply Cadence, Synchronize with Cross-Domain Planning

Cadence is easily applied in the SAFe through constant iteration because cadence provides a rhythmic and predictable developmental process. Cadence makes it possible for teams not to be under pressure of not knowing what to do, especially when an organisation needs to bring in some changes through a value proposition. They know that it might be a different value proposition, but it is generally a similar mode of operation, so they need not be under any pressure.

This cadence or iterative process must be synchronized across working domains or teams where several perspectives or propositions are understood, resolved, and integrated into the value stream simultaneously. This synchronization is needed because there are often inherent development uncertainties, even when using a new proposition, perspective, or value system based on empirical data obtained from an economic view. However, synchronization and cadence, coupled with continuous cross-domain implementation, provide the mechanism to operate even in the face of inherent uncertainties.

2.2.8 Unlock the Intrinsic Motivation of Knowledge Workers

Organisations with training and coaching methods fare better than others with authoritarian approaches. There is a need for intrinsic motivation to inspire the workforce. These motivations are not mere rewards for excellence, which can create internal competition among teams and demotivate others who think they are not rewarded. These motivations are the autonomy that individual team members get to improve their mastery of working

procedures, making them look back and say, "I am becoming better." Their increase in knowledge can only come from the consistent implementation of management processes that have been integrated into the value system.

2.2.9 Decentralized Decision-Making

Allowing team members to make decisions in the organisation's interest gives them a sense of belonging. Making a decision does not mean they do what they want; instead, they already know the organisation's objectives. They are given the autonomy to use any method suitable to achieve such an objective. Forcing methodologies upon them may make them do the work, but this would instead lengthen the information queue and make implementation longer. Allowing them to decide makes them more loyal and responsible to the organisation. Organisational leaders should be more inclined to make decisions that deal with critical centralized strategies and leave other choices to the sub-team leaders, ARTs, and individual employees.

2.2.10 Organize Around Value

The ARTs should be structured to optimize value delivery since they are the simplest, most basic unit of a large organisation. Organizing around value helps organisations know their solution and value system’s key performance indicators (KPIs). These KPIs may include but are not limited to customer satisfaction, employee engagement and satisfaction, and return on investment (ROI). This value proposition still emanates from the initial economic view. If all workers work with the organisation’s values, they will implement solutions for economic problems.

3. Levels of Scaled Agile Framework (SAFe)

To effectively implement SAFe, organisations need to consider the levels of SAFe. According to Dean Leffingwell (2011), there are four significant levels to be considered when doing this, and from bottom to top, they are:

3.1 The Team Level (SAFe Level 1)

The team level is the primary SAFe level and comprises experts or professionals working on the organisation's goals or objectives. These people may include business analysts, testers, or product owners. These people work hand-in-hand to ensure product value.

3.2 The Program Level (SAFe Level 2)

The program level defines combinations of teams working on solutions that will be delivered through the Agile Release Train (ART). The ART usually consists of 50 to 125 people, subdivided into 5-12 teams (Alquda & Razali, 2016). Hence, a team may contain between 6 to 15 people. ART ensures that the most important things come first; they troubleshoot to mitigate risk and identify novel areas of improvement through Program Increment (PI).

3.3 The Large Solution Level (SAFe Level 3)

The large solution level may be called a "solution train," which comprises two or more ART. Usually, each ART team works on a particular solution; this solution also depends on the work of other teams. In essence, SAFe level 3 oversees the interdependent and collaborative works of multiple ARTs, ensuring all works align with the organisational objectives (Alquda & Razali, 2016). This is why this level is also called the Value Stream level.

3.4 The Portfolio Level (SAFe Level 4)

The portfolio level is the highest SAFe level; it defines the very essence of the business. Hence, the portfolio level deals with executing the SAFe level 3 solution through new ideas (Alquda & Razali, 2016). This level ensures that the solution from SAFe level 3 aligns with the organisation's priorities, purpose, and value.

4. The three C's of Scaled Agile Framework (SAFe)

For each SAFe level to work together for effective implementation of the SAFe Agile framework, there must be efficient

- Collaboration
- Communication and

- Coordination

Several ARTs need to collaborate to know what other ARTs are doing concerning the organisation's needs; this will inform their decision and help them build/produce something that, together with other ARTs, proffer solutions for their customers (Marinho et al., 2021). In cases where an ART team sees a deficiency in what others are doing, they should be able to inform and give advice on the project requirement or scope through effective communication. The approach prevents misunderstanding and ensures that every team and team member is working towards the same goal (Marinho et al., 2021).

Coordination is usually attributed to the SAFe level 4 because it deals with task management, which ensures that projects are done on time and within the stipulated budget. If coordinated progress is made, tasks should be broken down into small achievable units to tackle problems correctly during this period (Marinho et al., 2021).

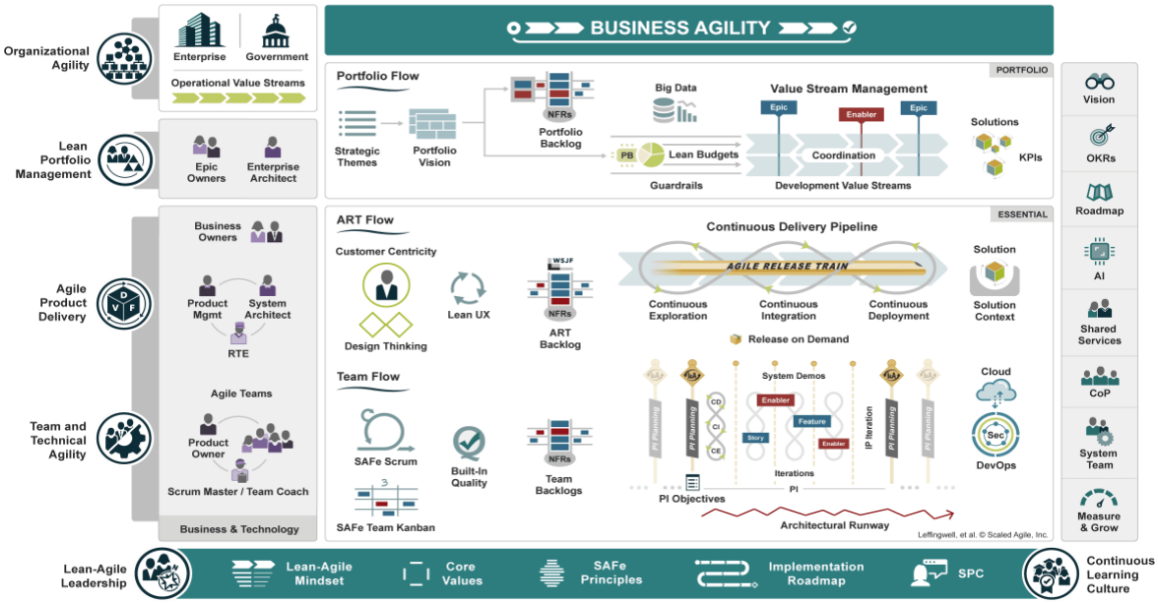

Figure 1. SAFe 6.0 (https://scaledagileframework.com/)

5. Challenges of Applying Large-Scale Agile in Organizational

Although many companies use agile methods, it is still unclear in which environments and under what conditions they really work (Lindvall, 2014). Researchers have stated that agile

development in its pure form is likely not a good solution for large, traditional systems development organizations. The number and the classifications of challenges vary from article to article, depending on the research methodology used, the article's goal, and the time period in which the research was conducted. Organizations try to adopt agile practices to become more competitive, improve processes to manage changing requirements, but they face additional challenges in the integration of agile development at the organizational level. Uludag et al. (2018) classified the 79 difficulties into 11 categories, which reflects the subject's complexity. Conversely, Hobbs and Petit (2017) make use of two major categories of difficulties. "Because of the fixed rule bases and assumptions built into the methods," difficulties pertaining to the methods themselves fall under the first group.

The obstacles posed by the business that “will prevent the successful application of the new methods” make up the second group. Naturally, there are a lot of interdependencies in huge businesses, which means that managing them through mutual adjustment as in agile approaches may be challenging. The team is only one stage in the process of creating value inside a company, and each team must collaborate with other teams to complete its tasks. It can be challenging to extend agility outside of the team as, while it may foster flexibility inside the team, there may be insufficient responsiveness within the surrounding organization (Paasivaara & Lassenius, 2016). Problems with the self-organizing team concept, one of the core tenets of the agile methodology, present another difficulty in multi-team settings (Rolland et al., 2016). When a team is self-organizing, they make choices together informally and in brief meetings rather than depending on a single owner to direct the project. Many individuals work in many development teams inside large corporations.

Teams may become disorganized in their application and utilization of agile techniques as a result of this circumstance (Dingsoyr & Falessi, 2019). The management of knowledge sharing and transfer with stakeholders is another issue associated with multiteam environments. There are differing opinions regarding knowledge sharing and transfer on agile projects because, although agile teams spend time sharing information internally, they share little information with external groups (Uludag et al., 2018). Although agile methodologies have made it possible for information to be transferred and shared inside the team, searching and sharing it outside remains a challenge. Consequently, managing information about system components and their relationships with all parties participating in the wide-enterprise agile deployment is a difficulty.

Due to the challenges associated with matching individual projects to the overall business objectives of the firm, enterprise architecture (EA) is implemented, especially in big enterprises where business processes need to be given more structure. According to some studies, when using agile development, the necessity for a holistic EA is frequently disregarded, which can result in a number of issues like technical debt, needless rework, inconsistent communication, locally focused isolated design, fragile architecture, and divergent coding styles (Paasivaara & Lassenius, 2016). Due to this circumstance, integrating EA frameworks with agile methodologies and striking a balance between projects and organizational agility become difficult tasks (Duijs, Ravesteyn & Marlies, 2018).

6. The Solutions for Applying Agile at Organization Level

Finding the solution facilitates in adapting agile development techniques to a given corporate setting. The use of hybrid agile/traditional techniques, integrating agile methods with EA frameworks, and implementing agile frameworks on a broad scale are the three primary types of solutions.

6.1 Using the Frameworks for Large-Scale Agile: Companies have resorted to specialized frameworks like Scaled Agile Framework (SAFe), Large-Scale Scrum (LeSS), Nexus, and Disciplined Agile Delivery (DAD) in order to handle the complexities associated with large-scale transformations. Conboy and Carroll (2019) claim that while some of these frameworks do a great job of explaining the fundamentals, members of the agile teams have spoken of misinterpreting the routines and context when using them in the particular circumstances of their businesses. SAFe combines DevOps, agile, and lean concepts, techniques, and capabilities. There are four levels to this framework: team, program, major solution, and portfolio, each with their own set of tasks. These levels are interconnected and provide program and team sizing models that may be used to bigger organizations for scalability (Scaled Agile, 2017).

6.2 Integrating Agile Methods with EA Frameworks: One crucial problem is whether or not specific agile initiatives comply with EA frameworks. Agile methodologies and EA frameworks together present a novel and difficult problem for businesses. The latter are viewed as being very flexible and loose, whereas frameworks like COBIT, ITIL, or TOGAF are more closely associated with bureaucracy and procedure. This topic has previously been the focus of

several studies. In 2015, Hanschke, Ernsting, and Kuchen introduced a framework that combines Scrum with the TOGAF architecture development approach. According to their concept, sprints are used to build the business, information system, technological, and architectural visions. The coexistence of agile project management with ITIL v. 3 in an IT company was examined by Verlaine, Jureta, and Faulkner (2016).

Ozkan (2015) noted the dangers, difficulties, and problems with applying COBIT and Scrum. Conformance to the plan is crucial in EA frameworks, and every component has thorough documentation. Even near the end of the development process, requirements might be changed with agile methodologies, and documentation needs to be kept to a minimum. Whereas agile teams cooperate closely and are defined by self-organization, EA frameworks emphasize command and control in management. Additionally, in the case of agile methodologies, risk and uncertainty are addressed experimentally rather than being fully analyzed as in the EA framework.

6.3 Using Hybrid Methods: Large corporations used to primarily use the Waterfall model for software development; but, in recent years, as the Agile approach has gained popularity, they are progressively switching from the Waterfall model to the Agile methodology. Every one of the two software development methodologies possesses advantages and disadvantages, and they are suitable for specific project attributes. Some businesses attempted to combine the two, either in parallel projects or as a transitional phase between plan-driven and agile methodologies. However, because agile approaches bring substantial changes regarding team hierarchies, organizational structures, planning or regulating procedures, their cohabitation in the same organization was often viewed as difficult, producing friction on all organizational levels (Dikert, Paasivaara & Lassenius, 2016). Organizations with conventional software development procedures that wish to implement agile methodology and utilize both techniques concurrently may find relief through the usage of hybrid control mechanisms (Mahadevan, Kettinger & Meservy, 2015). The hybrid mechanism differs from both emergent control unique to the agile methodology and traditional outcome control found in the Waterfall model.

7. Method

This study focuses on implementing the Scaled Agile Framework (SAFe) in large organizations. A review of existing literature on SAFe implementation and Agile methodologies provided a theoretical foundation for the study. This literature review provided

perspectives and insights on SAFe implementation processes, team alignment strategies, release planning methodologies, and organizational structures. Moreover, it was found that most strategies need to follow the fundamental guiding principles of scaling SAFe Agile. This made us re-propound and deal extensively with the ten founding principles of SAFe.

8. Discussion

8.1 Scaling Agile, Bottom-Up or Top-Down?

Having looked at the four levels of SAFe, it is pertinent to consider whether scaling Agile from the bottom (team level) to the top (portfolio level) or vice versa. Scaling agile from the bottom-up undoubtedly gives the team a sense of ownership, allows for quick iterative changes and builds a family tradition among various ARTs (Putta, 2018). However, there are better methods for team alignment than the bottom-up method since there is no central leadership support, and various ARTs may unintentionally work against the organisation's objectives (Balcicek et al., 2013).

On the contrary, the top-down method offers better alignment since organisational leadership already sets a clear vision and direction with which all teams can adequately align. Moreover, changes based on economic views can easily be communicated (Balcicek et al., 2013). However, there may be a slow iterative process since teams may need to know the leadership views before embarking on a project. Moreover, since the top level (portfolio level) usually finds it difficult to interact with the lowest level (team level), they may need a greater understanding of the daily challenges of the bottom level.

8.2 Middle-Out

The way out is a balanced approach that combines scaling Agile bottom-up and top-down (Dingsoeyr et al., 2016). This combined method is called "middle-out." It ensures cross-functional collaborations and effective communication channels from team members to ARTs until it reaches the portfolio level. Changes made at the top go through effective channels and are communicated to the teams (Alawairdhi, 2016). This method still gives team members a sense of ownership while aligning all ARTs properly with the organisational goals. The leadership of every ARTs would have been adequately represented, and their challenges would

be communicated to the central authority, which then proffer solutions based on economic views. ARTs leaders eventually pass on this solution back to their team.

9. Conclusion

Undoubtedly, effective SAFe implementation requires identifying value streams, ensuring the ARTs are aligned with the organisational goal by providing the economic view of the solution they are working on, training the team, and sustaining and improving every iterative procedure. Implementing the Scaled Agile Framework (SAFe) principles in large organizations presents a multifaceted approach to achieving organizational effectiveness and team alignment. By addressing key questions surrounding scaling approaches, team coordination, release planning, organizational structure, value stream analysis, and performance measurement, this study provides valuable insights into navigating the complexities of agile implementation on a large scale. One of the most important steps in promoting organizational performance in large businesses is the implementation of the Scaled Agile Framework (SAFe) for team alignment. Organizations may get improved alignment, cooperation, and efficiency by implementing agile techniques in complex business contexts with more structure and efficiency thanks to the SAFe framework.

Furthermore, the middle-out approach to scaling agile balances bottom-up and top-down methods, ensuring cross-functional collaboration and alignment with organizational goals. This study underscores the importance of strategic planning, effective communication, and adaptive leadership in driving successful SAFe implementations. By adhering to the guiding principles outlined herein, organizations can confidently navigate the complexities of agile transformation, ultimately enhancing their ability to deliver value and remain competitive in today's dynamic business industry. In conclusion, large-scale businesses may enhance organizational success through the transformational process of applying the SAFe framework for team alignment, which improves alignment, cooperation, efficiency, flexibility, and continuous improvement. Organizations may overcome complexity, expedite value delivery, and prosper in the current competitive and fast-paced business climate by adopting SAFe concepts and practices.

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