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Navn:

Miitta Hyvämäki Takvam

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Scalability of the Management System in a growing organization

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Contents

Abstract

In this project task, I have focused on the scalability of a case company's Management System by defining the background and the current state, identifying areas that require improvement, and providing the case company with clear recommendations on the scalability of the Management System. My goal was to make sure that the case company's Management System is prepared for scaling up when or if it happens.

I have used theories and concepts to analyze the scalability of the case company's Management System and to identify the improvement areas. I have provided concrete recommendations for the case company on how to keep the Management System scalable as the organization continues to grow.

The motivation behind this project task is the fact that I have worked at the case company for four years, and I have worked with the Management System for those four years. The reason why I wanted to write about the scalability of the Management System is because it is something that relates to my everyday work closely, and it is extremely important when thinking of governance, risk, and control in an organization.

Introduction

As a company grows and expands its operations, its Management System needs to keep pace with the increasing complexity and demands of the organization. A scalable Management System ensures that a company can effectively manage its compliance obligations, risks, and keep track of its internal controls as it grows and expands.

In this project task, I am focusing on a case company, and I will define the current state of their Management System, based on theory analyze and identify improvement areas related to scalability, and provide actionable recommendations for keeping the Management System scalable as the company continues to grow. My goal is to make sure that the case company's Management System is prepared for scaling up when or if it happens.

I have worked at the case company for four years and I have been working closely with the Management System ever since I started at the company.

Research method and scope

I have decided to use a theoretical research method as there are a lot of articles and books about organizations scaling up, as well as general Management Systems and I wanted to combine the information and apply it to the case company.

I have limited the literature to English books and articles published in the past ten years, or with a new version within that period. I have limited the search to books and articles found in electronic format. The key words used for searching for relevant literature for the literature review have been "scalable organization", "scalable company", and "scalable management system". After finding and reading the main literature found with the key words, I have also found other books and articles based on the topics and areas that seemed interesting found via the key words.

The case company has built a solid foundation to the Management System, it is designed well, and is operating effectively. I am trying to find the smaller details that could be improved or that should be concentrated on now or within the next years.

Background

Background

The case company is a Norwegian financial technology (fintech) business founded in 2016 offering secure physical and digital payment and identification solutions to merchants. Since 2019 the case company has grown from around 20 to over 50 employees with the first products brought into the Norwegian market in 2020.

The case company's current Management System was created at the end of 2016 using the PDCA methodology (plan-do-check-act) and was restructured in 2019 when the company decided to attain an ISO/IEC 27001 certification which is a world-leading standard for information security management systems (ISMS). The case company decided that the ISO/IEC 27001:2013 certification covers all operations in the organization, and it received the certification in 2020, being recertified in 2023.

Current state

I have created a visualization of the case company's Management System by updating a figure made by the case company in 2018:
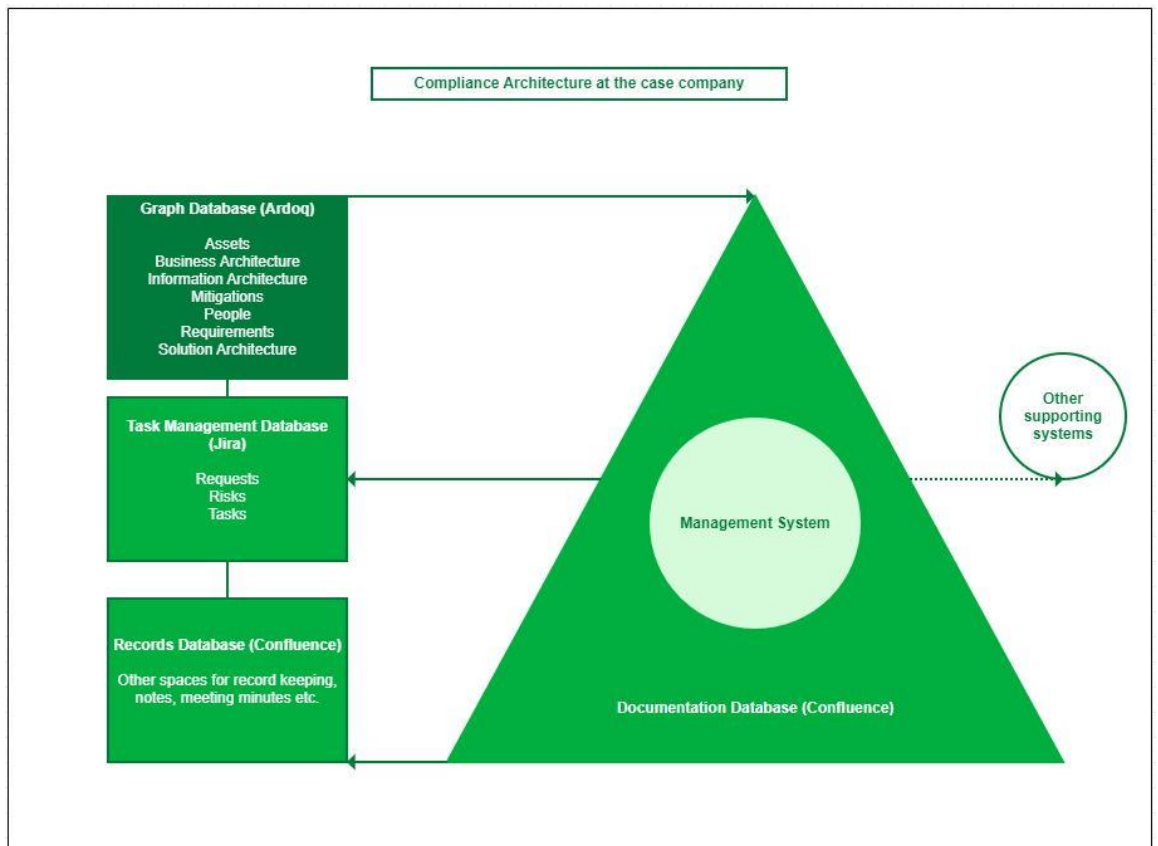
Figure 1 Visualization of the case company's Management System

The Compliance Architecture in the figure above explains the relationships between the systems that are related to the case company's Management System. A crucial part of the Compliance Architecture is the Graph Database in Ardoq. This system is used to graph and map various parts of the organization linking different components together with references building relations, for example, from assets to asset owner roles, from roles to the employees owning the roles, from requirements to specific mitigations. Ardoq is embedded in many of the Management System's processes, such as onboarding and access management, and is also embedded in the case company's Task Management Database in Jira. There are also some other supporting systems used for specific purposes such as vendor management.

The case company's Management System is divided into policies, processes, and roles and responsibilities. Other procedures are mostly outside the Management System, in Confluence, but are linked in the policies and processes. The policies and processes are divided into 10 different value chains (e.g., Corporate, Privacy, Information Security) and different labels are used for creating various overviews

of the documentation (e.g., role-legal, approved, annual-review). All policies and processes have a set metadata table that includes, for example, owner role, approver role, review period, and value chain.

The owners and approvers of policies and processes are roles, and the names of the role owners are defined in the overview of roles and responsibilities. The overview of roles clearly states who is the owner of each role with links to the policies and processes that they own. The list of roles only includes the roles used in the Management System documentation and does not include other titles used by the employees. These roles are also found in Ardoq with references to the role owners as described earlier.

Information security is key and is embedded in the case company's whole organization and the Management System. There is only one Management System meaning that there is not a separate Information Security Management System (ISMS). Most of the documentation in the Management System are mitigations to specific requirements, such as the controls from the ISO 27001 certification requirements, as well as many other requirements that are mapped in Ardoq. The integration between Ardoq and Confluence allows integrating presentations from Ardoq to the documentation in iFrames that are synced in real time. There is also some integration possibility in Ardoq for Jira which should be evaluated but has not yet been.

The case company's Management System is built on the PDCA methodology (Plan-Do-Check-Act), and it has three annual cycle processes. The tasks from the annual cycles are scheduled in the Task Management Database in Jira. The project used for scheduled issues in Jira has a customized last step in the workflow which ensures that the requirements, and other data, in Ardoq are kept up to date with continuous improvements and changes that happen before or during the annual cycle reviews. The project in Jira is also used on other governance, risk, and compliance related tasks that might for example come up on bi-weekly status meetings arranged to certify that all those tasks are closed within a reasonable time frame. The status meetings are held by the Governance, Risk and Compliance Coordinator (me – the author of this project task), and other

participants are Head of Legal, Chief Risk and Compliance Officer, and Chief Information Security Officer.

The case company has external internal IT audits related to the ISO/IEC 27001:2013 certification. The IT audits should be organized at least every three years and the case company has established that its controls are audited throughout a three-year rotation cycle.

Latest and upcoming improvements

The latest improvement related to the scalability of the case company's Management System has been updating and making sure that the geographic scopes, included in the metadata in all policies and processes, are correct. The goal is that all policies and processes have European Economic Area (EEA) as geographic scope, but this is not yet possible with every policy or process so some might have Norway as scope. This will be corrected when and if the situation occurs that other countries should be in the scope, but, for example, human resources have specific regulations in each country that cannot be accounted for prior the situation occurs.

The ownership of documentation has been changed to roles instead of using employees' names as it is much easier and faster to update the roles and responsibilities page instead of updating each policy when the ownership of the role changes – this change took place in 2021. Another improvement made related to roles is that a process for organizational changes was created in 2022 – this process is focused especially on the changes to the roles and responsibilities that are listed on Confluence. The (organizational) change management process ensures that all different aspects are looked into and documented when an employee, for example, changes roles – one of the biggest aspects being related to access management.

Another improvement that has been decided and implemented in the beginning of 2023 is that governance, risk, and compliance has its own slot on all staff meetings organized regularly for the whole organization. This raises awareness,

and different topics are chosen based on current issues, changes made to policies and processes that should be shared with all employees and more.

An upcoming improvement related to the scalability of the Management System is the transition from ISO/IEC 27001:2013 to ISO/IEC 27002:2022 that is planned in more detail in Autumn 2023. The transition will be interesting as it is an adequate test for how scalable and flexible the created structure between, for example, Ardoq (requirements and mitigations), Confluence (documentation), and Jira (task management) is when there are changes to the controls.

Possible improvement areas

The scalability of the case company's Management System is at a sufficient level for now, at least from a compliance, risk management, and information security perspective. The results from, for example, the IT audits have been good and have improved each year. Possible improvement areas are awareness within all teams in the company, and automation of the systems related to the Management System. There are many technical solutions that can help a company's Management System while scaling up, but the human factor is huge, and awareness, as well as keeping everyone on the same page is a surprisingly big factor when needing the Management System to be kept up to date when the organization is growing – especially if it is growing fast. Automation can offer tremendous benefits and play a crucial role, provided it functions flawlessly. However, when an automation fails to perform as intended, it undermines the very essence of its value. The employees working on the systems should also have the resources to make sure that the systems are working efficiently.

The listed areas above are my own assumptions, and I will get back to them when I am analyzing and summing up the research.

Definitions

Definitions of management systems

"A management system is the way in which an organization manages the interrelated parts of its business in order to achieve its objectives" (International

Organization of Standardization, n.d.). The level of complexity of the system will depend on each organization's specific context (International Organization for Standardization, n.d.).

"An information security management system (ISMS) is a framework of policies and procedures for systematically managing an organization's sensitive data" (Dutton, 2021).

Alan Field (2019) defines Integrated Management System as "an IMS is an integration of all an organization's processes and systems working under – and towards – one set of policies and objectives" (p. 10).

Definitions of scalability

According to Cambridge Dictionary (n.d.), scalability is "the ability of a business or system to grow larger", and according to Merriam-Webster Dictionary (n.d.), scalable means "capable of being easily expanded or upgraded on demand".

Kleppmann (2017, p. 34) defines scalability as the term used to describe a system's ability to cope with increased load.

Theory and analysis

In this chapter, I will delve into the theory by examining two books that discuss organizational scalability as a whole, along with two books specifically addressing the scalability of management systems. I will thoroughly explore the key concepts and ideas presented in these four books and supplement them with relevant information from other sources such as additional books and articles that touch upon similar topics and relevant issues. Finally, I will conclude the chapter by providing a summary of the theory.

Scalable organizations

What steps should an organization take to ensure its ability to scale up effectively? Verne Harnish (2014) suggests that the leaders of an organization need to address 4 Decisions – People, Strategy, Execution and Cash – to gain a comprehensive understanding of their organization's challenges and to establish a solid

foundation for scaling up. Harnish (2014) examines different sized companies that have scaled up and analyzes how they did it focusing on the 4 Decisions. Ismail et al. (2014) suggest that "there must be a better way to organize ourselves" focusing mainly on companies that are the "winner-takes-all" in their market, and learning to how to scale organization suggesting that it has not been done before.

"There must be a better way to organize ourselves. We've learned how to scale technology; now it's time we learned how to scale organizations." (Ismail et al., 2014).

Frameworks and formulas

I will focus on two key concepts: the 4D Framework for scalable organizations (Harnish, 2014), and the MTP formula for exponential organizations (Ismail et al., 2014). These two concepts prove invaluable for organizations in various growth stages: they offer guidance to those already experiencing growth or preparing for it, while also providing support to organizations facing challenges in scaling up.

The first key concept is the 4D Framework created by Verne Harnish (2014) for growing businesses. The Framework includes these four elements:
- Driver: coaching, learning, technology,
- Demands: people (employees, customers, shareholders), process (productivity),
- Disciplines (routines): priorities, data, meeting rhythm.
- Decisions: people (happiness/accountability), strategy (revenue/growth), execution (profit/time), cash (oxygen/options) (Harnish, 2014).

The business should have control over the four elements and the sooner there is control, the smoother the scaling up process becomes, as a solid foundation is established that can withstand and adapt to changes with greater ease. The 4D Framework seems especially suitable for small organizations that are growing and need to ensure that the whole management (and therefore all employees) are on the same page. The 4D Framework pays a lot of attention to people, having "the right people doing the right thing" (Harnish, 2014), as well as on getting routines in place with a clear structure. "Goals without routines are wishes; routines without goals are aimless" (Harnish, 2014). The 4D Framework can also be used

focusing on one question at a time – choosing questions based on the 4 Decisions: People, Strategy, Execution, or Cash.

One limitation to the 4D Framework is the absence of precise examples guiding the answers to various questions, which increases the risk of incorrect utilization and potentially renders the results less useful. Moreover, the framework is primarily intended for management use, and another limitation arises from the fact that management may not always possess a comprehensive understanding of individual team tasks and the competencies of each employee. In such cases, it could prove beneficial for management to seek input from their employees to inform certain aspects of the framework.

The other key concept is Massive Transformative Purpose (MTP) which is a formula that establishes the purpose behind the organization's actions and defines the essential attributes required to successfully transform into an Exponential Organization. "An Exponential Organization (ExO) is one whose impact (or output) is disproportionally large—at least 10x larger—compared to its peers because of the use of new organizational techniques that leverage accelerating technologies." (Ismail et al., 2014, p. 19). The figure below shows the MTP formula and the attributes (Ismail et al., 2014, p. 60).
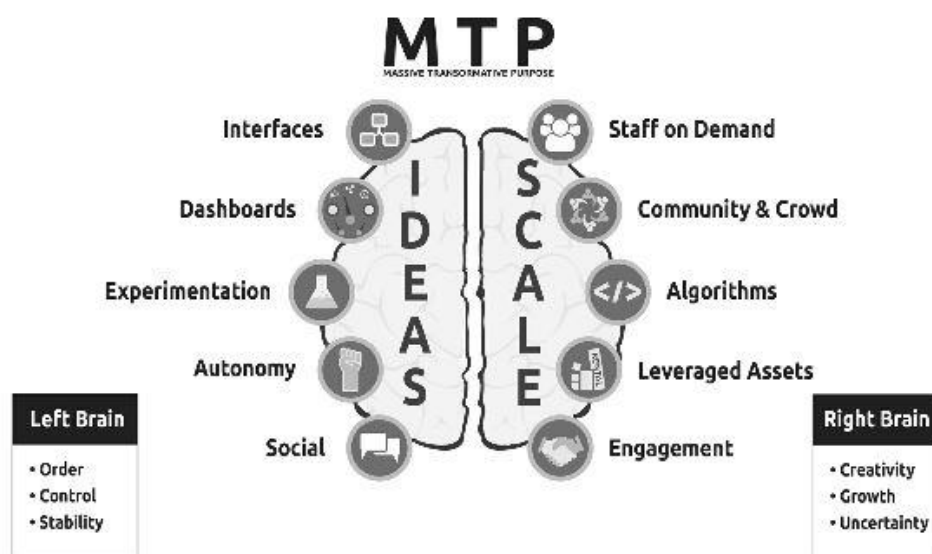

Figure 2 Massive Transformative Purpose (Ismail et al., 2014, p. 60)

The idea behind the MTP formula is that an organization should define the problem that they are solving by coming up with the question "What is the biggest problem I'd like to see solved?" (Ismail et al., 2014, p. 194). After coming up with the question, the organization should come up with an MTP for it. The Massive Transformative Purpose should not be a business decision, but rather an answer to an important problem in the world and showing the passion behind the company and its people and services. An important factor is that the leadership should share the passion for the MTP and have good team dynamics. "Leadership interaction proves to be an accurate barometer of team dynamics, clarity, decisiveness and cognitive biases." (Ismail et al., 2014, p. 198). After the organization has defined the Massive Transformative Purpose, it should determine which of the attributes need to be executed to successfully become an Exponential Organization. Ismail et al. (2014) have defined 11 attributes divided in two: left brain (order, control, stability) and right brain (creativity, growth, uncertainty). The organization does not need to implement all the attributes but rather focus on three or four of them. (Ismail et al., 2014, p. 213).

Examples of the attributes:
- Staff on Demand: use consultants,
- Community & Crowd: validate the ideas with correct communities, get product feedback and expertise,
- Algorithms: automate data streams, use cloud solutions,
- Leveraged Assets: do not acquire assets, use cloud computing, mentoring, peer input,
- Engagement: design products with engagement in mind, gather user interactions, gamify, build trust, engage crowd,
- Interfaces: design custom processes, do not automate until ready to scale,
- Dashboards: growth metrics dashboards,
- Experimentation: establish culture of experimentation, be willing to fail,
- Autonomy: implement an organization model with radical openness, transparency, and permission,
- Social Technologies: implement file sharing, cloud-based document management, collaboration and activity streams, emotional sensing (Ismail et al., 2014, p. 214-215).

The Massive Transformative Purpose formula serves as a valuable reminder for leadership, particularly during times of leadership transitions or significant changes in products, service, or the market. It helps realign the focus and maintain a clear sense of purpose. The organizational purpose should be transparent not only to the leadership but also to all employees. It is, however, common with lack of clarity, with individual teams primarily focused on their own defined purpose det by their respective team leaders.

One limitation to the Massive Transformative Purpose is that it does not give any details about how the leadership should pass on the purpose, and the chosen attributes, to the rest of the organization. An organization should have a unified purpose, yet different teams are essential to fulfill that purpose. Every team contributes to the overarching goal in their unique way, driven by their own specific objectives and operations.

Scaling up from 50 employees to more

Verne Harnish (2014) pays a lot of attention to the different sizes that organizations pass on their growth with different stages based on employee count. An interesting focus point is the fact that the case company is currently growing from 50 employees to more. As the landscape evolves, policies and processes that were once effective may now experience diminished efficiency. Roles expand, new requirements emerge, and the demand for increased automation in various processes becomes evident. Effective prioritization becomes supreme in navigating these changes. It is crucial for an organization to be prepared for the changes that accompany scaling up whether it occurs rapidly or gradually over time.

Verne Harnish (2014) provides good examples of what often happens when an organization grows from 50 employees:
- "40 to 70 employees (a senior team of five to seven people, leading teams of seven to 10 – in a company where you still know everyone's name)",
- "From 50 employees on up, the senior leaders must develop additional leaders throughout the organization who share the same values, passion and knowledge of business",

- "Between 50 and 350 employees, your information-technology systems need to be upgraded and integrated",
- "Once the company gets larger than 50 to 70 employees – the size at which the senior leaders no longer know everyone's name and start seeing "culture drift" – it is critical to codify the Core, articulate it, and reinforce it on an ongoing basis".

"The faster the company is growing, and the bigger it is getting, the harder it is to keep everyone on the same page" (Harnish, 2014). A company should have routines, structures, accountabilities mapping in place as those have a huge impact on all employees. There should be more focus on onboarding new employees even though it seems that quite often no one has the time to organize sufficient onboarding – this makes it longer for employees to integrate into the company. This is also linked to company culture, which plays a huge role in scaling up – the employees should feel as if they are part of a team, and they should hear from their top leaders and get a sense of being on the inside. One of the most powerful people-management is to find employee's strengths and focus on those assets, and the only way to grow a company is to grow the people first (Harnish, 2014).

Getting accountabilities clear throughout the organizations is crucial (Harnish, 2014). Accountability does not mean the same as authority – accountability belongs to the person who is tracking progress, defining tasks, and following up on something. Authority belongs to the person who has the final decision-making power. It is often obvious for an organization to have a clear list of authorities, but it is as important to have a clear overview of who is accountable – this must also be clear to the ones that are accountable.

There is always some type of culture drift, but it is more manageable when the company is small. The bigger the company gets, the greater the differences between different teams and departments get unless the organizational culture is strong. Harnish (2014) states to "hire for the culture fit". This is a valid point but can also be a limitation if the organizational culture is not strong or if the one hiring does not fit into the main organizational culture. This can likewise occur in an organization that has a good and strong culture if some of the key employees have changed or there is a new formation of the management that creates a change

in the organizational culture and the dynamics. It is the responsibility of the management to establish and communicate a clear vision and purpose to the entire organization, as they play a vital role in ensuring its clarity and circulation.

Adapting the theory to the case company's Management System

I will now adapt the 4D Framework and the MTP Framework to the case company's Management System. I will also explore the examples of companies growing from 50 to more employees and analyze how those examples can be adapted to the case company's Management System.

Adapting the 4D Framework

I have created an adapted version of the 4D Framework specifically for management systems:
- Driver: define the goals (key drivers) driving the management system,
- Demands: identify demands or challenges that the management system must meet to achieve the set goals,
- Disciplines: identify the disciplines, routines, or processes necessary to meet the demands,
- Decisions: define the key decisions that must be made to achieve the set goals.

I will now proceed with the analysis and adaptation of the framework to the case company's Management System.

The case company's Management System is driven by several key factors, including but not limited to information security, comprehensive control, and stakeholder satisfaction. Information security is an easy choice for a driver as the case company has the ISO/IEC 27001 certification and the Management System also includes the Information Security Management System (ISMS) – information security therefore can be seen in almost all policies and processes. This driver can easily be measured by the results from the IT audits focusing on the information security requirements. Another essential factor is the element of control, as the Management System empowers the case company with significant control over various operational aspects. For instance, vendor management is better controlled

through the aid of approved and published processes that undergo continuous improvement. This driver can be measured partly by the results from the IT audit, but also by paying attention, for example, to reported nonconformities, improvement suggestions, changes, security incidents and more. Another key driver is stakeholder satisfaction representing the outcome of an efficiently functioning Management System. When working processes meet expectations, employees, and customer experience contentment. In addition, the management and the Board gain assurance of having control, especially regarding the company's requirements. This driver can be measured through various means, such as registering and responding to all feedback received, and ensuring effective communication channels are in place and operating effectively.

The demands and challenges the case company's Management System faces include changes and problems in the organization and regulations, internal communication, and culture. The Management System faces various organizational changes, and it needs to be ready to adapt to those. There are increasingly many requirements from diverse directions that need to be mitigated and there needs to be control over new and old requirements. Internal communication and company culture is crucial as there needs to be awareness of the policies and processes that are approved and published. The case company is preparing for the new version of the standard for information security management system, which will be a good test on the scalability of the Management System and adapting to changes related to the existing requirements.

The disciplines, or in other words, routines that need to be in place to meet the demands are, for example, up-to-date policies and processes, as well as systems that are designed well and that are operating effectively. The key employees working on the case company's Management System need to ensure that there is overall control over all policies and processes – there needs to be control over yearly reviews, linking to the requirements, roles, technical features, syncing between systems and more. An extra quality assurance is the IT audits as those are much focused on the Management System documentation – addressing both design and operating effectiveness.

Key decisions that need to be made to achieve the goals of the Management System are related to resources, risk management, operations, and performance. The case company has been able to have and keep enough resources working on the Management System to achieve its goals, but this decision needs to be made from time to time, and without enough resources the Management System will not be as effective and accurate. Currently the Management System is operating effectively and the quality assurance from the IT audits also takes less resources since the processes are in place, documentation is feasible, and there are not that many nonconformities from the audits which also spares time from the audit follow-up and after activities. The case company needs to make decisions on how many and what type of risks they are willing to accept, what to mitigate, and what to avoid in regard to the Management System. Operational decisions are being made weekly if not daily when the policies and processes are continuously improved. Decisions on performance need to be made when policies and processes are not being followed correctly as described in the Management System. This must be evaluated and either the documentation should be updated, or the instructions and employee awareness and training should be improved. If the policies and processes are not giving the expected results, they should be assessed and improved.

The 4D Framework could be adapted to the case company's Management System successfully and it would function even more effectively by choosing a specific approach. By choosing one or two questions at a time and focusing on specific decisions, or even by creating multiple scenarios, the framework can ensure significant effectiveness.

Adapting the MTP formula

The Massive Transformative Purpose of the case company's Management System could be "Unleashing the untapped potential of our organization through the Management System that ignites collaboration, cultivates innovation, and empowers every individual to achieve extraordinary results, propelling us to new heights of success". The attributes that could fit the case company's Management System when focusing on scaling up are:

- Interfaces: ensure that the designed processes are effective, use automated workflows,
- Engagement: design and improve the policies and processes with employees in mind, build trust within the whole organization, engage employees,
- Social Technologies: keep the focus on cloud-based documentation, build awareness, create collaboration.

The Interfaces attribute is critical to the case company's Management System as defined by Ismail et al. (2014): "While growing exponentially as a company, Interfaces are critical if an organization is to scale seamlessly, especially on a global level." (p. 105). Engagement and Social Technologies are also extremely important attributes now when looking into scalability as the Management System needs to work within the whole organization and not only with certain employees.

An attribute that is dividing me is Staff on Demand which is defined as "Leveraging personnel outside the base organization is key to creating and running a successful ExO. The fact is, no matter how talented your employees, chances are that most of them are becoming obsolete and uncompetitive right before your eyes." (Ismail et al., 2014, p.68). The Management System needs fulltime employees that know the organization inside and out, but it of course, also needs outside expertise that can bring insight into specific areas or processes without being fulltime members of the organization. This is extremely useful in some situations and the case company is already doing this in some areas such as having an external internal IT audit. I do still think that when evaluating the last years, going from various consultants working on the Management System documentation to having fulltime employees working on them, the Management System is much more accurate when it is not only created and updated by outside consultants. I decided against selecting the attribute Staff on Demand for the case company as it slightly contradicts the other chose attributes that align more seamlessly. The attribute Staff on Demand is still extremely important to ensure attention to detail, particularly when specific knowledge is required for addressing one-time issues or challenges.

Adapting the examples of scaling up from 50 employees to more

The case company is exactly between 40 to 70 employees with five people in the management group, but the overall management is seven to eight. I assume that still last year almost everyone knew each other's names, but this is becoming increasingly difficult – one reason also being a hybrid working model and many employees only going to the office once or twice a week. The case company currently has many new open positions, and more are coming, so onboarding is becoming even more crucial as it is a different situation to onboard an employee when the organization has 20 employees that know each other well, and when the organization has over 50 employees. The case company is currently looking for an HR Manager that will take over many tasks that have been conducted now by three different employees so that should enforce the onboarding process and especially the onboarding experience for the new employees which will help with integrating to the organization. This change in the growing number of employees can be seen in the case company's Management System as ownership of roles is transitioning from being concentrated among a few employees to expanding and being distributed among multiple employees.

It is important for the Management System to be user friendly also for employees that have not worked with designing it and it must be clear enough for new and existing employees. Automation can be extremely good and user friendly, for instance, showing overviews of certain processes, but their value diminished significantly if not implemented correctly or if the maintenance becomes overly burdensome.

After 50 employees a company often needs to develop additional leaders (Harnish, 2014), and the case company already has a few so called "middle managers", however it is likely there will be a need for additional resources. This can be seen in the Management System as the ownership of roles is being divided to more employees. It is important that the employees, especially the key employees working on the Management System, share the same values, passion, and knowledge of business. The purpose of the Management System must also be clear for the whole organization. There can additionally be somewhat different purposes for each team and for the various employees (e.g., compliance related to ISO/IEC27001 requirements, quality assurance, support for vendor responsibles)

– those purposes should be enforced as they give context and understanding to the employees and therefore creates more value.

The case company has gone past 50 employees and it is already apparent that many of the information technology systems need to be upgraded and integrated – some have been already or are in the process. There are many possible add-ons for the Management System in Confluence that have been glanced at, but not yet evaluated or purchased. Possible add-ons for Confluence could be ones that support document control, labeling, organization, or metadata. It requires some manual effort to keep the Management System organized and up to date so add-ons could be considered soon. Some add-ons are already being used and those are, for instance, Confluence Courses used for e-learning and Scheduled Issues used for scheduling the annual cycle, as well as other tasks on Jira. This also brings up the possibility of integrating Ardoq with Jira that could be investigated. Another point that comes up related to upgrading the systems is that there should be enough resources to ensure that the currently used systems are used as effectively as possible.

The case company is now between 50 and 70 employees which is exactly the size at which the management does not know everyone by the name and the "culture drift" starts being seen as described a little already earlier in this chapter. This can be seen in the Management System as a need to improve awareness and maintain it within all employees to avoid silos and misunderstandings. Culture drift in the Management System is quite often related to awareness in all aspects and keeping everyone on the same page with the purpose of the Management System. Different teams prefer different systems and tools, and of course there is not one way to organize a Management System that pleases everyone. There is always someone who agrees that the policies and processes are working perfectly, and that the structure is easy to understand, and someone who disagrees and does not understand the structure.

Improvement areas based on the adaptations

The adaptations brought up various ideas and I will try to summarize the main improvement areas that came up.

The main improvement area that came up is the overall governance of the Management System and how will the governance change when the company is scaling up. Back in 2019 the Head of Legal and Compliance, and the Head of Security and Risk (also Chief Information Security Officer) owned most of the policies and processes – that changed with reorganization in 2020 with the case company getting a separate Chief Risk and Compliance Officer (CRCO), and Chief Information Security Officer (CISO) – and currently the policies and processes are owned by over 16 corporate governance roles, as well as by various IT roles owned by around 16 employees. There has been a lot of focus on clearing the roles, but it could still be improved by ensuring that all roles are identified and clear – either the roles and responsibilities page in Confluence could be improved or more interestingly, the focus could be put to Ardoq making sure that all roles are linked correctly. The case company has created a process for organizational changes in the end of 2022, but it has not yet been shared much internally. The process can be found by any employee, but it could be that this should be brought up in the staff meeting for all employees and via other awareness training. The case company could also consider using two different ownerships in some elements, meaning that there could be an owner role and a different role for the one who is accountable. The case company had two different ownerships used, for example, in vendor management in 2019, but it was simplified to having only one owner as the vendor management process needed better operational effectiveness at that time. Having the two levels of ownership would make more sense now the process is at a better stage, and it would clarify the roles and responsibilities with having one vendor responsible that is the owner, having the overall responsibility, and then having one that is the accountable, managing the everyday tasks and minor decisions. This could also work in access management as when the organization is growing, the system responsible will find it most probably difficult at some point assessing the access requests if they do not know the employee asking for access. In this case, there could at some point be an approval process in which the access request needs to be first approved by the closest manager before moving to the system responsible. These are just two examples, but segregation of duties and organizational changes are two areas that could most probably always be improved especially when an organization is scaling up and is at different stages of growth.

Another main improvement area is awareness among employees – there is not yet enough awareness related to the Management System within the organization, even though this is continuously built up. The case company started focusing more on awareness, especially, in 2022 as the focus had moved away from the ISO/IEC 27001 certification design effectiveness in the IT audits and was fully on operating effectiveness – which cannot really be evaluated until there are results from a year or a longer period. The operating effectiveness shows now that small changes can be made to ensure that the policies and processes are giving good enough results and are working as they should be. The policies and processes have a purpose, and they need to be able to serve the purpose, but they also need to be simple enough or adaptable to make sure that they reach all employees. The case company needs to raise awareness and take in feedback and ideas from employees, and then improve the policies and processes when needed. Feedback is easy to work with when received, but it can be difficult to get feedback from employees if there are no specific questions or requests for it. Another point on awareness is updating and clarifying the e-learnings offered to employees – this is a point that is already being explored by the case company and will get more attention in the near future.

Awareness makes me think of visualizations which could be used much more to make the Management System feel more accessible. Currently the case company's Management System does not have that many visualizations except some figures used in some processes. Ardoq creates nice visualizations, but those are not yet used that much when thinking of the employees who are not working in Ardoq often. Ardoq also has many features that have not yet been tested which should be explored as well. When thinking of the roles and responsibilities and the organization structure, there could be nice visualizations of the organizational structure in the Management System showing roles, teams, responsibilities. This could be mapped in Ardoq but shared through Confluence.

A plan or plans for possible upgrades and integrations related to the Management System should be considered. The case company is using a few add-ons already, but it could be wise to look into some add-ons for support to the Management System structure and accuracy in Confluence. Another aspect of systems related

to the Management System is ensuring that the case company is using the current systems efficiently. The employees working on Ardoq, Confluence and Jira should have enough time to keep up with the systems and learn to use the various new and old features correctly. In situations where there is a lack of awareness among employees, numerous essential features of a system may go unnoticed.

Related to the awareness, the case company should have more focus on sharing the purpose and vision of the Management System to ensure that the culture drift does not affect it when the organization grows and scales up. There are an increasing number of employees working on the different policies and processes and it is important that everyone working on the Management System understands the purpose of the documentation and the structure of it. As an organization is living and the culture is changing slowly through time, the Management System should also be able to grow with the employees using it. There is no need for a legacy system that is not maintainable. The Management System is a way for the case company to establish confidence in maintaining control over critical aspects such as information security, privacy, and compliance with relevant regulations.

The adaptations not only reinforced my existing thoughts but also sparked new ideas and perspectives. Crucially, these adaptations prompted me to reconsider the Management System through the lens of other employees within the organization. It is easy to overlook things right in front of us when we view them solely from our own standpoint.

Scalable management systems

There are many books and articles about various types of management systems, but I could not find any only about the scalability of a management system. My focus will therefore be on related literature which I found with the chosen keywords described in the chapter on research method and scope.

I found a book about Integrated Management System (IMS) and the topic seemed especially interesting as the case company has not specifically used the term IMS. Alan Field (2019) defines IMS as "an ongoing integration of the management systems that currently support the organisation" (p.11) and "While time and effort

may be expended in creating the IMS, this can be more than recovered through the streamlining of systems and risk-based thinking once the IMS is achieved" (p. 13).

I also found another interesting book about scalable systems in general. Martin Kleppmann (2017) has defined three design principles for data-intensive applications that will help an organization create a scalable system that will endure the rapid changes in technology. Kleppmann (2017) focuses on any types of systems, but as he explains the principles "remain true, no matter which version of a particular tool you are using. If you understand those principles, you're in a position to see where each tool fits in, how to make good use of it, and how to avoid its pitfalls" (p. 8-9).

Integrated Management Systems (IMS) - analysis

"An IMS does not have to align to any particular standard(s) or proprietary specifications or schemes. An organisation could design its own policies and processes and then create an IMS from these." (Field, 2019, p. 26). As mentioned in the chapter about background, the case company has one Management System which at the same time is an Information Security Management System. Most of the policies and the processes are mitigations to the ISO/IEC 27001 controls, but some are not. The IT audits are focused on ISO/IEC 27001 certification and therefore on the ISMS. The yearly reviews are conducted on all approved and published policies and processes regardless of if they are mitigations or not. This provides essential control to the organization on the accurateness of the documentation in the Management System.

The case company essentially already has Integrated Management Systems (IMS), even though the term is not used, which I will now analyze based on the key concepts behind the theory.

Alan Field (2019) defines that the decision-making structure needs to be clear before a leadership-led discussion on uncertainty can be had, because it will champion the IMS (p. 30), and after that an organization should create a PDCA (plan-do-check-act) cycle which the case company has mentioned in the policy for the Management System. The PDCA can be used as guidelines in general to the

documentation in the Integrated Management Systems or it can be used per policy or process. PDCA changes the approach that an organization has towards its policies and processes and makes it more universal ensuring that all employees in the organization use the same processes minimizes risks and exploits opportunities (Field, 2019).

PDCA is a circular approach to management: well-planned policies and processes that are communicated and mobilized, the policies and processes are then done or carried out with continuously improving them, checked to see that the operating effectiveness is sufficient, and then acted based on the findings from the checks (Field, 2019, p. 22-23). The figure below shows the PDCA cycle with leadership and decisions being in the middle of the cycle.

Figure 3 PDCA cycle (Field, 2019)

I think it is extremely interesting to read about PDCA and to see how well it is used in the case company's Management System. As mentioned before, there is not much focus on this specific cycle even though it is mentioned in the Management System, but the cycle is operating due to the ISO/IEC 27001 requirements as there are controls related to ensuring that all documentation is reviewed within certain periods and improvements are made continuously while working on the policies and processes.

Alan Field (2019) states in many different forms that leadership must have a clear vision when deciding to have Integrated Management Systems, and "they also need to appreciate the initial cost of resourcing the change management. An IMS might well lead to efficiencies in all respects, but these will not be achieved without at least some resources being deployed." (p. 38). At the case company, there was a decision that was made back in 2019 related to becoming ISO/IEC 27001 certified, and that decision has been retained. The Management System is already operating effectively, but if loosing key employees or deciding not to pay attention to the certification and the Management System, it would of course show in the effectiveness of it. Implementing an IMS takes time and resources, but it is worth it subsequently when it becomes almost automatic taking much less resources than not having one. This is something that can be seen in the case company's Management System as the executed IT audits and basic internal reviews do not take as many resources or time from the key employees working on the Management System as they did a few years ago. The policies and processes are improved with minor changes whenever there is need for improvement, and documentation is kept up to date, which spares time from the research and follow-up of audits and reviews.

Three concerns and design principles for software systems - analysis

"There are three main concerns that are important for a software system: reliability, scalability, and maintainability" (Kleppmann, 2017, p. 26). The system needs to be reliable and work correctly even when there is a fault in the software or with human error. The system needs to be scalable which means that there needs to be reasonable ways to deal with the growth of the system. The system also needs to be maintainable – when the organization grows, there will be different people working on the system and everyone needs to be able to work with the system productively. These key concerns adapt to the case company's Management System well and are exactly the concerns behind the reason I have chosen scalability of the Management System as a topic of this project task. When a system is designed well to be reliable, scalable, and maintainable, it will then be all those things as long as the organization has the resources for it. If a system is reliable but not maintainable then keeping it scalable in the long term takes extra resources. Paying attention to all these three key concerns pays off in the long term. Martin Kleppmann (2017) talks about data-intensive applications as the

problems with most applications and systems nowadays is the vast amount of data or the complexity of data instead (p. 22). The figure below shows the concept created by Martin Kleppmann (2017, p. 21).
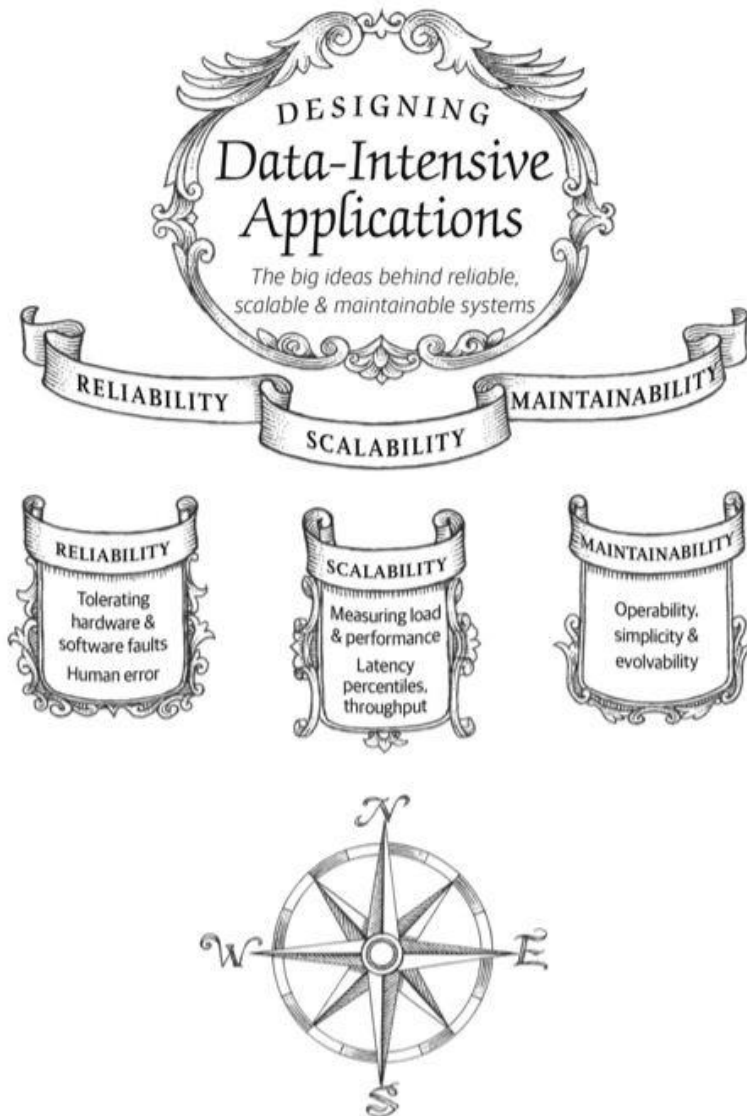

Figure 4 Data-Intensive Applications (Kleppmann, 2017, p. 21)

The three concerns are always in motion and even if, for example, a system was reliable before it does not mean it will continue being reliable in the future. The case company has created the Management System using the PDCA cycle and pays attention to continuous improvement especially through the ISO/IEC 27001 requirements which keeps the Management System reliable. Reliability has been the first concern getting focus and it is at a good place right now since the Management System shows good design and operating effectiveness and therefore

it almost seems like the focus from 2019 until 2022 has been on becoming reliable.

The case company has been also working on ensuring that the Management System is maintainable and that is being worked on still by improving many the processes that take extra time and resources, and automating the processes, or parts of the processes, that are working well and can be automated. Maintainability was not thought of as much in 2019 when designing the policies and processes, but started getting attention after a while especially through the IT audits as many of the processes were designed well but were not operating as effectively.

The last concern is to ensure that the Management System is scalable. The case company should be prepared for scaling up, but it should not use unnecessary time planning it if there is not yet any exact plan for it. As explained by Kleppmann (2017), "it's usually more important to be able to iterate quickly on product features than it is to scale to some hypothetical future load" (p. 46). Kleppmann (2017) sees scalability as a concern that can be prepared for by wisely measuring the load of a system. The case company is measuring many aspects of the Management System without logging it as it fixes issues that arise fast and improves the system continuously. One successful way to measure the aspects that are not scalable is to look into the legacy documentation, archiving all unnecessary documents and ensuring that the information available is up to date. The case company has just this year, for example, archived legacy projects in Jira as they are not needed in everyday work but are good to keep if ever needed. This will influence scaling up in a positive way as there will not be outdated open tasks from before 2019 and it will be easier to pay attention to the important current tasks. The case company's Management System in Confluence uses versioning and labels "approved" and "draft" showing the stage of the documentation, as well as the latest changes and improvements. The case company went through the documentation in the Management System around between 2019 and 2020 deleting not needed legacy processes and making sure that the documentation has the correct metadata and labels. This is an ongoing continuous process of course since the policies and processes need to be reviewed and improved, and new requirements and documentation need to be addressed.

Kleppmann (2017) has also defined three design principles for software systems that are part of the concern on maintainability of a system (p. 46):

- Operability – make it easy to keep the system running smoothly,
- Simplicity – make it easy to understand, remove complexity,
- Evolvability – make it easy to make changes in the future.

The three concerns are tightly connected to each other and the three design principles ensure that the system is maintainable and therefore more reliable and scalable. When thinking of the case company's Management System, operability is at a good place. Simplicity needs to be improved for other employees than the key employees working on the Management System. The key employees see the policies and the processes being simple enough, but this might not be the case for other employees who are not using the Management System as often. The Management System needs to be simple enough in terms of how it is used, how to find correct processes, how to know who to contact in relation to the documentation. Evolvability is very much related to simplicity as the system cannot be too complex to evolve when needing to scale up. The case company's Management System is evolvable when thinking of, for example, the requirements in Ardoq as they are quite easy to update, and it is easy to add complexity when needed. The Management System is open and easily available and has a fairly simple structure needing some manual resources to maintain it. The case company seems to have control over the three design principles when looking at the Management System. The case company has a Management System that is not as automatic as it could be, but at the same time it is very up to date and used regularly. Many companies have a management system that is in an external system or in a system not used for many other aspects of the business, not kept up to date, is not improved when needed, is not simple enough, takes too much for employees to use it, or is not used in practice, so when thinking of these issues, the case company is in a good situation and it is much better to use a system that the employees in the organization are already using and that can be linked to other systems used by the organization, then to have a management system that no-one wants to use and that is not operating effectively. One crucial aspect related to scalability is also the use of Ardoq in the case company as by mapping the requirements and many other components they are able to see the relationships of

all different components in the whole organization, and how all the different components affect each other. Policies and processes are easily improved as mitigated controls can be quickly checked from Ardoq, and therefore there is control over the purpose if each policy and process.

Improvement areas based on the analyses

The analyses brought up many improvement ideas and I think one important aspect is to look back in time and reflect why we currently approach things the way we do. The Management System documentation is continuously improved and quite often the change is happening slowly and is not noticeable in everyday work. Reflecting and looking back shows how much work has been done and how crucial continuous improvement is when working on becoming reliable, scalable, and maintainable.

An improvement area based on the analyses is simplifying the Management System to the rest of the organization to ensure that all employees know how to use the Management System and how to find important documentation. This might not be a problem currently, but when thinking of scaling up, it is crucial that e.g., the processes are found easily and used correctly. Simplifying could mean using more visualizations, photos, or easier workflows.

An important improvement area for the Management System is also to ensure that the documentation is up to date in Ardoq. This is already getting attention as Ardoq has been embedded to many of the process steps and to the workflow in Jira, but this could be improved. Outdated legacy information needs to be deleted, archived, or updated to ensure correctness. This also simplifies all the related systems and makes them easier to maintain.

Summary of the theory

Based on the theory, scalable organizations and scalable management systems can efficiently grow by implementing flexible structures and processes. Routines are important but so is flexibility and the ability to do continuous improvements on the way. It is important that the designed systems can be relied on, handle increased workloads, and maintain effectiveness as the organization scales up. It is especially important to create structures and processes that can be easily replicated

and scaled, enabling companies to maintain efficiency, coordination, and alignment across different teams. Culture and awareness play a crucial role in scalability and need a lot of focus from the organization, ensuring that all employees are on the same page working for the same purposes.

Recommendations

I will now define the recommendations that the case company should consider for keeping the Management System scalable as the company continues to grow.

1. Ensure that the currently used systems related to the Management System are managed and used effectively. Make the time to try, and assess the integrations, possible free features, and automations now before any bigger or faster scaling up happens. This will be difficult to do later on as the systems will only get more complex and there will always only be more data to manage.

2. Make sure that the process for organizational changes is operating efficiently and is used correctly. This will come up when the organization is scaling up as the roles and responsibilities will change when the organization is growing. This might happen fast, and the process must work well under pressure.

3. Ensure that legacy information is archived, deleted, or marked clearly to avoid misunderstandings and to save time and resources.

4. Build and improve awareness training within the whole organization. This will be easier to build now when the organization is smaller and can always be improved to something bigger.

5. Assess the use of visualizations in the Management System to simplify and guide employees. This will engage the employees and affect the employees in a positive way creating positive attitudes towards being compliant with the Management System. This will also show in the understanding of the purpose of the Management System.

6. Continue improving and maintaining the Management System regularly and continuously. This will ensure that the policies and processes are up to date and will be also during and after scaling up.

Conclusion

My goal for this project task was to make sure that the case company's Management System is prepared for scaling up when or if it happens. I believe the recommendations based on the theory are extremely useful and actionable and could be worked on as specific tasks. There are of course always limitations to research, and in this project task my focus was primarily on a restricted set of literature. However, broadening the scope of the research could have brought up additional ideas and references to enhance the depth of the study.

The case company currently has a favorable position and should strive to maintain control over the Management System to ensure efficient capacity to scale up. The combination of the Graph Database in Ardoq, the Documentation Database in Confluence, and the Task Management Database in Jira contributes significant value to the organization, offering quality assurance and control.

The main improvement areas connected with the case company's Management System are related to ensuring that the current systems are used efficiently, making sure that organizational changes are managed sufficiently, keeping the documentation up to date, building awareness, using more visualizations, as well as continuing having control through continuous improvement of the Management System.

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