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Process Improvement within the Online Gambling Industry

A case study on what challenges arise when executing a process within the online gambling industry and how these can be remedied

Master's Thesis in the Master's Programme Management and Economics of Innovation and Quality and Operations Management

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Abstract

Within the online gambling industry companies are facing increasing process complexity. The complexity stems from high employee turnover, increasing competition and rapid growth while spanning multiple markets with varying requirements in terms of regulations and customer expectations. The complexity is further increased by the digital nature of the industry. The traditional process improvement methodologies may hence no longer be fit to address the issues of this industry. This thesis aims to bridge this gap by identifying the issues that arise and how to potentially solve them using Business Process Management (BPM), communication theory and knowledge management theory.

A case study of an online gambling company's marketing process was conducted. Interviews and focus groups were combined to identify process issues specific to the industry. The issues were then analyzed using theory regarding BPM, communication and knowledge management to identify potential solutions.

Several issues were identified, many linked to the process instability that occurs in a quickly growing and competitive industry and the large differences between markets resulting in high workload fluctuations and reliance on tacit knowledge. Further, due to the digital nature of the industry, the task-technology fit of the system has a high impact on process efficiency and the regulatory aspect of the industry put an increased importance on proper information sharing.

It was concluded that a company within the studied industry should not implement a "one size fits all markets" process. Instead a base process should be created with a level of built in flexibility in communication and knowledge management that enables meeting the demands of the differing markets. Ensuring continuous improvement is imperative, where the digital system needs to constantly measure the process and improve according to the measurements. Having a process analyst is key to achieve this who ensures improvement initiative alignment and that solutions aid in simplicity rather than complexity. Finally, to overcome the workload fluctuations process triggers should be identified and given Service Level Agreements. Planning road maps should then be implemented for the triggers that can be planned for.

Keywords: Online Gambling Industry, iGaming, Process Complexity, BPM, Communication, Knowledge Management, Process Improvement, Process Execution, Process Instability

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Terminology

Bonus Cards: The informational picture about the Welcome Offer that you click on to get access to it.

Business Analysts (BAs): Responsible for data analysis and specific market knowledge.

Business Process Management (BPM): A process improvement strategy.

Codify: To turn tacit knowledge into explicit knowledge.

Compliance Officers: Responsible for all regulation and compliance issues within a country or market.

Country Manager (CM): The highest responsible person for marketing within one country.

CRM Manager: Customer Relationship Management Manager.

DAM: A Digital Asset Management Library used for storing design and content assets for future reuse.

Employee Rotation: Collective term for employee turnover and employees moving to new positions within a company.

Explicit Knowledge: Knowledge that is easy to share and document.

Gambling: The act of wagering money on an unpredictable event for the chance of winning a prize.

Journey: Emails and text messages that are sent out to the customer dependent on their actions on the gambling website.

Mechanics: The aspect of a Welcome Offer that ensures the functionality of it works.

Promo Page: A marketing product that contains information about a welcome offer and exists on an online gambling companies home page.

Regulations: A country or markets use of laws and rules to control companies and what they are allowed to do.

Re-regulating: To change a regulation that already exists.

Retention Operations: Responsible for building the mechanics of marketing offers.

Requester: The internal customer of the process.

Tacit Knowledge: Knowledge that is acquired through personal experience.

Welcome Offer: A marketing campaign used to attract new customers.

SLA: Service Level Agreement.

1
Background

The following chapter introduces complex processes and how the characteristics of the online gambling industry can impact the process execution and performance.

1.1 Complex Processes

The development of processes, and at its core, operations management is a discipline that has its roots within the manufacturing industry (Holweg et al., 2018). Henry Ford, with his automobile assembly line, is a staple figure within operations management and is a common example of a process improvement that resulted in reduced lead times and increased production volumes (Holweg et al., 2018). Another process improvement staple still used today is "the Toyota Way", also known as lean methodology (Yankelevitch & Kuhl, 2015). It was created for the Toyota factory where the aim was to reduce waste and continuously improve the process (Yankelevitch & Kuhl, 2015). Lean is still used today and applied in a number of industries to reduce lead times and increase the quality of the process outcome (Yankelevitch & Kuhl, 2015). Within these types of traditional processes, standardization is key to achieve cost savings and high-quality output (MÍkva et al., 2016).

Today, executing a process is a lot more complex than it used to be due to increasing globalization (Yankelevitch & Kuhl, 2015) and increasingly complex products and customer customization (Blecker et al., 2005). Processes today often have a large number of stakeholders across several countries and markets with differing skill-sets. Further, Donaldson (2001) found that as the size of an organization grows, complexity increases. Adding to the complexity, more and more companies are moving into digital markets. Physical stores are being replaced by e-commerce, banking services can be performed on digital platforms, and gambling can occur in online casinos, to name a few. With this and the increasing possibilities of technology, more and more processes are being combined with digital tools to increase efficiency, decrease lead times and reduce errors (Parida et al., 2019). With these reduced lead times, competitors can move faster, and customers can expect higher value with quicker delivery (Parida et al., 2019). This complexity results in significant differences compared to the stable processes from which traditional process improvement practices stem. Schaefermeyer et al. (2012) found that, as a process becomes increasingly complex, it may not always be possible to standardize it. If standardization is still attempted, a much greater effort in terms of resources and time is needed, and the outcome may still not be as expected (Schaefermeyer et al., 2012). Instead perhaps

Business Process Management (BPM) could be applicable, where the focus lies on improving a process execution in a holistic manner and not simply focusing on automation (Von Rosing et al., 2014).

A process at its core is defined as a series of tasks that turn inputs into outputs (Holweg et al., 2018). Processes are repetitive, using existing systems and taking place in a company's day-to-day activities (Pinto, 2013). On the other hand, a project is unique and often exists outside of the regular business tasks (Pinto, 2013). As processes become more complex, with many stakeholders who inflict change on the process, the repetitiveness of the process diminishes. Processes could hence seem to attain project attributes such as uniqueness and irregularity. Schaefermeyer et al. (2012) touch upon this, noting that there is a difference between standard, routine and non-routine processes where the ability to standardize each type varies.

Many variables affect a process, none more so than its context. Complex processes and projects have many things in common, so could project theory be used to understand how to improve processes? Olausson and Berggren (2010) found that projects with high complexity need standardization to break complex work into achievable tasks. De Meyer et al. (2002) on the other hand, found that projects in unstable, uncertain environments required a level of flexibility. This flexibility allows for quick changes to be made in order to comply with external forces (De Meyer et al., 2002). Both De Meyer et al. (2002) and Olausson and Berggren (2010) found that projects often had complexity and uncertainty, resulting in the two opposing poles, standardization and flexibility, needing to co-exist. Complex processes may also need standardization with strict workflows and clear guidelines, but how should flexibility and standardization be balanced when they exist in uncertain environments? How should a complex process subject to uncertainties be executed and improved to ensure efficiency and control and be flexible enough to meet the customers' varying demands?

Are there perhaps other methods than standardization that could aid in process efficiency? According to Vom Brocke et al. (2014), if the aim is to ensure BPM is properly implemented, proper communication is key. Further Greenbaum (1974) found that communication is of high importance when trying to achieve process efficiency and hence could be an interesting area to investigate. Within BPM it is also of high importance to continuously improve which is of course aided by ensuring knowledge from previous changes is passed on (Badakhshan et al., n.d.). It also often holds the key to success for efficient processes in growing industries (Andriani et al., 2019). Hence the answers to improving the execution of complex processes could lie in combining BPM with communication and knowledge management theory.

1.2 The Online Gambling Industry

An industry that is characterized by high uncertainty and rapid growth is the online gambling industry. The industry derived in the mid-1990s due to the internet enabling traditional land-based casinos and lottery entertainment to operate online

(Edison Group, 2019). This new market quickly cultivated new actors, non-related to the traditional land-based companies, to establish and grow rapidly (Williams & Wood, 2007). As the digital economy rises, so does the market for online services. This rise suggests that improved global living standards facilitate more time and resources, which advances users' online presence and the need for entertainment in most parts of the world (Redeye, 2020). The historical market expansion due to the digital transformation and increased accessibility through technological adaptation indicates that the online gambling industry will continuously be highly characterized by fast growth. Predictions indicate no signs of market saturation but rather estimates of accelerating growth (Miller, 2020).

The growth rate of a company can impact the operational processes, with rapid growth potentially resulting in issues of inadequate resources and capabilities (Hambrick & Crozier, 1985). It can also lead to outdated and insufficient digital systems, negatively impacting process efficiency (Hambrick & Crozier, 1985). A sense of infallibility often occurs where the company believes itself to be the best and hence grows blind to competitors and other ways of doing things (Hambrick & Crozier, 1985). Finally, growing quickly can result in internal turmoil where the large amounts of new personnel result in culture clashes and difficulty with decision-making (Hambrick & Crozier, 1985).

Further, due to the offerings of the online gambling industry being of a digital nature, companies are not tied to one country or market. The companies often span multiple markets with varying requirements and customer behaviors while being based in few, centralized locations (Grand View Research, 2020). Hence, the centralized processes span the requirements of multiple markets, increasing the process complexity.

With relatively low entry barriers and significant market potential, the natural result is that the online gambling industry continuously attracts more operators. A highly competitive landscape can lead to competitive uncertainty, meaning when a company is unsure what competitors are doing, if new competitors will enter and how competitors will react to what the company is doing (Wernerfelt & Karnani, 1987). Further, the industry is influenced by low switching costs for customers as many operators offer similar games, promotions, and experiences, and the competitors are one click away (Haried, 2014). With the high number of competitors (269 online casinos in Sweden alone (Nyström, 2021)), the competitive edge is highly determined by marketing efforts. Thus, efficient marketing processes and ensuring customer loyalty are of high importance to the online gambling industry.

The industry, particularly in the online gambling hub of Malta, is facing significant demand for labor, forcing operators to invest in foreign recruitment (Malta Gambling Authority, 2020). Building a multinational organization requires a multinational workforce with a wide range of competencies and capabilities. Malta Gambling Authority (2020) depict a skill gap, where organizations struggle to cover positions with a need for prior experience and qualifications. Moreover, many large operators

struggle with high staff turnover and losing employees to competitors (Malta Gambling Authority, 2020), entailing a need for well functioning operations and processes.

The rapid emergence of the online gambling industry also caught the attention of regulatory institutions. They identified the risks of online gambling bringing more accessibility for players, leading to increased problematic gambling (Gainsbury et al., 2013). According to Redeye (2020), ongoing regulatory changes of the online industry are predicted as a key driving force to stimulate future market growth. Following and adapting to regulations is crucial for survival and affects how operators compete in different markets (LeoVegas Group, 2019). Thus, it is a vital part of the business models for licensed online gambling companies, affecting how operations and processes are carried out.

To summarize, the online gambling industry is subject to rapid growth and a wide array of uncertainties. The growth has resulted in a highly competitive landscape, with high demand for efficient marketing and well-functioning processes. Further, increasing regulations across the globe result in high uncertainty for when, where, and how new regulations will be implemented and their effect on the performance and processes of online gambling companies. Pairing these issues with having global operations across multiple markets begs the question of how online gambling companies deal with this high complexity. Could the answer lie within BPM or could perhaps proper communication and knowledge management be key to meet the demands of the industry?

2
Scope

In this chapter, the report's purpose, research questions, and delimitations are presented.

2.1 Purpose and Research Questions

The purpose of this report is to understand what issues arise related to the execution of a complex, multi-market, digital business process within the online gambling industry and how these can be remedied. To achieve this purpose a set of research questions have been created.

Research Question 1: What issues arise in the execution of a complex, multi-market, digital business process within the online gambling industry?

Research Question 2: How can these issues be remedied using BPM, communication, and knowledge management?

The aim is to provide an understanding of how industry characteristics and organizational resources can impact process performance, thus suggesting what issues need to be taken into account when improving the execution of a complex digital business process. Further, the study aims to suggest solutions to aid in these issues.

2.2 Delimitations

The project's scope is delimited to the case study of one complex digital business process within one company active in the online gambling industry. Further, the focus of the study is the execution and potential improvement of the process, not on the success of the output produced by the process. In other words, the scope focuses on the process itself, not its input or output. However, as mentioned in the background, the process execution affects the process output in terms of quality and timeliness. The aim is also to study processes and not organizational structure. Hence how to structure an organization to meet the issues the industry context gives rise to is not studied in depth.

Further, to achieve enough depth, the provided solutions were limited to communication, knowledge management, and business process management. It is understood that there are other theoretical areas involved in solving the identified issues, for

example, using capacity planning or another area of process improvement. However, these solutions were not studied in depth. Instead, indications of the usefulness of these out-of-scope solutions regarding identified issues were specified but not further studied.

The authors are aware that the online gambling industry is an industry subject to a wide array of ethical considerations regarding gambling addiction and the economic toll gambling could have on its participants. The aim of this thesis is not to study these ethical considerations. Instead, an awareness of the impact this study could have on these considerations is included and discussed.

3

Theoretical Framework

Improving a process does not only encompass ensuring a streamlined workflow and standardizing where applicable. Every process is part of a context, and the flow of tasks may not be the inherent issue. Therefore, using a structured approach to process improvement is crucial. How information is shared, how knowledge is used, and what digital solutions are implemented are a few other areas that could significantly impact a process. All of these areas and more are explored using business process management theory combined with communication, visualization and knowledge management within this chapter.

3.1 Business Process Management

In today's era of online enterprises, most business processes are executed digitally. Badakhshan et al. (n.d.), Slack et al. (2010) and Schatten and Schiefer (2007) amongst others discuss the common perception of stability being a key element for process control and improvement. Although this concept is well proven in industries such as manufacturing, it might not necessarily be the most favorable, or even applicable, focus for digital operations. Business process management (BPM) is a practice for analyzing, designing and improving processes to establish efficiency and continuity (Rosemann & vom Brocke, 2015). Using the definition of Van der Aalst (2013), the discipline of BPM connects information technology knowledge with management practices to enable process optimization. On no account is BPM the only approach concerned with improving business processes. Dumas et al. (2013a) portray several similarities between BPM and conventional practices such as Total Quality Management, Operations Management, Lean and Six Sigma, stating that:

> "BPM inherits from the continuous improvement philosophy of TQM, embraces the principles and techniques of operations management, Lean and Six Sigma, and combines them with the capabilities offered by modern information technology, in order to optimally align business processes with the performance objectives of an organization." - Dumas et al. (2013a, p.7)

BPM's close relation to digital environments makes it a helpful method for any online enterprise wanting to identify process-related challenges in unstable environments and learn how to overcome them (Trkman, 2010; Weske, 2007). Von Rosing et al. (2014) stresses an important difference, namely that the execution of a pro-

cess is not part of BPM. Instead, BPM uses monitoring and analysis to come up with improvements that can help the execution run smoother with better results. Further, BPM does not focus on partial process improvements without considering the full end-to-end process (Von Rosing et al., 2014). Therefore, there is a difference between improvement of a process step and a business process improvement. Without the full context of a process, optimization cannot be achieved (Von Rosing et al., 2014). With rapid technological development and highly dynamic business environments, enterprises have to possess the ability to quickly react and adapt to changes (Schatten & Schiefer, 2007). Enabling BPM practices with high flexibility and high responsiveness has therefore become a critical factor for competitive advantage and long-term success (Badakhshan et al., n.d.).

Trkman (2010) states that three main elements determine the success of BPM: *the fit between business environments and business processes*, *continuous improvement*, and *task-technology fit*. He emphasizes that these factors should not be considered individually, but rather as a linked system where one factor is dependent on the other (Grant, 2002; Trkman, 2010).

Achieving a fit between business environments and business processes means that in order to improve your business processes successfully, they have to be strategically aligned with the goals of the company and the external environment (Trkman, 2010). This means that there is no "one size fits all" and that process design and BPM has to be adapted to the individual context (Trkman, 2010; vom Brocke et al., 2016). Vom Brocke et al. (2016) lists four contextual dimensions to consider when optimizing a process: environmental (the level of uncertainty and competitiveness), organizational (the amount of resources available, company size), process (variability, repetitiveness, knowledge-intensity) and goal (focus on improvement and compliance or on innovation). This also stresses the importance of seeing a process as a whole and that individual, local improvement efforts with no holistic insight can offset process performance (Von Rosing et al., 2014).

A natural consequence of a highly dynamic digital business environment or industry is that changes will happen continuously and often unpredictably (Schatten & Schiefer, 2007). Therefore, enterprises looking to apply BPM methodology must constantly be ready for process change (Badakhshan et al., n.d.). As Trkman (2010) implies, process improvement efforts should not be a one-time thing but instead a natural, recurring part of the organization itself. This does not mean that continuous business process management efforts should be ad-hoc and carried out by anyone, as this can impinge on the full process performance (Von Rosing et al., 2014). Dumas et al. (2013a) emphasize the importance of continuous and structured improvement efforts, by saying that unless continuously adapted, any good process eventually becomes a bad process. Therefore, organizations must have an open mind to innovation and reinvention with no issue of discarding old methods for new ones (Vom Brocke & Rosemann, 2014). The analysis should be based on the interconnection of data-analysis, i.e. process performance metrics, and model analysis, i.e. the process flow (Van der Aalst, 2013). Further, it is essential that the

enterprise, learns from any change effort to ensure knowledge transfer (Badakhshan et al., n.d.). This topic will be covered under *Knowledge Management* in section 3.3.

Lastly, and perhaps most importantly in the context of BPM, is the role of technology and the system in which the processes occur. Trkman (2010) stresses the impact of strategically adapted and organizationally fit IT systems on the performance of business processes. These work as enablers for the elements mentioned above, namely the fit between business processes and business environment and continuous improvement. The reason is that in a digital business environment with complex processes, a majority of the value-adding activities run through workflows in an IT system. System architectures are usually adapted to the type of enterprise, i.e. if it is service or product oriented (vom Brocke et al., 2016). Any software or system supporting a business process impacts (e.g. documentation or communication software) the execution and performance of the process, not only the process system architecture (Schatten & Schiefer, 2007). Thus, the task-technology fit and adapting IT systems according to the environmental fit and enabling continuous process analysis is crucial for any process improvement effort (Trkman, 2010). Despite BPM's high dependency on IT systems, Trkman (2010) stresses that an organization implementing BPM should not rely entirely on the system to solve all process issues for them. It is essential to combine efforts across internal communication, ownership, and ensuring that the situation's complexity is considered when choosing a solution (Trkman, 2010).

To ensure improvement is established, enterprises should have a baseline for comparison (Ramdass & Pretorius, 2008). Process improvement for stable environments can form a comparable before and after state (Ramdass & Pretorius, 2008), but this is not as clear in dynamic environments. For this purpose, *process performance indicators (PPIs)* related to the business process performance can be created. Badakhshan et al. (n.d.) and Schatten and Schiefer (2007) suggest that within BPM, the scanning and measuring capability of the process execution should be included in the system used. Ideally, to deal with continuous business improvement, the system should be event-based and provide real-time data of the performance (Schatten & Schiefer, 2007). A technology deemed to aid in this is process mining, a field within data science based on system event logs that support the analysis of the process performance (Van Der Aalst, 2012). Similar to traditional operational management theory, relevant performance indicators can be lead time, cycle time and the customer (requester) satisfaction. By real time accessibility of this data, BPM roles can proactively adjust processes before problems arise and thus gain competitive advantage through process excellence (Van der Aalst, 2013). As stated by Rosemann and vom Brocke (2015) and vom Brocke et al. (2016), there is no standardized method for BPM, and relevant process performance indicators should thus be also follow the three critical success factors of *process environment fit*, *continuous improvement* and *task-technology fit*.

3.1.1 Process Roles and Responsibilities

In large organizations, having a structure when dealing with process challenges using business process management techniques is of high importance (Weske, 2007). This approach entails having clearly communicated roles with separate responsibilities in business processes (Weske, 2007). As a first step in identifying which roles can be identified within a business process, the following questions as described by Dumas et al. (2013b) should be posed:

- Who are the actors in this process?
- Which actors can be considered to be the customer in this process?

As stated above, a business process can include a customer. The role of the customer can be internal, *a requester*, or external, *a customer*, depending on the nature of the process (Kirchmer et al., 2017). At the starting end of the business process, an external trigger is initiated, aligned with a request from an internal requester or external customer. On the other end of the process, output in terms of value generated for the customer or requester marks the endpoint (Kirchmer et al., 2017). In between the ends of a process, there are many individuals and departments assisting in creating value. These are the roles constituting all other actors that can be identified for question one. The classification and level of abstraction on both BPM related roles and business process related roles vary between scholars in the area of BPM. However, the following are mentioned by multiple authors.

Process Owner
According to (Kirchmer et al., 2017), (Weske, 2007) and (Dumas et al., 2013a), a *process owner* (sometimes referred to as a process responsible) is responsible for efficiently planning, managing and monitoring the process. To ensure the process is run smoothly, the process owner should make sure that all necessary resources are made available to all process participants and stakeholders (Dumas et al., 2013a). The owner of the process should be the person people come to for advice and knowledge on executing certain flows. It is important to note that a process owner can be responsible for multiple different processes at the same time (Dumas et al., 2013a). According to Garbutt et al. (2017), having a process owner is crucial for the success of a business process management mindset.

Process Participant
Another critical role within business processes is the *process participants*. Multiple participants are involved in the value creation activities, each with their own purpose (Kirchmer et al., 2017). They also play an important part in modeling and improving processes, as their operational expertise brings about valuable insights in identifying issues and suggest improvements (Kirchmer et al., 2017). Trkman (2010) describes the involvement of employees as a critical success factor in business process management. Therefore, it is imperative to empower process participants as the specialists of each activity within the process, thus allowing for improvement suggestions to be heard and acted on (Trkman, 2010).

Process Analyst
A third important role within the field of business process management is the *process analyst*. They are crucial for identifying improvement areas, but in comparison to the process owner, the analyst is responsible for the high-level understanding of the organizational fit of a process change (Sonteya & Seymour, 2012). A process analyst coordinates any potential process improvement initiative with the firm's general strategy, thus enabling that any improvement effort is made where it is most optimal for an increased business value (Dumas et al., 2013a). In order to deal with all stakeholders on both a process participant and managerial level, the process analyst must have good communication and diplomatic skills (Sonteya & Seymour, 2012). Typically, a process analyst is either someone with a strong business background or, if the improvements are aimed towards process automation, within IT (Dumas et al., 2013a).

The distinction between the roles above might not necessarily be the optimal solution for all organizations, but the essential purpose of having attributed and clear responsibilities remain. Namely, that defined ownership will help structure the continuous improvement and execution of a process (Hernaus et al., 2016). Also, this is necessary to avoid that individual improvement efforts impede on the full process flow. Traditional BPM disciplines uses Business Centres of Excellence, a central function consisting of a process analyst and other process improvement experts (Vom Brocke & Rosemann, 2014). As mentioned previously, there is no best practice of how to implement BPM, and thus organizations should adapt process improvement roles in a way that best suits their situation (vom Brocke et al., 2016). Therefore, the importance does not lie in establishing a resource heavy centralized BPM function, but rather in ensuring clear roles with people strictly concerned with the analysis and improvement of a process (Vom Brocke & Rosemann, 2014). These roles should consider as much input from others as possible, but the distinction of who is responsible for the improvement must be known by all (Vom Brocke & Rosemann, 2014).

To conclude, business process management is a field that covers a multitude of improvement factors that are not only relevant in BPM but businesses and processes in general. However, there is a key difference between BPM and business processes and local versus end-to-end process improvements. BPM spans across communication, clear responsibilities as well as knowledge management. In the following sections, some of these areas will be elaborated further, not only in the perspective of BPM but also to get a general understanding of their meaning.

3.2 Communication

According to Greenbaum (1974), communication is vital when trying to achieve an effective and efficient organization and process. Communication can be verbal through word of mouth, through written media such as bulletins, press releases, forms, and publications, as well as through colors, mannerisms, and other activities that stimulate behavior (Greenbaum, 1974).

There are four dimensions of communication (Wheelwright & Clark, 1992). The first is the *richness of media*, where it can vary from rich in information to sparse (Wheelwright & Clark, 1992). The second is the *frequency* where it can happen often or seldom (Wheelwright & Clark, 1992). The third is the *direction* where it is either a monologue or a dialogue, and the final is *timing* where it can arrive late or early (Wheelwright & Clark, 1992). An ideal process has rich, frequent, early communication through a dialogue (Wheelwright & Clark, 1992). According to Zeithaml et al. (1988) organizations that use face-to-face communication are very effective as this form includes both sound and visual cues and allows for proper conveyance of ambiguous and complex information. On the other hand, there are benefits to information sharing through for example, email when the information is clear and easy to interpret (Zeithaml et al., 1988). Johlke and Duhan (2000) for example, found that face-to-face communication was not always preferable regarding job performance and, hence, recommended managers to feel comfortable using more formal forums such as emails and group meetings. Further, Johlke and Duhan (2000) found that frequent communication is important for employee satisfaction, but having too much could negatively affect performance due to information overload. On the other hand, having low-frequency communication could lead to decision-making using insufficient information (Johlke & Duhan, 2000).

Yankelevitch and Kuhl (2015) and Shannon (1948) provide nuance to the theory presented by Wheelwright and Clark (1992) where they liken communication to processes. An intention is created in an employee's mind; it is transmitted to another employee, she interprets it and reacts to it. The more *clear* the employee's intention is communicated, the closer the other employee interprets it and the better the output becomes (Yankelevitch & Kuhl, 2015). Unfortunately, noise often occurs that distorts the message, causing the interpretation to differ from the original message (Shannon, 1948). This is an issue that often occurs within companies where information is misinterpreted, misunderstood, or just not received at all (Yankelevitch & Kuhl, 2015). This, in turn, results in stops in the process with follow-up communications needed or rework as a result, in other words, non-value adding activities. Usually, the availability of information is not the issue; it is how it is conveyed that becomes a problem (Parry & Turner, 2006).

To come to terms with these issues Yankelevitch and Kuhl (2015) suggest applying lean ideas to the communication process, often in terms of reducing *Muda*, the lean term for waste. Some types of waste that could be identified and remedied according to Yankelevitch and Kuhl (2015) are:

- Conveying too much information in regards to what is needed.
- Keeping information and documentation un-organized and keeping inventory of unnecessary documents
- Needing to jump between systems to find information
- Waiting for information
- Sending information across too many employees leading to increased risk of misinterpretations

- Processing information too many times resulting in reading into information that does not exist
- Sending incorrect information (Yankelevitch & Kuhl, 2015).

By identifying these issues, through process mapping, a company can come to terms with how to improve the communication, thus improving the process (Yankelevitch & Kuhl, 2015).

3.2.1 Visualization

Making communication visible is key to ensure better understanding, analysis, and discussion (Eppler & Burkhard, 2007). According to Parry and Turner (2006), it is imperative for every person involved in a process to quickly be able to understand the status of the process at all times and hence be able to make informed decisions. Making each step of the process visible in combination with making progress visible makes it an excellent complement to performance metrics. It allows for proper capacity planning as well as increased effectiveness (Parry & Turner, 2006). Jääskeläinen and Roitto (2016) present dashboards as a way to aggregate all relevant information in one screen that allows for interactivity. It can compile information from many different kinds of systems, such as enterprise resource planning systems, and makes it easily accessible (Jääskeläinen & Roitto, 2016).

Within the manufacturing industry, process visualization is increasingly popular. Jääskeläinen and Roitto (2016) present the Operational Process Dashboard for Manufacturing (OPDM) that allows for information sharing, awareness of the process, and a flexible way of working. A process dashboard needs to provide information regarding the process context, process performance such as KPIs, process knowledge that includes the necessary information needed to complete a task and process communication (Jääskeläinen & Roitto, 2016). Process communication regards the sharing of necessary process information between process stakeholders (Jääskeläinen & Roitto, 2016). The process context includes the status of the process and what all process participants are performing within the process (Jääskeläinen & Roitto, 2016). A flow chart is then available that gives the process participant a good overview of all the process steps (Jääskeläinen & Roitto, 2016).

Visualization is closely tied to *task-technology fit* as presented in section 3.1. Today companies often have many different programs and systems to serve the different areas of a company (Toor & Dhir, 2011). This often results in slower lead times due to navigation and translation between systems, lost visibility across functions, and limited scale-ability due to old systems (Toor & Dhir, 2011). This also results in difficulty tracking projects and processes as different parts of the process occur in different systems, making it difficult to visibly identify what is happening and when (Toor & Dhir, 2011). According to Toor and Dhir (2011), a remedy for these issues is to implement an integrated platform of systems and services that can communicate, a so-called integrated business process (IBP) system. There is a slew of benefits of investing in an IBP system, such as long-term cost reductions,

flexibility, the ability to customize the systems, increased visibility, automation, increased efficiency, reduced risk, improved decision-making, and more (Toor & Dhir, 2011). Hence, ensuring that the systems used at the company are compatible with visualization is vital to achieve the outcomes necessary.

3.3 Knowledge Management

When using the BPM methodology, it is critical to continuously learn from the improvement efforts (Badakhshan et al., n.d.) and adequately share the inherent knowledge. There are two types of knowledge, *tacit* and *explicit knowledge*. Tacit knowledge is difficult to *codify* and is acquired through personal experience, while explicit knowledge is easy to document (Hansen et al., 1999). Therefore, it is not easy to create one knowledge system that works for both types (Hansen et al., 1999). According to Liu (2019), knowledge management requires creating a knowledge base, ensuring communication between stakeholders, and sharing lessons learned from earlier process incidents. Knowledge is a resource that can provide a competitive advantage. Hence it is important to have proper systems that can take advantage of it (Liu, 2019).

According to Andriani et al. (2019), *routine activities* rely on explicit knowledge while *non-routine activities* rely on tacit knowledge. To manage explicit knowledge a *codification strategy* can be used. Tacit knowledge should be managed using a *personalization strategy* (Andriani et al., 2019). An example of a personalization strategy is from an advanced digital company. Through the creation of Communities of Practice (COP), employees with similar interests are connected through scheduled and unscheduled meetings, digital forums, and ad-hoc encounters (Smite et al., 2020). These COPs enable knowledge sharing and aid in problem-solving. Hence, the company ensures that the tacit knowledge is captured by all applicable employees and will not be lost (Smite et al., 2020). An example of a codification strategy, on the other hand, is to codify all knowledge and store it in a database that is easily accessed (Greiner et al., 2007). This strategy is often recommended for processes that continuously need to reuse knowledge (Greiner et al., 2007).

Andriani et al. (2019) present an interesting perspective to knowledge management that introduces an approach for choosing what type of knowledge management strategy a company should implement. They presented four different types of processes, as presented in Figure 3.1. These are 1. routine with a high level of interaction, 2. non-routine with a high level of interaction, 3. routine with a low level of interaction, and 4. non-routine with a low level of interaction (Andriani et al., 2019). The different types of processes need different knowledge management strategies. Process type 1 one, for example, requires more explicit knowledge. The strategy should hence be to standardize the processes and to review them continuously. Further, to ensure that the organization has access to all knowledge when needed, a codified knowledge management system should be implemented (Andriani et al., 2019). These process types could be placed in relation to whether the company is entrepreneurial, in a growth phase, is expanding, or is in a collaborating phase

(Andriani et al., 2019). A company should focus on codifying tacit knowledge to explicit knowledge in a growth phase, making it readily available across the company (Andriani et al., 2019).

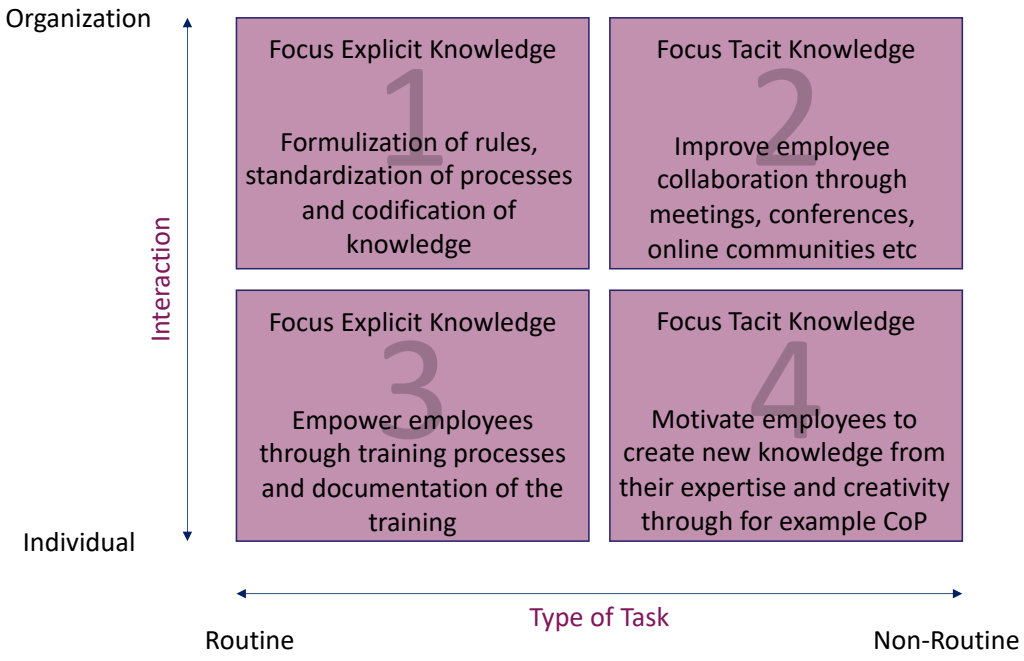

Figure 3.1: Knowledge management strategy dependent on process type (Andriani et al., 2019).

4
Research Methods

This chapter starts by providing a brief overview of the research design and strategy chosen for this study. It then delves into the chosen research methods and outlines how each phase of the research was conducted. The trustworthiness of the research is then discussed, and the chapter finishes with a method discussion.

4.1 Research Design

The research design was a case study. According to Bryman and Bell (2011), this research design refers to the extensive and detailed analysis of a single bounded case aiming to depict and comprehend the complexity of its nature. As pointed out by Easterby-Smith et al. (2015), there are various approaches to case studies within the management research field and distinguishes between expressive and instrumental case studies. For this research, an expressive approach was applied, meaning that the case was chosen due to its specific characteristics, which conceivably helped investigate the research questions in a potentially generalizable manner (Easterby-Smith et al., 2015). The choice of research design was based on the scarce research performed on the subject of processes and operational excellence within the online gambling industry. The increasingly competitive industry landscape has caused the focus of research to focus on external activities such as market expansion, responsible gambling and the product offering. However, there is low focus on the internal operational excellence from a process perspective. Hence, a case study enabled insights from within an online gambling company to aid in the investigation of the research questions.

4.1.1 Case Description

Company X is an online casino gambling operator spanning multiple markets. The company is a large actor in the industry, being one of Sweden's most popular operators. Over the past decade, Company X has been subject to rapid growth and market expansion, increasing headcount, broader product scope, more stakeholders, and several company acquisitions. Further, the use and adaptation to technology also constitute a crucial factor for their competitive advantage. Due to these issues being aligned with the overall issues characterizing the industry, this case was deemed a good fit for this study.

Company X is organized functionally with processes that often span several func-

tions. As part of sustaining and growing their market position, they put a lot of effort into marketing to stimulate customer acquisition and gain a competitive edge. One successful method to acquire users in all markets is through Welcome Offers, a marketing promotion aiming to attract new customers through special offers such as free spins or deposit bonuses when creating an account and depositing money. Behind the creation of this type of offer, i.e., *the Welcome Offer process*, multiple departments are involved. This process will hereinafter be referred to as a marketing process.

Company X has identified inefficiencies within the marketing process related to long lead times, information loss, and inefficient duplication of work. It is assumed that due to the rapid growth and market expansion the organization has undergone, internal processes have grown increasingly complex. The process is also affected by employee rotation and an increasing number of markets and brands. Further, the marketing process is highly affected by changes in regulations, such as changes in marketing legislation for online casinos, which can cause unexpected workload.

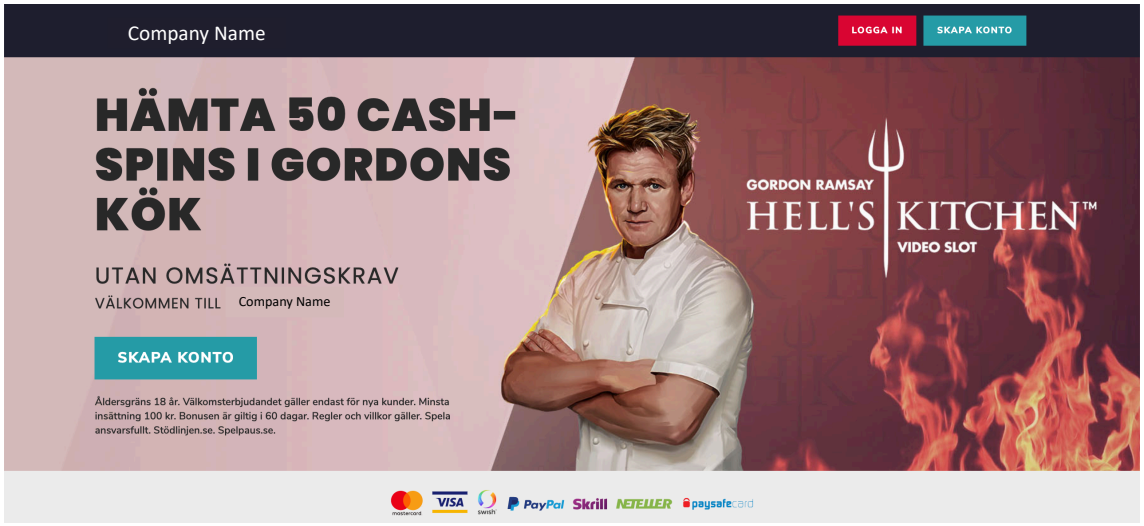

Figure 4.1: An example of a promo page for the Welcome Offer.

The welcome offer consists of two main elements: mechanics and creative content. The mechanics comprise the interactive part with the customer, ensuring that everything works as it should. For example, when a customer deposits a certain amount, correct mechanics ensure that the player also receives the correct bonus. Everything that the player sees and interacts with is constructed by a team responsible for building mechanics that work. The promo page contains information about the welcome offer and is what you as a customer see on the companies home page, as seen in Figure 4.1. Journeys are emails and text messages that are sent out dependent on what the customer does on the website. A bonus card is an informational picture about the offer and is what you click on to access it. The creative content is every visual design and text aspect of the offer, i.e., the "surface" of the mechanic functionalities. For every promo page or every email, there is a specific design and

text connected to it.

The creation of a welcome offer as a process spans five different departments, also referred to as process participants. These are *the Country Managers (CMs)*, *the Business Analysts (BAs)*, *the Retention Managers*, *the Design and Content team*, and *the Retention Operations Team*. Further, *the Compliance team* is involved as an advisory function being the regulation experts within each respective market. The Country Managers are in charge of all marketing and local knowledge for one country and decide when a welcome offer is required. Thus, they are the requesters and have the final say of the end product. The Business Analyst function is in charge of executing the risk analysis of the offer, i.e., understanding if it will be profitable and if customers can abuse the offer. The Retention Managers understand how the mechanics should be set up on the website and how long a particular offer will take to build. The Retention Operations team creates the mechanics on the website, and the Design and Content team creates all the design and text content.

The company has been aware of the increasing complexity of the process and its need for improvement. However, a process mapping project was carried out in April of 2020 without any improvement implementation measures. Therefore, a map of the welcome offer process existed at the start of this project. This map is referred to as *the outdated process map* as it no longer coincided with the current state of the process when this case study was initiated. Instead, it was provided as a starting point for the project to understand how the process works in broad strokes.

4.2 Research Strategy

To achieve the scope laid out in chapter 2 the research was conducted using an abductive approach. Inductive studies result in theory being the outcome of the research, and deductive studies use theory to create a hypothesis that is tested (Bryman & Bell, 2011). The abductive approach could be seen as a combination of the two approaches, leaning slightly closer towards the inductive (Dubois & Gadde, 2002). The abductive approach is a good fit for this research. The focus was not on theory generation, rather theory development where existing theory was tested in an iterative manner (Dubois & Gadde, 2002).

The research strategy was primarily qualitative. According to (Bryman & Bell, 2011), a qualitative research strategy is characterized by having the interpretivist epistemological position. This means that the research aims to understand the world by examining its participants' interpretation of it (Bryman & Bell, 2011). By hosting interviews and focus groups with process participants within Company X, the researchers gained an understanding of how the process works and used this to create process improvements tailored to the industry context.

4.3 Research Methods

The overall research method was a case study and took place in three phases. The first phase was conducted to understand what the current process looked like and what issues the company was experiencing and subsequently answered research question 1 by analyzing if the issues arose due to the industry characteristics. The second phase used phase 1 as a springboard from which potential solutions could be brainstormed based on theory. Phase 2 aided in answering research question 1 by gaining an even better understanding of the identified issues and answering research question 2 by providing potential solutions to those issues. The final phase allowed for testing the brainstormed solutions, gathering feedback and input as to the solutions fit within the industry context and the reason for this. This phase complimented phase 2 and aided in answering research question 2 by analyzing if the solutions were useful to a process within the online gambling industry. Each phase is outlined in detail in the following sections, but a brief review is provided here and in Figure 4.2.

Phase 1: As-Is Mapping
Phase 1 involved an in-depth study of the process within Company X. An ethnographic study, semi-structured interviews, and focus groups were combined to create a complete as-is process map of the process as it was at that point in time. This map was created to get a holistic understanding of the process, as is key within BPM. The issues were then analyzed to answer RQ 1.

Phase 2: Identify Improvement Potential
The focus of phase 2 was to identify areas of improvement within the process map. The first step was to clarify the identified issues in phase 1 and brainstorm ideas in cooperation with the stakeholders. The second step was to match the identified issues with ideas identified in theory. These were then tailored to the specific context of Company X.

Phase 3: Improvement Recommendations
The final phase was to provide short and long-term improvement recommendations based on the findings in phase 2. They were provided as a to-be process map and an implementation plan. These were presented to Company X in workshops that allowed for feedback on implementability and validation. The solutions were then analyzed to answer RQ 2.

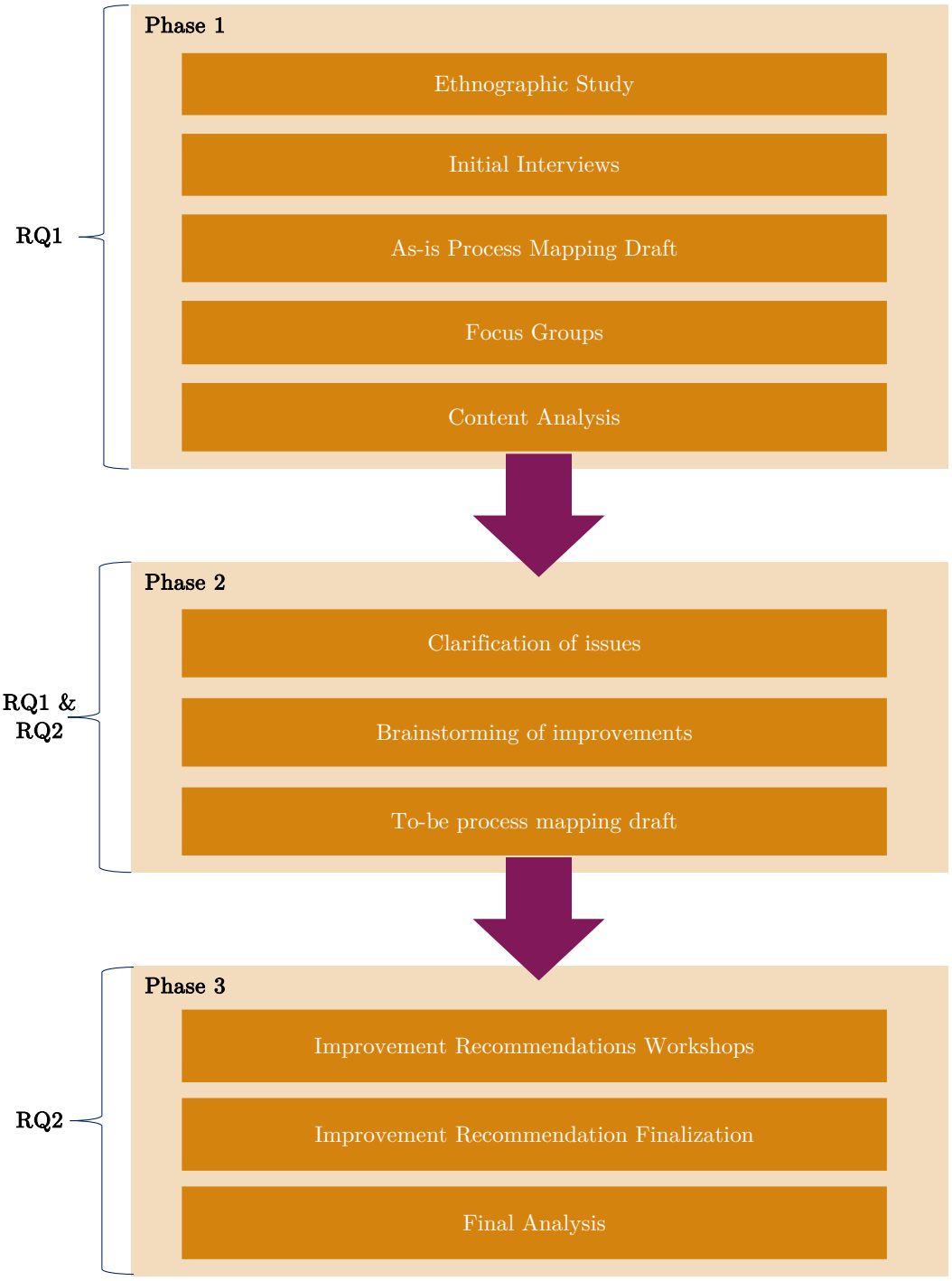

Figure 4.2: A mapping of the research method process.

4.3.1 Phase 1: As-Is Mapping

It was key to create an as-is process map in order to gain a holistic understanding of the entire process, as is central to the BPM methodology (Von Rosing et al., 2014). By ensuring this, the authors were able to understand where issues were occurring and what dependencies existed. Later in the research process it was used

as a reference point and visual tool for improvement suggestions. It was deemed necessary to deal with the complexity of the process.

4.3.1.1 Ethnographic Study

Throughout phase 1, an ethnographic study took place at Company X. To conduct an ethnographic study means to be immersed in an organization, both observing and participating in the organizational activities (Bryman & Bell, 2011). During this ethnographic study, a feel for the company culture was gained, and initial issues within the company were identified that applied to the process. Further, the ability to understand projects that were being undertaken that could affect the studied process in the future was possible, such as IT improvement projects. The ethnographic study was made possible due to one researcher being employed by Company X. This researcher participated in a separate process improvement project regarding other company processes and was able to gain an understanding of what issues those processes had. During this project, the researcher was able to receive the outdated process map from April 2020. Further, by taking part in the companies' day-to-day activities, larger organizational issues such as communication across projects and the organizational structure were identified.

4.3.1.2 Initial Interviews

To understand the current process, semi-structured interviews were held at Company X. Due to the situation of Covid-19, interviews were conducted via Zoom. They were recorded after received consent from the interviewee. Two researchers participated in the interviews, where one lead the interview and the other took detailed notes. The recordings were then used for clarification and verification.

The initial interviews used a combination of closed and open questions as presented in appendix A. The open questions allowed the interviewee to step by step walk the researchers through their process. The closed questions were then used to verify that the researchers had understood the process correctly. As described in Bryman and Bell (2011), closed questions propose a set of fixed answer alternatives, which is appropriate for the binary nature (yes or no) of verifying the steps of the current process.

Sampling
The initial interview sampling was based on the received outdated process map created in April 2020. Seven stakeholder groups were identified. These were:

- Country Managers
- Retention Managers
- Business Analysts
- The Compliance Team
- The Retention Operations Team
- The Content team

- The Design Team

One person from each group was interviewed to get a holistic view of the process. Interviewees that were chosen used the process often and hence had expert knowledge regarding it. Due to the first interview for the retention operations team being with a manager, a second interview was held with an employee that worked closer to the process. Regarding the compliance team, the first interview was held with a manager who didn't have hands on experience with the studied process but had a good understanding of the overall involvement of compliance in all processes. Therefore, a second interview was held with a compliance officer with more hands-on experience with the studied process. Hence a total of nine initial interviews were held.

The interviewees were chosen using snowball sampling. Snowball sampling means to allow interviewees to recommend other relevant interviewees (Bryman & Bell, 2011). The retention team, for example, recommended interviewees within other teams that they knew were involved with the process. The first interviewee was chosen through snowball-sampling as well, from the recommendation of the thesis writers company supervisor.

4.3.1.3 First Draft Mapping

By using the notes taken during the interviews in combination with listening to the recordings, a first draft of the as-is process map was created. It was decided to create a cross-functional process map, also known as a swim-lane map as depicted in Figure 4.3. This means that the mapping was divided into swim lanes for each involved function (Damelio, 2011). This allowed for an overview of the entire process from start to end. It also allowed for understanding who within the organization was responsible for and acted on each task (Damelio, 2011).

Square boxes were used for tasks, diamonds for decisions, and arrows were drawn between tasks and decisions to show how they interrelated (Damelio, 2011). The starting point and endpoint were depicted as an oval, and the flow moved from left to right with no arrows going back unless it was due to an iterative process. It was created using the free process mapping software Draw.io due to monetary constraints.

If any uncertainties regarding the order of tasks or whom the task owner is emerged, it was clarified using an instant-messaging program. All uncertainties that could not be validated through this communication were noted, and an educated guess was made. This guess was then validated and possibly changed during the focus groups.

4.3.1.4 Focus Groups

The focus groups aimed to refine and verify the first draft process map. Focus groups, according to Bryman and Bell (2011) are often used to study how a group understands a phenomenon and creates meaning around it, in this case, the process. Due to Covid-19 restrictions, the focus groups were held digitally using Zoom, but

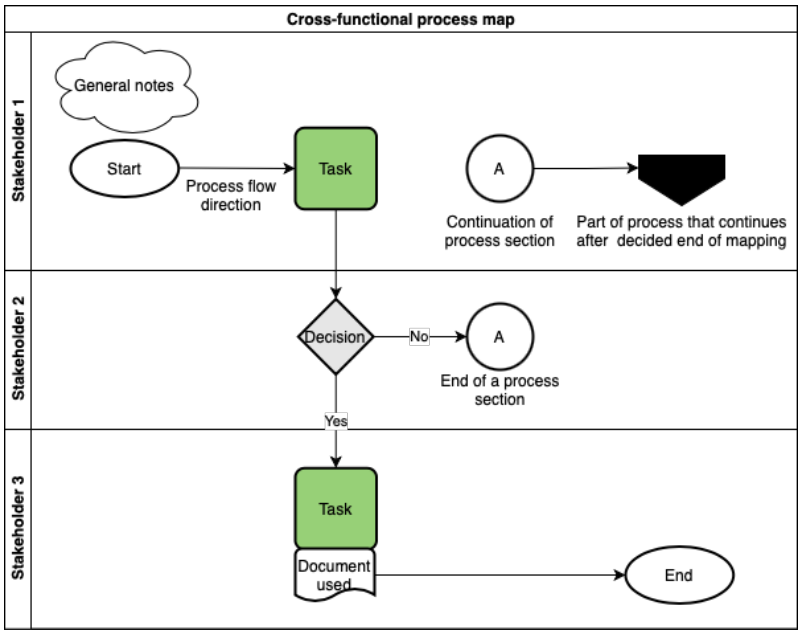

Figure 4.3: An example of a cross-functional process map with descriptions of the shapes and figures used.

according to Bryman and Bell (2011), this should still have provided similar results to a physical focus group. The groups consisted of between 6-8 participants. Bryman and Bell (2011) recommended between 6-12 participants, but due to the digital aspect of the focus group, it was decided that it was easier to control a smaller group. The aim was to have participants that used the process often and were well versed in its inner workings, in other words, subject matter experts, which is recommended by Harris (2017).

Six focus groups were held. The groups were Retention Operations, the Content team, the Design Team, and the Country Managers. The Retention managers were excluded from the focus groups as they were only two process participants, and hence their input had already been covered in the initial interviews. To save both their time and the authors' time, verification was gained through an email. The BAs were also excluded using the same reasoning.

For the first three groups listed, the participants were chosen using snowball sampling from the initial interviews and convenience sampling. Convenience sampling meaning those who were available were chosen to participate (Bryman & Bell, 2011) due to time constraints. The recommendations asked for during the initial interviews were for team members who were very active within the process.

As the stakeholder group, Country Managers was large and their participation in the process extra important due to their status as requesters, it was decided that all Country Managers were to be included. Hence three separate focus groups were held, grouping the Country Managers according to the license type of their market.

In a physical focus group meeting, the method would be to allow the group to map out the process using sticky notes on a wall (Harris, 2017). Being visual is important to create understanding and group alignment (van der Hoorn, 2020). As the focus groups had to occur virtually, the process map was uploaded into the collaborative google software Jamboard. Jamboard allows for the creation of multiple slides where all participants of the workshop can add notes and draw on the slides, allowing for real-time collaboration. The first two slides contained the process map. In the first 30 minutes of the focus group, the focus was to verify the first draft map. The authors walked through the map step by step and allowed the participants to give input and make changes to ensure the mapping was correct. Further, to ensure that everything was captured, the Zoom session was recorded after consent was received from all participants.

After the process map had been iterated one time, the next four slides in the Jamboard were used. These slides included the following questions:

- What issues do you experience within the process?
- Are there tasks you do today that are unnecessary/redundant or should be done by a different department?
- Do you know who the process owner is?
- Do you re-use previous offers, or do you always create them from scratch?
- Are there times you do not follow the process? If yes, why?
- Brainstorm improvement suggestions.

These questions the groups discussed amongst themselves. Limited researcher intervention allowed the researchers to study the participant's perspectives without disturbing them (Bryman & Bell, 2011). Interventions only took place if the participants got stuck or the conversation died out. Doing this part of the session allowed the researchers to understand what the perceived issues were amongst the subject matter experts.

To ensure the participants stayed focused on the task, the focus group was constrained to one hour, as suggested by Harris (2017), with 30 minutes focused on the process map and 30 minutes for the questions.

4.3.1.5 Content Analysis

Following the interviews and the focus group, all answers were gathered and analyzed. The findings from the first half was used to complete the as-is process map. The analysis was then conducted using coding as presented by inneberg and Korsgaard (2019). The coding used the notes taken during the interviews and focus groups combined with the Jamboard slides and complimented with the recordings. The online collaborative software Miro was used as a virtual whiteboard where post-it notes could be created and moved collaboratively. The coding took place in several cycles, beginning very broad with descriptive post-it notes being created from each interview and focus group. These post-it notes were then grouped according to common themes. As more post-it notes were added, patterns were identified and

the number of groups expanded. In the second round of coding, all post-it notes within each category were divided into sub-categories to identify more specific issues.

Finally, the issues in each sub-category were translated into specific issues and were grouped according to if they were due to the characteristics of the industry or not. This was done by analyzing each issue with the following questions:

- Would this issue apply to another industry with different industry characteristics?
- Can the issue be found in theory and be related to common process issues that are not specifically due to the characteristics of the industry?

By doing so, research question one could be answered. An overview of the Miro board with all categories and sub-categories can be found in appendix B.

4.3.2 Phase 2: Identify Improvement Potential

The as-is process map was analyzed to understand where issues could be occurring and what improvements needed to be made. Further clarification was conducted to understand the root causes of the issues.

4.3.2.1 Clarification

To begin the identification of improvement potential all identified issues found during the content analysis were gathered. The issues where clarification was needed were identified. One in-depth interview was held with a compliance officer to understand the differences between a highly regulated and unregulated market. This interview was semi-structured using open questions found in appendix C. The questions ensured that relevant information was gathered while the interviewee was allowed to speak freely and bring up issues and solutions that the interviewers might otherwise have missed.

One in-depth interview with a system developer was held to understand the possibilities of the digital system used within the process. The interview was a semi-structured interview where the interviewee presented the system's possibilities and what plans he had for further improvements. As the interviewers had some ideas of what improvements could be of interest, the semi-structured nature of the interview allowed for open questions regarding some ideas while also allowing the interviewee to present ideas of his own.

The other clarifications needed were clearer and could hence be clarified using an email to the relevant stakeholder. Six emails were sent out to all compliance officers where they were asked to clarify why or why not a specific solution was possible.

4.3.2.2 Improvement Potential Identification

Once the clarifications had been received, the findings were coded in the same way as before. Each issue deemed to occur due to the characteristics of the industry was then analyzed one by one. Solutions were brainstormed using the theoretical framework as a basis. These solutions were then used to create a to-be process map using the same cross-functional mapping technique presented by Damelio (2011) as the as-is map. This to-be map is presented in appendix D.

4.3.3 Phase 3: Improvement Recommendations

The final phase of the study was to provide improvement recommendations to Company X and evaluate the implementability of them to understand how a Company could address the issues that arise due to the studied environmental characteristics. These recommendations were a result of the identified improvements in Phase 2 and the to-be process map.

The recommendations were provided to Company X as:

- A to-be process map.
- Further description of the solutions.

4.3.3.1 Final Workshops

The recommendations were not tested due to the limited time frame of the study. Instead, the recommendations were presented to process participants, the research supervisor at Company X, and the system developer in three separate meetings. This was done to capture feedback on the solution's implementability. The first meeting included the research supervisor and two process participants who had expressed a high interest in the study during earlier interviews. The first five minutes were set aside to give a background to the study and how the results had been achieved. Eighty minutes were then used to present the issues and improvement recommendations. The workshop attendees were then asked to provide input on the implementability of the improvements and if they perceived any perspective to be overlooked. The findings from this initial meeting were used to sharpen the improvement recommendations, and the solutions deemed unfit were reviewed .

The second meeting was a presentation for the system developer and the system developers manager. In this meeting, the solutions for the to-be process were presented. They then gave feedback on if the solutions created could be implemented into the new system. If not, alternatives were discussed. The findings from this meeting were used to sharpen the to-be process map and solutions.

The final meeting was a workshop of the finalized solutions with the research supervisor, one process participant from each stakeholder group, the system developers, and higher managers interested in the study outcome. The finalized to-be process,

found in appendix D, was presented along with the finalized solutions. One last round of feedback was gathered before the ownership of the project was handed over to the company for implementation.

This approach allowed the researchers to validate the identified solutions and asses if the new process was viable within a company subject to rapid growth and uncertainties.

4.3.3.2 Final Analysis

To answer research question two the findings of the case study needed to be analyzed. This was done by comparing the improvement recommendations given to the company with theory. Each recommendation was analyzed using the following questions:

- Are the solutions given due to the characteristics of the industry or due to company restrictions?
- Would a different solution be a better fit for the industry if the authors did not have to adhere to the company's restrictions?
- Are any solutions unexpected or different from what theory would suggest? Why/why not?

By answering these questions, the authors were able to identify what process solutions could be applicable across companies within the online gambling industry to meet the industry's challenges.

4.4 Research Trustworthiness

In order to achieve credibility within this research, triangulation was achieved as described by (Bryman & Bell, 2011). The focus groups and the ethnographic study validated the findings of the interviews, making the findings more credible and not solely based on one perspective (Bryman & Bell, 2011). Further, respondent validation was used during the interviews and focus groups to ensure that the interviewers had understood the interviewees correctly (Bryman & Bell, 2011). The interviewees' and focus group participants' anonymity was upheld to ensure the findings were truthful as the element of upsetting higher managers was diminished.

The transferability of this research is achieved by ensuring a thick description of the process and the context. Readers of the study can then decide the transferability for themselves (Bryman & Bell, 2011). The dependability is ensured through the careful handling of all information and data gathered during the study. All interviews where the participants gave consent were recorded, all documents studied were saved and all analysis was documented and saved. This allows for careful auditing after anonymization, if requested (Bryman & Bell, 2011).

As mentioned, one of the researchers was employed by Company X. Although some could argue differently, this was deemed to strengthen the credibility of the ethno-

graphic observations and conversations. One reason being that the researcher could utilize insights from a separate process mapping project related to other organizational processes and find similarities to the studied process. The researcher also had an understanding of the industry dynamics and how rapidly changes occur through experiencing multiple improvement efforts in other parts of the organization. These factors implied that the findings of the study could apply outside of Company X and have general implications for similar organizations and processes within the online gambling industry. Further, the authors of this study aimed to gather input from as many perspectives as possible, both from managers and low-level employees. Hence they aimed to illustrate the process from many different viewpoints. Finally, this allowed for authenticity to be achieved by allowing all stakeholders of the studied process to be interviewed and have their opinions heard, as suggested by Bryman and Bell (2011). This ensured that the process was not only evaluated by managers but by all who were affected. Hence account was taken to all perspectives as is recommended by Bryman and Bell (2011).

4.5 Method Discussion

The study was performed remotely due to the Covid-19 pandemic. Hence all interviews were conducted using video meetings and no physical observations of the process could be made. Therefore there was a heavy reliance on the ideas, thoughts, and beliefs of the interviewees and focus group participants. Observations of the process as it is performed would have allowed the authors to gain an insider perspective of the process and the issues that arise (Bryman & Bell, 2011), thus removing the reliance on the interviewees. On the other hand, the high number of interviewees and focus group participants used in the study provided a nuanced view of the process. It allowed the thesis writers to see the process from several different perspectives. Further, the ethnographic study performed provided another layer of nuance in other overarching issues that were relevant to the studied process.

Further, only one company with one process has been studied. It would be interesting to investigate more companies and processes further to see similarities and disparities. On the other hand, by focusing on one company, a better understanding of the process could be achieved, allowing for more concrete solutions. Due to the time constraints, including another company or process would have resulted in less depth and less concrete and tailored solutions.

It could also have been of interest to perform a thorough literature review to understand what issues are common in theory when performing complex processes and what solutions were used to remedy those. This would have been a trade-off for one of the other process-steps and wasn't deemed essential to the success of the study. Hence it was excluded.

One significant limitation to bear in mind from this study is that there was no time to study the effect of the recommendations once implemented. Hence, only indications of if the solutions fit and will have the desired effect were received from

the company's feedback. It would be fascinating to go back to the studied company once implementation has been finalized to see if they had the expected effects. On the other hand, the final workshop provided the opportunity to test the ideas on stakeholders very familiar with the industry and what ideas could work, based on their own experience within the industry.

5
Case Findings

In this chapter, an as-is process map describing the process flow at its current state is presented and followed by a more detailed description of the identified issues. The as-is process map is based on the primary process applied by most interviewees and does not incorporate deviations. The deviations, however, are discussed in the problem findings section. All information provided in this chapter are derived from the interviews, focus groups and the ethnographic study.

5.1 As-Is Process Map

The process of the welcome offer is mapped using the swim-lane methodology (Damelio, 2011). Each swim lane represents a department or functionality involved in the process, indicating in which department or by which role a process step is conducted. The as-is map is presented in Figure 5.1.

Initiating phase
The process is triggered by an external event, which can be related to a change in regulations, internal organizational changes such as strategic changes, or external changes such as competition. In all markets, a Country Manager (CM) responsible for one or more markets is responsible for noticing the triggers and initiating the process. Further, they act as the requester, and thus the process starts in the swim-lane of "Country Managers".

Request and Risk Analysis
Initially, the CM consults the Business Analytics (BA) department. The Country Manager sends a request ticket describing the functionality of the campaign to the BA department. The BA reviews the request, computes a risk analysis, and suggests changes if necessary. Once the initial request is agreed upon by the BA and the CM, a planning request is sent to the Retention Managers. The responsible manager reviews the planning and time request, estimates the capacity of other teams, and consults with the Country Manager to ensure the deadline can be met. Once the deliverables in terms of time and workload are agreed upon, the process flow is split into two separate and parallel workflows: ordering assets and building technical assets.

Ordering Creative Assets
Starting in the Country Manager swim-lane, at process step 1.5, the CM creates a

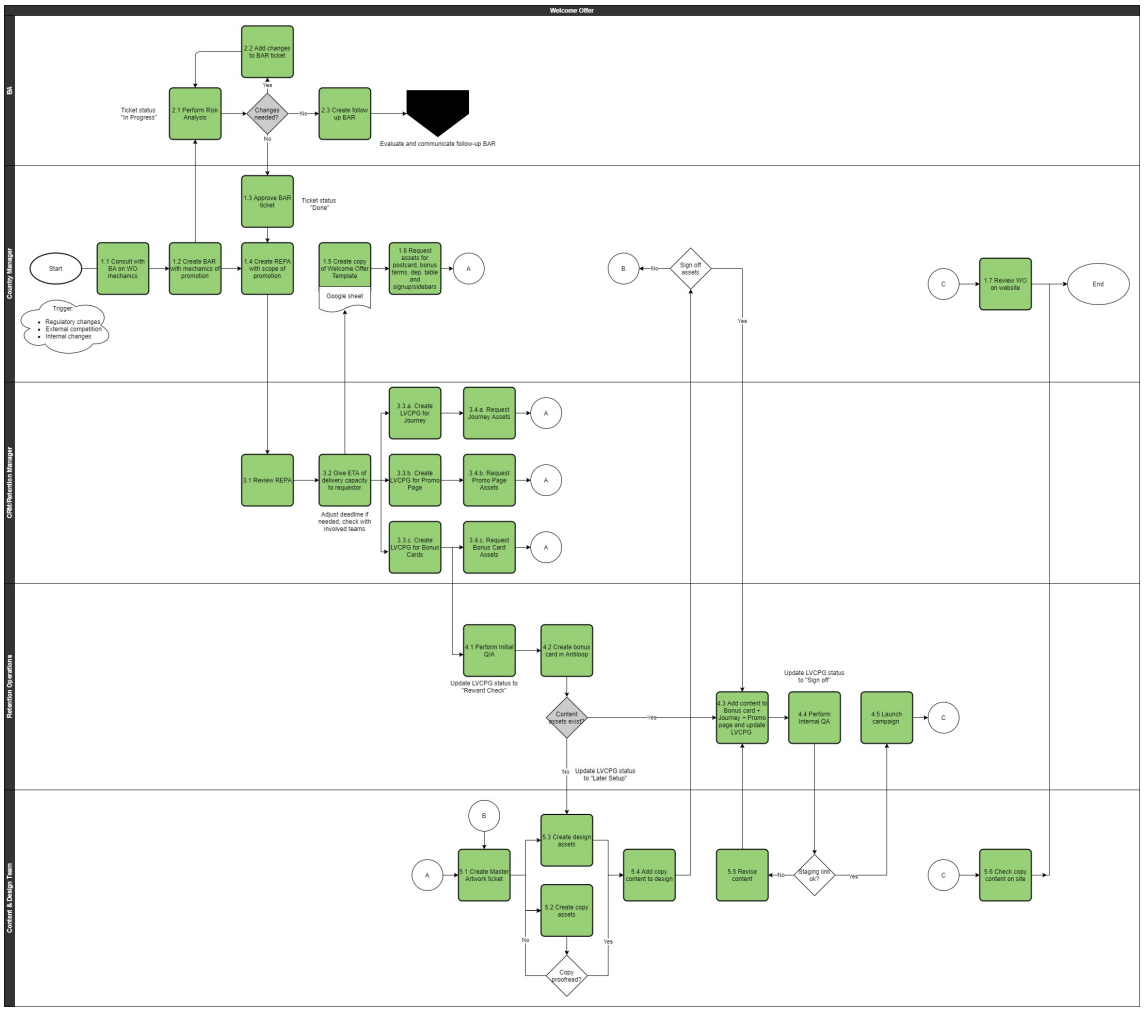

Figure 5.1: The As-Is Process Map.

spreadsheet that will include all the links to the different tickets that the content and design team will receive. The sheet works as a "main document," providing an overview of all the tickets. The CM shares the document with the Design and Content team and the other departments involved in the creation process. The CM then creates all the tickets for the creative assets with a description of that specific asset request. These creative assets are linked to a master artwork ticket, step 5.1, which is the head ticket for all design and content assets. All of these tickets are gathered in the spreadsheet.

Ordering Technical Assets

At process step 3.3.a-3.3.c, the Retention Manager is responsible for ordering the tickets necessary to build the welcome offer technically, referred to as technical assets. These constitute the building blocks of the entire campaign, ensuring that the welcome offer works for the end-user when they visit the site. Once these tickets are created, they are automatically sent to the Retention Operations team, which is responsible for building them.

Building Creative Assets
In process step 5.1, every creative asset related to the welcome offer should exist as a ticket in the system. Thus, the design assets are assigned to the design team, and the text assets are assigned to the content team. During the production, iterative reviews in collaboration with the Country Manager of the content occur until a finished design or text is agreed to. Once the Content team has produced the text, it is pasted into each design asset. The next step after 5.4 is sending the finished creative assets to the CM for final approval.

Building Technical Assets
The subprocess of the Retention Operations team starts in step 4.1, where the person assigned to the technical asset ticket starts by performing an initial quality assurance check. In this step, the technical asset ticket is compared to the other tickets to ensure they are aligned and that all relevant information is included. The Retention Operations team then starts building the offer. Once it is built, the creative assets for the offer is added. In this step, 4.3, every component needed to launch the campaign on the website should be ready. Thorough quality assurance is done where the campaign is tested in a staging environment simulating the final product on the website to ensure everything is correct. Once everything is working in the staging environment and the design looks correct, the campaign is ready for launch.

Launching Stage
The CM is notified that the welcome offer is built and ready for launch and everything is uploaded live on the website. A final review of the technical and creative assets is done by the CM and the Content team (however, this step depends on the individual CM). When everything is deemed to work according to plan, the process is complete.

5.2 Problem Findings

The problems described in the following section are those that are specific to the online gambling industry. The issues are grouped into categories according to their commonalities. These categories are market variations, process instability, the digital system, communication, and knowledge management. Many issues span these categories and hence the categories are not mutually exclusive and were simply created to aid in readability.

5.2.1 Market Variations

An overarching cause of process-related problems that every stakeholder group reiterated both in the initial interviews and the focus groups was that every market is different. However, the process is meant to fit all markets. The company has quickly grown globally across many different countries, several under strict regulatory laws,

and one employee phrased it as:

> "We have 8 different licenses which means that we have 8 different requirements" - A Compliance Officer

Some markets are highly regulated, others do not have regulations at all, some are re-regulated constantly, while other regulated markets are very stable. Further, the company is entering more markets and acquiring new brands as they grow, all with varying customer expectations and cultures. In other words, the case study process was designed to span all markets, but also needed to work for all of the local variations. One area where the process was fragmented was in regards to how they achieved compliance. Each market had developed its own way of ensuring that the welcome offer was compliant with regulations. This is further elaborated upon in section 5.2.5.

Another issue identified was that there were many different reasons for starting the process. This had resulted in the identification of several different triggers, as seen in the as-is map in Figure 5.1. According to the interviews, the process remained the same irrespective of the trigger. For example, the due date for the welcome offer was decided in an ad-hoc manner with no guidelines as to required lead times, despite indications of specific triggers being of higher importance than others.

Stakeholders mostly active within regulated markets brought up the issue that regulations can change quickly, often with little time to react. This is due to regulations often being of an interpretive nature. If a new interpretation arises within a market, it requires the company to adjust quickly. Also, if a welcome offer needs to be changed late in the process, it is often due to a change in regulations.

This, in combination with the other triggers, results in wildly varying workloads for the process participants. Sometimes all markets request welcome offers at the same time, resulting in very high workloads, while other times no requests are made at all, resulting in low workloads. This, in combination with no prioritization guidelines, results in more man-hours needed than are available. One interviewee stated that the requester who shouts the loudest receives the highest priority. There is also a sense of an unofficial priority from top management, dependent on the growth strategy, but it is not communicated or translated into prioritization guidelines. An example is if the company wants to move into markets with future growth potential, the unofficial priority is those markets.

Hand in hand with this is that the quick changes, often due to high industry competition and need to comply with regulations, sometimes resulted in skipped process steps. One CM referred to it as:

> "If it [the WO] needs to be done quickly I just request it directly over Slack [a messaging application]"- A Country Manager

In other words, the process in certain instances was deemed to be too manual and time-consuming for the CM. On the other hand, this seems to have increased the workload for other process participants who needed to go back and complete process steps that had been skipped.

5.2.2 Process Instability

Changes constantly occur within the process, making it next to impossible to discern a state before and after the change. This is underscored by the difficulty the thesis writers had when trying to create an as-is process map, as the process changed several times during the mapping. This has resulted in various issues, such as process participants and requesters not knowing how to use the process as it had changed from the last time they used it. Some process participants are more aware of changes than others, resulting in many different process variations being used simultaneously.

Upon further investigation, it was understood that there is no defined roles relating to process improvement. This means no process analyst responsible for end-to-end process improvement. Instead, local improvement changes occur in an ad-hoc manner by process participants and managerial stakeholders. As a result, many improvements are being pursued by different functions. Often, the improvement efforts happen simultaneously but not in alignment and without transparency across teams. Many of the improvement efforts are similar in scope, and thus synergies exist, but due to there being no alignment of the projects, they are unaware of it. Further, no employees were aware of a process owner, entailing that despite the great responsibility of the country manager, there is no process owner. The lack of clear roles also entail that no process related performance indicators have been established, only internal team performance metrics within the retention operations team and the creative design team. These performance metrics are not specific to the welcome offer process, but rather the individual team's performance and can thus not be used to determine the success of the process.

Variations to the process also have to do with the high employee rotation. Some process participants might move to other roles within the same process or quit, leading to new employees replacing old process participants. New process participants are often unaware of the process and thus struggle to get the correct information to understand what steps need to be conducted and in what order. As a result, variations to the process execution occur due to new employees executing the process how they see fit.

Within this process, the CM is both a requester and an active participant in the process. This has resulted in each CM having their way of doing things, meaning that the process execution can vary between markets. How well the process works is therefore dependent on the CMs knowledge of the process. CMs with high process knowledge follow the process, and according to the content and design teams, the process works smoothly. CMs with low process knowledge, on the other hand, often do not follow the designed process, and hence more ad-hoc communication is

required. For example, if the required ticket is not filled in correctly, communication via telephone and instant messaging takes place to receive the missing information.

From this, it could be gathered that experienced employees are essential within the process. The better understanding a process participant has of the process, the company, and the market, the better the process works.

5.2.3 The Digital Systems

The system used in the current process does not seem to be created with the process in mind. Instead, it was created for how the process looked three years ago, and ad-hoc add-ons have been added, increasing the system complexity. Initially, the system was deemed a good fit for the processes being executed. With a growing number of markets, employees, and brands leading to increasingly complex processes, the system was scaled without ensuring that it was optimal for every process. Some organizational functions were added in an ad-hoc manner into the system as the functions were created, resulting in many new tickets and increased system complexity. In a market where quick reactions to change are a must, the current use of the system seems to be a large hinder. It is very inflexible where updates rarely occur and requested system changes are often not prioritized. There are also indications from employees who have transferred from competing companies that the system used is outdated compared to competitors. As shown in Figure 5.1 the number of tickets that need to be created for the welcome offer is high (at least ten but often a lot more). Many of the tickets contain very similar information but go to different stakeholders. Further, the tickets only contain free text. Hence there is no standard for what information should be included.

Welcome Offer New Launch - Both Artwork & Copy Changes

Task	Ticket Type	Request to be Made by	Memeber of Production Responsible	Link to Ticket	Assigned To	Requested	Started	Written	Proof Read	Signed Off	Completed	Uploaded
Master Creative	Here	Creative Team Prod. Manager	Design			☐	☐	☐	☐	☐	☐	☐
Postcards	Here	Country Manager	Design & Content			☐	☐	☐	☐	☐	☐	☐
Bonus Terms and Conditions	Here		Content			☐	☐	☐	☐	☐	☐	☐
Deposit Table	Here		Design			☐	☐	☐	☐	☐	☐	☐
Signup & Sidebars	Here		Design & Content			☐	☐	☐	☐	☐	☐	☐
Promotion Page	Here	Retention	Design & Content			☐	☐	☐	☐	☐	☐	☐
Headers	Here		Design			☐	☐	☐	☐	☐	☐	☐
Welcome Offer Journeys	Here		Content			☐	☐	☐	☐	☐	☐	☐
Landing Page	Here	Affiliates	Design & Content			☐	☐	☐	☐	☐	☐	☐
Affiliates Banners	Here		Design & Content			☐	☐	☐	☐	☐	☐	☐
Affiliates Newsletter Header	Here		Design & Content			☐	☐	☐	☐	☐	☐	☐
Affiliates Mailer Header	Here		Design & Content			☐	☐	☐	☐	☐	☐	☐
Affiliates Article Header	Here		Design			☐	☐	☐	☐	☐	☐	☐
Social Images	Here	Online Media	Design & Content			☐	☐	☐	☐	☐	☐	☐
Social Videos	Here		Design & Content			☐	☐	☐	☐	☐	☐	☐
Display Banners	Here		Design & Content			☐	☐	☐	☐	☐	☐	☐
App Images	Here		Design & Content			☐	☐	☐	☐	☐	☐	☐
App Videos	Here		Design & Content			☐	☐	☐	☐	☐	☐	☐
App Description	Here		Content			☐	☐	☐	☐	☐	☐	☐
CATF and Meta Data			Content			☐	☐	☐	☐	☐	☐	☐
Welcome Offer Bonus Cards	Here	Ops	Content			☐	☐	☐	☐	☐	☐	☐

Figure 5.2: Spread sheet used for visibility and tracking of welcome offer progress and tickets

The number of tickets in the system results in difficulties following the process. In a market where it is essential to remain compliant, ensuring that the right thing is being acted upon is critical. With the current system, this is not easy. Not all

tickets are linked together, and when one ticket description is edited, the edit is not translated into the other tickets. Stakeholders hence need to search for and look up tickets to ensure their information is up to date.

The system used has resulted in a large number of tickets and difficulties following the process. To achieve visibility, a CM created a spreadsheet, as seen in Figure 5.2, that includes all ticket links, who is in charge of each ticket, and the progress of each ticket. This spreadsheet was widely appreciated and has hence been included in the process for tracking purposes. Further, manual naming conventions have been created for specific tickets to make them easier to find.

It is perceived by two employees who work closely with compliance issues that the system used to create the offers is a hinder to compliance. This is due to the features of the system in itself not being flexible enough. The manual inputs required to create the offers and the system not being fit to the process make it slow.

To conclude, the company has found it challenging to ensure task-technology fit. Manual solutions within and outside the system have been created to circumvent the system's constraints, but this, in turn, has made the process messy and more difficult to follow.

5.2.4 Communication

Communication throughout the process is ad-hoc and non-standardized. As described in subsection 5.2.3 all tickets are free-text, resulting in a lot of the required information being missing. This is often due to the differences in process knowledge between Country Managers, where free text tickets give no guidance on what should be included. Hence some CMs know what to include while others have to guess and hence miss essential information. Many employees from the Retention Operations, the Design Team, and the Content Team described the issue of information often being missing at the start of the process. This, in turn, results in time-consuming ad-hoc communication in terms of unplanned instant messages, telephone calls, and meetings to ensure all the correct information is gathered before start.

The poor communication has also resulted in the need for the quality assurance task performed by the Retention team, as seen in Figure 5.1, as they cannot trust that the information provided is correct and aligned with other welcome offer information. In other words, the sub-par communication has resulted in the need for extra and time-consuming process steps.

Further, the Content team has difficulty receiving the correct regulatory information when writing copy text. Often the Content creator does not know whom to contact regarding regulatory information or where to search for the information. This results in further ad-hoc communication and information chasing to ensure that the provided text is compliant.

5.2.5 Knowledge Management

Where experience and tacit knowledge are extra prevalent is in regards to the CMs. For the company-wide process to work, the CM must have the necessary local knowledge to ensure the welcome offer fits the intended market. The other process participants work with offers across all markets and can not keep track of all the differences. An issue regarding this is that the company has a high employee rotation rate, highlighted by the fact that four of the Country Managers in the focus groups were new to their positions.

Further, it was concluded that the more often the process was used, the better the process worked. In other words, the process was better understood by the Design, Content, and Retention Operations teams, who performed the process more often than the Country Managers.

Regarding compliance, all process participants must have the proper knowledge to comply with regulations. One issue found was that the Content team had less understanding about regulations and how to adhere to them. The company has solved this with localized solutions where some markets use a knowledge management system with all up-to-date compliance information (such as terms and conditions). In contrast, others used communication through the tickets in the system, formal biweekly meetings, or through telephone or instant messaging conversations. Content creators with access to a compliance knowledge management system found it worked very well, while those who did not have access to one had difficulty understanding and finding the correct information for their market.

5.3 Summary of Issues

To summarize and provide an overview of all the issues found during the case study Table 5.1 was created. The table depicts all the issues grouped according to their respective category.

Table 5.1: A summary of the issues identified in the case study.

Category	Issue
Market Variations	Markets are different, but the process should fit all markets. Difficult to find a balance between local knowledge and central process.
	Compliance is treated differently for different markets, also relates to knowledge management.
	Triggers occur unexpectedly, with low thresholds for reaction time.
	A lot of different triggers and no framework to prioritize between them.
	Varying workload for process participants.
	Some process participants skip process steps leading to process variation.
Process instability	Process changes between execution iterations causing confusion for process participants, as they don't know if or what has changed since previous execution.
	Lack of transparency of process changes lead to multiple variations of process being used simultaneously.
	Misaligned initiatives for improving process steps, but lack of ownership of full end-to-end process improvement efforts.
	High employee rotation in industry leads to new process participants with less understanding of the process flow, causing variations in process flow.
	Country managers have a strong influence on the process flow. Process flow is therefore dependent on the individual country manager, leading to variations in process flow.
Digital systems	Outdated process enabling system increases the complexity of the process flow.
	High number of unlinked tickets, i.e. information points, causing low traceability and difficulties following the process.
	Lack of clear information of request description causing employees to manually search for information.
	System does not enable clear process flow overview visibility, instead external manual sheet is used for this.
	Manual information input slows down process.
Communication	Non standardized and ad-hoc, with free text options and lack of information guidelines leading to insufficient information.
	Some assets are difficult to produce due to the need for legal knowledge.
Knowledge Management	The market related teams (e.g. Country Managers) have lower insight to process flow than the departments involved for all markets.
	Different accessibility to regulatory information between markets, leading to some teams having to chase down information while others don't.

6
Implications

In the following chapter the two research questions are analyzed, based on the case findings presented in chapter 5. To reiterate, the research questions are:

1. What issues arise in the execution of a complex, multi-market, digital business process within the online gambling industry?
2. How can these challenges be remedied using BPM, communication, and knowledge management?

Each section in this chapter is an issue category identified in the case study. These categories are Market Variations, Process Instability, The Digital Systems, Communication, and Knowledge Management. The identified issues and potential solutions within each category are analyzed from the perspective of the two research questions.

6.1 Market Variations

As mentioned in section 5.2.1, multiple issues with executing the welcome offer process relate to the differences and variations between the markets. Companies within this industry might find a challenging balance between a centralized, streamlined process and retaining local market knowledge to cover the varying market needs. In some aspects, this strategic trade-off could be closer related to top-level decisions in wanting to achieve economies of scale. However, the findings indicate that solving the issues doesn't have to be completely reliant on strategic directives at a higher organizational level. The large differences between markets and their differing requirements could be aided with knowledge management and communication, discussed in sections 6.5 and 6.4.

Market variations within the online gambling industry that impact process execution can be caused by regulatory guidelines, competition, brand differences, customer behavior, changes in internal strategy and culture. If a process is triggered by any of these factors and if it spans multiple markets, this increases the complexity. Different factors can affect different markets at different times, making the number of triggers that start a process many. The difference between triggers can also imply varying business value. Some triggers might be necessary for compliance reasons and thus require high priority, while others are based on an internal strategic change and might not be as urgent.

As a result, certain process executions carry higher business importance than others. Further, having multiple reasons for initiation results in a non-continuous process where process participants during certain periods are overcapacity in terms of man-hours and at other times are under capacity. Without a plan for how to deal with this, the process participants are either overworked or under-stimulated.

The market variations also caused the requester to skip process steps. In other words, due to the time-sensitive nature of certain regulatory changes as well as the need to react quickly to competitors, the process was deemed to be too time-consuming and slow. Hence a natural solution to this should be a simplified process, enabled by a digital system that ferries the requester through the process and doesn't allow deviations. This is further discussed in sections 6.2 and 6.3.

Regulatory changes happening unexpectedly can also harm the capacity planning of the process. For some regulated markets, the planning ability is obstructed by uncertainties around having to quickly comply with unforeseen regulatory changes which lead to workload fluctuations. This is interesting as politics is often characterized as being slow-moving, allowing for ample time to prepare for policy changes. However, as the online gambling industry can involve high risks of criminal activity and subjects users to irresponsible behavior, some regulatory decisions or re-interpretations might be introduced as necessary reactive or proactive actions with little room for fore-warnings.

The findings also indicate that some of the workload fluctuations were a result of insufficient planning from the requester, which unless treated, might counteract efforts put in to deal with triggers that cannot be expected. To aid in such situations, there needs to be a higher pressure on planning predictable requests through recurring meetings with process owners and participants. As such, increasing the responsibility of the requester to stick to guidelines is central for the process to work. This suggests that for processes that span across multiple markets, it is of high importance that the planning is consistent regardless of which market is making the request. It is interesting to reflect upon why some organizations fail to do such, as the threshold of introducing a recurring meeting is not high, nor is the idea unique. It is possible that the complexity of the existing process could discourage any further process step to be added, and that the workload of the process participants is already too high to prioritize another meeting. Further implications on how such communication measures could solve this issue are discussed in section 6.4.

Interpreting the findings of Trkman (2010), dealing with capacity planning (and other process-related issues) is not uncommon for industries with high market variation and rapid growth. Thus, a solution inspired by the business process improvement is suggested, namely adjusting the business process to fit the external environment which in the context of the case study translates to planning for uncertainties. To begin, the triggers of the process need to be identified to establish if they are regular and can be planned for, or irregular and perhaps cannot be planned for. Having two different lead time SLAs, one for regular triggers and one for irregular would

enable the process owner to have a method for prioritizing the process executions and thus more accurate roadmaps can be presented. However, considering every requester wants their request to be prioritized, this also entails a risk of "cheating" by disguising a regular trigger as an irregular trigger. To counteract this, a condition for shorter SLAs could be for old assets to be reused, which could discourage such a request. In general, there are no direct measures to deal with the uncertainties in the external environment. BPM, as described by Badakhshan et al. (n.d.), further suggests continuous improvement is a suitable alternative for enterprises in markets with high variation, meaning that the process performance should be analyzed and evaluated after, or during, a process execution. As stated by Van der Aalst (2013), process performance indicators (PPIs) would help determine where optimization is needed, and therefore improve the conditions for the next process iteration. More on process excellence is covered in the sections on 6.2 and 6.3.

6.2 Process Instability

As a result of a constantly growing organization subject to market variations, the studied process was characterized by continuous changes. This implies that in the online gambling industry, process changes can occur as a result of growing organizations, regardless if they are intended or not. A constantly changing process isn't necessarily a problem in itself, it is instead the unclear ownership of the changes. As Trkman (2010) points out, without clear responsibility of capturing, communicating, and analyzing such changes, there is a risk that they cause more confusion than good. BPM captures the need for structured approaches to process improvement within industries with high market variations. In the case study, process changes usually occurred as a result of employees' initiatives and thus occur in varying frequency and quantity. Issues arise when employee initiatives on process improvement are not aligned and known by all process participants. On top of this, high employee rotation gives rise to a lot of inexperienced process participants who have a poor understanding of the process steps. These problems entail a risk in the execution of the process as some process participants, or new employees might be unaware of changes that have occurred since the previous process execution or they are unaware of the process steps in general, resulting in skipped and missed steps.

According to Trkman (2010), continuous change of processes is a necessity for long-term survival within dynamic industries. Thus, constantly changing processes is positive from a theoretical standpoint. However, these findings also emphasize that it does not work successfully if you don't have a structured way to measure and control the change. Continuous process change with low transparency and lack of structure can according to Weske (2007) be aided using clear roles and ownership through BPM. Following the same structure as Dumas et al. (2013b), all involved actors should be identified as a first step. The case findings indicate that there are only two types of actors: process participants and the requester when a process is characterized by instability. For processes with no clear ownership and continuous improvement efforts, it also suggests that the responsibility of a process analyst is unintentionally shared amongst process participants. It is thus believed that by

establishing the role of a process analyst, i.e. someone responsible for leading and evaluating process improvement, the issues related to low transparency could be aided. Overall, what is needed is someone that aligns process improvements from a centralized perspective that can provide a holistic perspective to the improvements. It is important to note that initiatives of change from process participants should always be encouraged, but the careful analysis should be carried out by a process analyst before deciding to act (Trkman, 2010). This entails a risk, which is that people may stop coming up with proposals when a process analyst takes over a responsibility that was previously a voluntary effort. It should therefore be carefully considered who takes on the role as a process analyst and how this is communicated.

In a stable process, only having a requester and process participants may not be an issue as the process is clear and easy to follow, maintaining the same task flow over time. However, in an environment where changes happen and should happen, continuously, a process analyst and a process owner are imperative. There needs to be a coordinator of change as well as someone who ensures that the process is used as designed. If not, the issues of inefficient resource utilization, not knowing how to use the process, who to contact, and what information is needed increase.

To evaluate potential changes in a structured way, quantitative process performance indicators (PPIs) should be established. These are also dependent on the individual organization but should be established by the process analyst and the process owner in collaboration. The digital system discussed in 6.3 should be used as the enabler for such performance measurements, as in line with the theory of Schatten and Schiefer (2007) for system fit and business process improvement. Regardless of what analysis system is chosen, the process analyst is responsible for communicating all potential changes to process participants and requesters. The findings clearly show that a lack of process-related performance measures and no clear ownership of improvements can deter process performance. In a highly complex and varying process, the need for structure and clarity within these areas become crucial.

Several interconnected solutions to remedy the issue of process participants performing the process differently are deemed feasible, one being visualization. As Parry and Turner (2006) states, visualization is key to enable visible and easy-to-understand processes and this remains true for complex processes in digital environments. By properly visualizing the process and having an easy to view dashboard within the digital system the process participant can be ferried step by step through the process. Applying the BPM theory of process ownership aligns well with this solution. A process owner is responsible for planning and managing process execution, ensuring a smooth process. Managing visualization tools, therefore, fits well with the role of a process owner.

This alone will not solve the challenge of participants deviating from the process. It also needs to be combined with a speedy and simple process. If all steps are necessary and the participants understand this then adherence to the process should increase. This is underscored by Badakhshan et al. (n.d.) who stressed the need to be simple

by decreasing process complexity. Having a simple process is enabled by the digital system used for the process, which is further discussed in section 6.3. If the digital system is easy to use, the process will be easy to follow. Referring back to 6.1, having a process owner could also help to organize prioritization between tasks and thus enable a more stable workload for process participants.

6.3 The Digital Systems

According to Hambrick and Crozier (1985) quickly growing companies experience issues with ensuring their systems are scaled together with the growth. This is one of the bigger issues that the studied company was dealing with. Due to the high growth of the industry as well as the constant changes within the markets, the same issue should apply to similar processes within the online gambling industry. According to Trkman (2010), a digital company must have a proper task-technology fit as it is strongly tied to how well a company will adapt its processes to survive. The studied company seemed to have outgrown their system or failed to adapt their processes accordingly, simply adding features reactively and without examining other options. Hence, as time passed, the task-technology fit was lost. This is aligned with the findings of Adams et al. (2021), suggesting that humans are far more likely to add features to an object, rather than subtract when aiming to improve it.

Further, the difficulty of ensuring task-technology fit seems to be hindered by the market variations and process instability. This is interesting as the purpose of the system is to aid in process execution within this type of environment and not impede on it. This stresses what Trkman (2010) identifies as a critical success factor for business process management, namely that the system improvement must be a centralized managerial effort with a strong focus on how well it fits with the business processes. The findings show that if these improvements are dispersed, unstructured, and most importantly, carried out reactively, it can entail a higher accumulated effort than if done properly from the start. Implementing a new system takes time and solving issues in an ad-hoc manner could for some companies be a faster, more readily available solution, as was found in the studied case.

To summarize, these findings indicate that companies within the online gambling industry can experience challenges of continuously ensuring task-technology fit due to the market variations and process instability, something which negatively affects process execution by making the process inefficient. If unsuccessful, this could affect the ability to adjust processes to the varying marketing requirements. Therefore, appointing BPM roles responsible for end-to-end process analysis and improvement measuring real-time PPIs through a good IT system is deemed a necessary solution.

As mentioned in 6.2, findings show a need for proper visibility to ensure better process execution. Toor and Dhir (2011) found that having many different digital systems for process execution resulted in poor visibility. For an organization only using one, as in the case study, this should theoretically be a positive finding. However, issues arise when there is no linking between the different areas of the

system. Hence it seems that not only does a company need to consolidate their systems into one, they also need to ensure that all areas within the one system are linked together. This confirms the need for a task-technology fit as presented by Trkman (2010). Further, by implementing proper visualization, it could aid in the difficulties of capacity planning within this type of industry (Parry & Turner, 2006) by making resource availability clear and accessible. Overall, within this type of industry, it seems to be of extra importance that visualization is enabled in the digital system. In a stable environment, visualization may not be as important as the process will remain the same and is hence easy to maneuver. In an environment with process instability, however, the system is key to ensure the process participant knows and can follow each step, irrespective of if it has changed since prior use.

With regards to investing in systems to enable process improvement by real-time tracking and analysis, some resistance to change is natural. Process mining works by increasing the transparency of processes to identify efficiency opportunities (Van Der Aalst, 2012). This idea isn't a new concept, but something that is commonly used within manufacturing and operations management in general. In any change, there might be a period of inertia when getting people on board with a new concept. When it is a transparency effort, there is a risk of people feeling a loss of autonomy and lack of trust which stresses the need for communicating the purpose of the change. Depending on which implementation option fits the general strategy and budget, there are some alternatives when choosing to apply BPM through process mining in an enterprise. One is building it in-house by utilizing open-source data (Henshall, 2018), something that would align relatively well with the previous paths chosen by the company but that requires the right capabilities and knowledge internally, as well as efforts for development. The second is procuring a ready-made solution from a software provider (Henshall, 2018), which would be higher in cost but lower in complexity and effort. Overall, the finding of this study is that their is a need for companies within this industry to implement real-time tracking and analysis. How a company should do so is dependent on the strategy of the firm.

6.4 Communication

Communication is vital when trying to achieve an efficient process according to Greenbaum (1974). The ad-hoc and unstructured use of communication found in the case study could hence be one of the underlying reasons for the inefficient process. An efficient process communication should be characterized by being frequent, rich, early, and two-way (Wheelwright & Clark, 1992). Further, ensuring clarity is essential according to Shannon (1948) so that misinterpretations are avoided. The communication within this study was frequent. This seemed to be a symptom of a lack of clarity in the information provided in the tickets and tardiness in the communication of changes. Hence, resulting in the need to communicate more often than necessary and outside of the formal channels. Richness was often lost due to the tickets' free-text nature, which enabled requesters to add as much or little information as they wanted, often leaning towards the latter. According to Wheelwright and Clark (1992), having a dialogue instead of one-way communication is beneficial,

but in this regard, there are indications that this is not something to strive for. This means that if the one-way communication of the information in the ticket was clear and rich from the start, the time-consuming two-way communication that took place while searching for information could have been avoided.

The communication difficulties are not a clear symptom of the industry characteristics, rather just a symptom of not having a clear strategy for how to communicate. On the other hand, having proper communication is a prerequisite for meeting the challenges of process instability and market variations. It could ensure traceability, adherence to regulations, and process clarity. On the other hand, it could be argued that the high volumes of ad-hoc communication are tied to the high business risk of being non-compliant. If all regulatory information is not clear and easily accessed, the uncertainty could result in added verification through communication. There were indications of this from the content team in the case study regarding writing regulatory texts. Hence, the issues within this industry is the vast amounts of information sharing required, often resulting in inefficiencies and risks of defects.

The solutions presented for the case study are of a mixed variety of face-to-face communication, standardized forms and templates, and informal use of ad-hoc communication channels such as instant messaging, phone calls, and email. Combining the different modes of communication minimizes the risk of miscommunication due to noise, as presented by Shannon (1948). The four characteristics of good communication (Wheelwright & Clark, 1992) are achieved as well. Rich and early communication are achieved through having ticket templates that ensure all relevant information is provided. Two-way communication is achieved through having a start-up meeting with all relevant stakeholders. Frequent communication is achieved through the ability to communicate quick changes using predefined communication channels such as emails, phone calls, and instant messages. By having a start-up meeting and clear defined templates in the ticket system, it could be concluded that an excellent way to ensure an efficient process is to use formal communication modes early. By doing so, all necessary information is provided from the start, underscored by Zeithaml et al. (1988). This allows for a level of flexibility to be built in for unplanned and informal communication. This flexibility is necessary for an industry with market variations. A stakeholder in a case study workshop underscored that it would be difficult and un-beneficial to eliminate all ad-hoc communication in a process where changes can happen suddenly.

An issue that could occur with having face-to-face start-up meetings for one process is that it could result in inefficiency. Meetings are often time-consuming, and if the studied process findings are expanded to all processes within a company, this could result in very many meetings. Is this solution hence scaleable, or does it simply increase complexity? Instead, perhaps if the initial information given through standardized templates is clear enough, perhaps the start-up meeting will not be necessary at all? As described by Zeithaml et al. (1988), information sharing through, for example, emails could be beneficial if it is straightforward and easy to interpret.

There could be an issue with these many different modes of communication. It could result in information overload (Johlke & Duhan, 2000) and the communication waste, as presented by Yankelevitch and Kuhl (2015), of providing too much information. On the other hand, in the as-is process, the different stakeholders worked in the dark due to insufficient communication. Ensuring that all formal communication flows are followed, the hope is to ensure the correct information is received at the right time, making the process efficient while also ensuring flexibility.

In a digital process, it is vital to underscore once more the relevance of the digital system. The digital system needs to be an enabler of communication. The system should be built to provide clear information early in the process with an appropriate level of richness, perhaps through standardized templates if using a ticket system. Later in the process, the process analyst should identify when richer and more ad-hoc forms of communication could be needed and build in functionalities for this in the system. The built-in process measurement functionalities could perhaps aid in identifying these areas. Further, due to market fluctuations, the system should be flexible enough to enable different modes, frequency, and richness of communication dependent on different triggers. If last minute changes need to be communicated, the system should have functionalities that perhaps provide alerts and redirect the process participant to the appropriate communication stream. All of this is ensured when task-technology fit is achieved, which is further discussed in section 6.3.

6.5 Knowledge Management

Within the studied case, there are issues with knowledge management. There is a heavy reliance on the requester's tacit knowledge regarding local variations. This could be seen as a risk from an employee rotation standpoint where their knowledge could be lost. Initially, the idea for how to circumvent this reliance within the case study was to codify the local knowledge in a knowledge management system as presented by Greiner et al. (2007). This idea was scrapped due to being too time-consuming and non-value-adding as the local knowledge varies continuously, making the documentation outdated. Implementing a personalization strategy could also have been a solution, such as the communities of practice (COPs) presented by Smite et al. (2020). The COPs, in this case, would be the process team that within the requester resides. This was not recommended as it was deemed that the requester having the local knowledge was not an issue on its own. It was rather the employee rotation that needed to be addressed. That the requester needed to have the local knowledge was instead a prerequisite for having a process within this industry where things change quickly and the number of markets grows. Sharing that knowledge through COPs could have been a good idea, but the business value was deemed low as the knowledge constantly changes, making previous COP meetings outdated quickly. In other words, to thrive within the online gambling industry, a company must be aware of the need to retain tacit knowledge that is continuously changing.

Not implementing knowledge management systems did not apply to all areas of

the studied process. The content and design teams both saw potential with having knowledge management systems to reuse text and designs. By doing so the process efficiency would increase as less campaigns would need to be created from scratch. The business analysts also already had their own way of using previous knowledge saved within the digital system, aiding them in their risk analysis. What these process participants had in common was that they routinely used the process, whereas the CMs, for example, did not. This is backed up by the claims made by Andriani et al. (2019) that routine activities use more explicit knowledge than non-routine activities.

Processes within this type of industry hence seem to be characterized by having routine participants and non-routine participants. The areas of the process with routine participants could benefit from having knowledge management systems to make the process more efficient, as suggested by Andriani et al. (2019). The non-routine participants, on the other hand, may not benefit from a similar codification strategy. Instead, other ways of retaining that tacit knowledge need to be implemented, such as employee retention. As stated by Hansen et al. (1999) it is not possible to create one knowledge management system for both tacit and explicit knowledge, and the findings of the case study seem to confirm this. The findings made by Andriani et al. (2019) are also both confirmed and disproved within the studied case. As the company is in a growth phase, the company should focus on codifying tacit knowledge to explicit knowledge according to Andriani et al. (2019) which is valid for certain areas of the process. However, it was also found that it was neither possible nor beneficial to do so with all tacit knowledge.

One interesting finding was that the larger organizational distance a stakeholder had from the compliance team, the less knowledge regarding regulations they had. There were also large differences between the different market teams and how they solved this issue which could be a result of the rapid growth of the company causing misalignment across markets. Further, it also had to do with the issue that each market is affected by regulations differently. Some markets are subject to re-regulation every week while other market's regulations are stabler. The issue is then how to create a company-wide solution to very localized issues. As Liu (2019) claimed, knowledge is a competitive advantage. However, in this case, it has even higher business importance in that if you do not comply, you can lose your right to perform business within that market. Hence, a company within this industry must be aware that there are large differences between markets in terms of regulations.

The identified solutions indicate that a company residing within several different markets with differing regulatory behaviors cannot have a company-wide solution to knowledge sharing of regulations. Stable markets in terms of regulations could use a codified knowledge management system. Other markets need to use a communication strategy instead as the regulations within certain markets are unclear and hence require reinterpretations for each offer. The communication strategy for these markets needs to be clear regarding what communication avenue to use and who the owner of the regulatory information is to ensure quick and rich regulation

information sharing. Further communication solutions are presented in section 6.4.

What this indicates is that the same company-wide process has the characteristics of two different types of processes. The process types are described by Andriani et al. (2019) and depicted in Figure 3.1. In markets with a low frequency of regulatory changes, the process is routine with organizational interaction, requiring a focus on explicit knowledge that can be codified. In markets with a high frequency of regulatory changes, the process is non-routine with organizational interaction, requiring a focus on employee collaboration. This indicates that when a company creates a process within an industry characterized by regulations while also expanding across several markets, it is impossible to standardize the knowledge management of compliance regulations across all markets. Two different strategies depending on the level of regulatory change may need to be created and hence require an analysis of each market's regulatory behaviors. A process analyst should continuously conduct this analysis as the regulatory behaviors of each market can change, and the two strategies should be implemented into the digital system. By doing so, the process participant will automatically know where and how to find the regulatory information, irrespective of the market the process is used within.

7
Further Considerations

In this chapter, further considerations of this study is discussed. This includes what further studies the authors identified to be of interest, the limitations of the study, and the social responsibility of this project.

Within the studied company there were issues of employee rotation, differing process executions, and variations across markets to name a few things. Employee rotation is an inherent issue in some areas of this industry (Malta Gambling Authority, 2020) and the variations within markets are due to differences in the regulations, customer preferences, and culture of each market. Hence these two issues and the consequent sub-issues that emerge due to them, experienced by Company X, should be applicable across most companies within the online gambling industry and are not inherently company-specific. These three issues can also be combined into an overall industry issue, being that the industry is continuously changing. This continuous change results in a reliance on tacit knowledge as there is limited time to translate it into explicit knowledge. This was discussed in section 6.5 in regards to the local knowledge needed for each market. The solutions presented in that section should also be combined with ensuring employee retention so that employee rotation is minimized. Further proper handover routines should be established, keeping the tacit knowledge within the company. Perhaps, by implementing the solutions provided in section 6.5, the reliance on employees' tacit knowledge in regards to process execution can also be improved, in combination with the visualization and digital system solutions.

The previous chapters reiterated that the company was constantly implementing changes to the studied process, causing process instability. There were clear indications that not all process participants were aware of these changes resulting in a wide array of process variations. When implementing change, it is imperative to ensure the changes are aligned and have business value, but more importantly, it is crucial to gain process participant buy-in. A change can have significant business value, but it will most likely not be implemented without a proper change management strategy. The same goes for the recommendations the thesis writers presented. The effect of the solutions will only reach their full potential if properly implemented using a change management strategy. Hence, the benefits of the solutions are not only reliant on the solutions themselves but on how they are implemented.

Regarding regulations, it is also interesting to discuss the business value of being active in highly regulated markets. Having regulations change often could make

previous work unusable and could result in poor utilization of human resources, a finding seen in the case study. If a resource constantly creates assets that, in the end, are not used and hence do not add value to the business, is it still profitable to be active within that type of market? Of course, there are many variables to consider that span further than the studied process when deciding what markets to pursue, such as future industry trends. When briefly scanning through industry analyses and competitors' annual reports, it seems as though the big actors are moving towards a positioning strategy where a majority of the revenue is generated from regulated markets. As with any other industry, sustainability is a significant and vital topic to consider. Therefore, the industry's general direction is driven not only by political decision-makers but also by the big industry actors taking an active step towards a safer gambling environment. The intent of this is, however questionable, are regulated markets attractive because it is also interesting for competitors, or because it will contribute to strengthening the branding position of the company, or even because actors honestly and selflessly care about their players? Is there a genuine reason behind such strategic decisions, or is the industry in general only trying to attract more players to earn more revenue? This question is highly hypothetical, but it is an interesting perspective to consider.

7.1 Future Research

A fascinating finding is the differences between markets in regards to compliance. From the onset, the idea was that companies should create one process that could span all markets. Based on the findings, there are clear indications that instead, one base process can be created, but each market may need to create deviations that fit their needs. Hence, it is interesting to discuss if a company-wide process is the most efficient way to go about processes within a company that spans several markets or if the processes should be fully localized within each market. On the other hand, localized processes may require a higher headcount due to needing the same type of human resources within each market, instead of having a few centralized and used by all markets. This results in the lost ability to take advantage of economies of scale, which is often of high value to a company. An answer will not be provided within this thesis report but could be valuable to study further.

It is important to note that the findings and solutions found in this study are based on a case study where the company is organized functionally. In other words, the process participants do not only work within one process, rather with many processes. Therefore, it is unclear how applicable the findings of this study are to a process-oriented organization. If the same team works with one process from start to finish, perhaps some of the issues would not exist. For example, prioritization would be made simpler as only things produced within one process need to be prioritized. Process participants need to split their time across several different processes in the studied organization, making prioritization more complex. Further communication may be simplified as the distance between stakeholders would be minimal. Therefore, it would be interesting to study if a process-oriented organization is a good solution to the process issues or if perhaps that type of organization would result in

other issues or difficulties.

To quickly react to changes, the studied company has the strategy of building their system in-house. By doing so, they can design the system however they need. In theory, this is intriguing as the company is not dependent on a subcontractor, can change things in the system in an ad-hoc manner, and owns all data. On the other hand, the as-is system used within the studied company was outdated and did not fit the process. So, in reality, building the system in-house may not be the most effective way of achieving continuous improvement of the system. Would buying a third-party system be a better fit for continuous improvement? Trends indicate that many companies pursue purchasing their systems, which indicates that building in-house is not as effective, but the theory of doing so is intriguing. Would building in-house be more beneficial if implemented differently?

All of the solutions provided were given from theory regarding communication, visualization, BPM, and knowledge management. It is understood that many solutions could be expanded upon to include other interesting areas. For example, the employee rotation was not studied in depth. It is an important area to understand as it would be beneficial for the company to retain more of the employees they have, especially regarding those with local knowledge. Understanding what incentives competitors are using and understanding how to build an attractive company culture could be of high benefit within a company in this type of industry.

Most importantly, further studies should be conducted on the effect of the suggested solutions. Would the knowledge management strategy for regulations be applicable outside of theory? Are continuous updates of the system possible to achieve? Will the other solutions help or hinder the process execution? As only indications of the usefulness of the solutions have been acquired from feedback, proper studies on their effect on the process would be beneficial.

7.2 Limitations

The findings in this study only relate to one case within the online gambling industry. Despite seeing similar industry characteristics within the e-commerce and e-banking industries, to name a few, it is difficult to say how applicable these findings are to other processes within other industries.

Throughout this project, one author was an employee at the studied company. Hence there is a risk of unwanted bias in terms of wanting to perform well for managers and the risk of ignoring issues that might reflect poorly on the author or the authors' team. This was avoided by ensuring the project was performed outside the authors team, and with no connection to the authors' manager. Further, as it was an improvement effort, ignoring issues would reflect worse on the author than addressing them. Hence it is deemed that the aforementioned risk is minimal. Hand in hand with this is the issue of objectivity. In qualitative research projects, it is commonly challenging to ensure objectivity, in contrast to quantitative research that often

strives for absolute truth. Hence, it is impossible to guarantee absolute objectivity within this project as the findings are built on interpretations made by the authors. Instead, the focus has been on gathering input from as many perspectives as possible from all company levels, thus ensuring that the findings are not partial to one team or interviewee.

7.3 Social Responsibility

As mentioned in the delimitations, the online gambling industry is ethically questionable. The studied process was for marketing purposes, and hence improving the process could result in more efficient marketing output. In the UK 0.5% of adults 16 years and older have gambling problems (Gambling Commission, 2019) and in Sweden 0.6% of adults 18 years and older have gambling problems with 2.9% of adults being at risk of developing gambling problems (Folkhälsomyndigheten, 2020b). Gambling addiction is a public health issue that could result in depression, anxiety, and increased use of other addicting substances (Folkhälsomyndigheten, 2020a). Further, it contributes to social issues such as job loss and divorce and economic issues due to gambling debt (Folkhälsomyndigheten, 2020a). By providing a better process, the marketing department can become more effective and hence could produce more effective marketing that pulls these at-risk people in.

On the other hand, regulations have been an essential aspect of this thesis project. Regulations are a way for countries to protect their citizens and ensure that people who should not gamble are not enticed to do so (Folkhälsomyndigheten, 2020c). By improving the process, the thesis writers contributed to ensuring that the company has the tools necessary to quickly and efficiently adhere to regulations. Of course, this line of thought relies on the belief that governments and regulating entities prioritize the consumers, moving the responsibility from the online casino to the regulating entities. Regulating entities are also driven by the amount of taxes that companies pay, often provided by online gambling companies, and other monetary incentives. Hence, the consumer's best may not always be the highest priority.

One can also discuss the existence of online gambling companies at all. Is it socially responsible to provide gambling services when it is clear that it is addicting and could cause harm? On the other hand, gambling has existed far longer than the online gambling industry, and one could argue that if it did not exist, online consumers would find other ways to gamble instead. Perhaps by ensuring that online gambling companies have proper processes that follow laws and regulations, gambling can be controlled rather than be left in the unregulated and potentially more dangerous hands of the black market.

8

Conclusion

Throughout this thesis report, the aim has been to understand what issues arise related to the execution of a complex, multi-market, digital business process within the online gambling industry and how these can be remedied. The identified issues and solutions are summarized in Table 8.1. To ease readability, they have been grouped according to the categories used in the results and analysis.

Table 8.1: A summary of all the challenges a process within the online gambling industry faces and the linked solutions.

Category	Issues	Solutions
Market Variations	All markets have different needs and requirements. This results in high fluctuations in workload due to many reasons for process initiation	Identify the process triggers and apply different priorities or SLAs for different triggers dependent on business value and risk
		Create planning roadmap for regular triggers and leave space in capacity for irregular triggers
Process Instability	Process changes occur often and reactively	Assign a process analyst who aligns process improvement initiatives and builds in continuous process improvement in the process design to ensure proactiveness
	Process participants have difficulty following the process	Implement visualization of the process
		Simplify process and only include value-adding steps
The Digital Systems	Processes outgrow the systems quickly resulting in increased complexity and inefficiency	Ensure task-technology fit through continuous system improvements based on data and a holistic mindset.
Communication	Vast amounts of information sharing required due to process complexity resulting in inefficiencies and risks of defects	Ensure early and rich communication allowing for flexible communication for last minute changes
		Combine different modes of communication to ensure efficiency and richness
Knowledge Management	High reliance on market-specific tacit knowledge that cannot be codified	Identify routine process areas for codified knowledge management systems
		Ensure employee retention of stakeholders with the tacit knowledge and implement proper handover routines
	Inability to create one regulation strategy due to large differences between markets	Identify low frequency regulatory change markets for codified knowledge management system
		Identify high frequency regulatory change markets for communication strategy

These issues and solutions are further explained in the following sections.

8.1 What issues arise in the execution of a complex, multi-market, digital business process within the online gambling industry?

Within the online gambling industry there are large variations in customer needs and regulatory requirements between markets. Within processes these market variations hinders capacity planning as unexpected regulatory changes often take precedence over other ongoing executions. Further, processes in this industry have multiple reasons for initiation with varying business value, which makes capacity planning difficult.

The process execution in this type of industry is affected by a constant change in the process design flow, thus measuring a before and an after of a process improvement is difficult. These changes are often due to needing to react quickly to changes in the industry, both due to competition, customer behavior, and regulations. Having continuous change is encouraged in most theory, and is thus not in itself an adverse finding. However, if there is a lack of structure and ownership of dealing with the fluctuations, issues could arise. Without structure, many changes can occur in parallel, and without alignment, several variations of the same process can exist simultaneously. Further, without alignment and proper analysis of potential changes, inefficiencies and complexity could arise due to unforeseen outcomes. This also leads to deficient follow-up on the benefit of the performed change.

The process instability has the effect of making a process difficult to follow. A constantly changing process results in the participant having difficulties knowing what version of the process is to be used and adhering to new changes that have been implemented since the participant's prior use. This issue is enhanced by the high employee rotation found within the studied industry.

The digital system is central to the success of a digital business process. If the system does not fit the process, it could result in longer lead times, poor visibility, and unnecessary process complexity. In the online gambling industry, it was found that processes quickly outgrow the digital systems resulting in increased complexity. The difficulty, therefore, lies in ensuring that the system is fit to the process continuously, despite the constantly changing process.

It was found that the challenges with communication are two-fold. Not all the communication challenges were specific for this type of industry. For example, there were issues of inadequate information sharing, resulting in information chasing, which could occur in all types of industries. Instead, a proper communication strategy is a prerequisite for an efficient process when needing to adhere to regulations and quick changes. A challenge with communication directly linked to the industry characteristics is that the high business risk of being non-compliant results in extra ad-hoc

communication that may not be necessary for a less regulated industry.

Due to the rapid changes and significant differences between markets within this industry, there is a heavy reliance on market-specific tacit knowledge. The quick changes do not make it justifiable to codify the knowledge as it often becomes outdated quickly.

Finally, an important issue within this industry is that the frequency of changes in terms of regulations varies depending on the market. Some markets change their regulations every week while other markets are more stable, which makes it challenging to create one coherent process.

8.2 How can these issues be remedied using BPM, communication and knowledge management?

There are two leading solutions suggested to remedy the issues connected to market variations. One is to identify the different process triggers and establish KPIs used to enable prioritization. SLAs of lead time between the requester and the process participants are suggested. High priority triggers triggered by unexpected market events, such as regulatory changes, should be grouped in one SLA with a shorter lead time. Expected triggers should be grouped in another with a longer lead time. Further, planning roadmaps should be implemented for the expected triggers, allowing for proper capacity planning, leaving a level of capacity slack for the unexpected triggers.

To come to terms with the process instability and capture initiatives from process participants who try to improve the process wherever deemed necessary, a clear sense of ownership and responsibility should be established. By appointing either a process analyst or building a central team responsible for process excellence, this can be established. The primary responsibility of the team or analyst is to utilize process performance data to measure and analyze the process execution. By doing so, targeted process improvement areas can be identified, and change efforts can be optimized in terms of business value. This also ensures that all initiatives are aligned and communicated.

To ensure that all process participants follow the process, visualization should be implemented. This should preferably be integrated into the digital system and allows the process participant to follow the process and the associated process statuses step by step. Further, this should be complemented with a simplified process, ensuring only value-adding tasks are included.

To ensure the digital system aids inefficiency rather than complexity, it is recommended to make sure the system has a task-technology fit. This enables proper implementation of many of the other solutions presented. This is achieved using the BPM methodology, which means that the system should have built-in process

improvement capabilities that measures the process performance. These measurements should then be used to identify improvement potential proactively, as mentioned above. Further, the system needs to be flexible enough to meet the necessary changes, and the changes need to be implemented with a holistic mindset to avoid complexity and "quick fixes." By doing so, the system will be continuously updated and fit to the process.

To come to terms with the communication issues, it is recommended that all information is communicated at the outset of the process. Due to the complexity of the industry, it is also recommended to use templates and forms for this early communication that clearly distribute the necessary information, combined with few but effective face-to-face meetings that ensures information alignment. By doing so, the ineffective chasing of information can be eliminated. Further, it is recommended to include a level of communication flexibility in the process. This flexibility allows for ad-hoc communication necessary to spread information regarding unexpected changes, often due to regulations.

It is not possible to circumvent the issue of reliance on process participants with tacit knowledge. Instead, the aim should be to identify what areas of the process are performed routinely. These areas should implement codified knowledge management systems that allows for increased efficiency in those areas. The tacit knowledge reliance is a prerequisite for this industry and hence cannot be avoided. The aim should therefore be employee retention and proper handover routines. By doing so, the tacit knowledge can remain within the company.

Finally, to come to terms with the significant differences between markets in terms of compliance, a recommendation is to identify what markets perform regulatory changes with a low frequency and what markets perform regulatory changes with a high frequency. The low-frequency markets are more stable and routine. Hence a codified knowledge management system can be implemented. On the other hand, the high-frequency markets are more non-routine processes. Hence, they require a communication strategy that ensures the process participants know how and whom to contact regarding compliance.

Overall several issues and potential solutions have been identified within this thesis. Hence, it can be concluded that the aim of this thesis has been achieved, and hopefully, it will be of use in further studies of the online gambling industry.

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A

Interview Questions: Initial Interviews

Introductory Questions:

1. Could you briefly describe your position and what your responsibilities are?
2. How would you characterize the iGaming industry? What are some important factors that you think influence the way work is performed?
3. How involved are you in the Welcome Offer promotion process?

Welcome Offer Process Mapping Questions:

1. Talk us through the part of the welcome offer process that you are involved in.
2. Show us an example of a WO that you have worked on.
3. What is the trigger for you to start your work?

Examples of Ad-hoc follow-up questions:

1. Is there anyone other than you who does this step?
2. How do you get notified when its your turn to do some work?
3. Do you log the work you do?
4. What happens if something doesn't get approved?
5. Give examples of what factors that contribute to something not getting approved.
6. Is this step through email, zoom or slack?

B

Miroboard used for Coding

Here the miroboard used for coding the interviews and focus groups is presented.

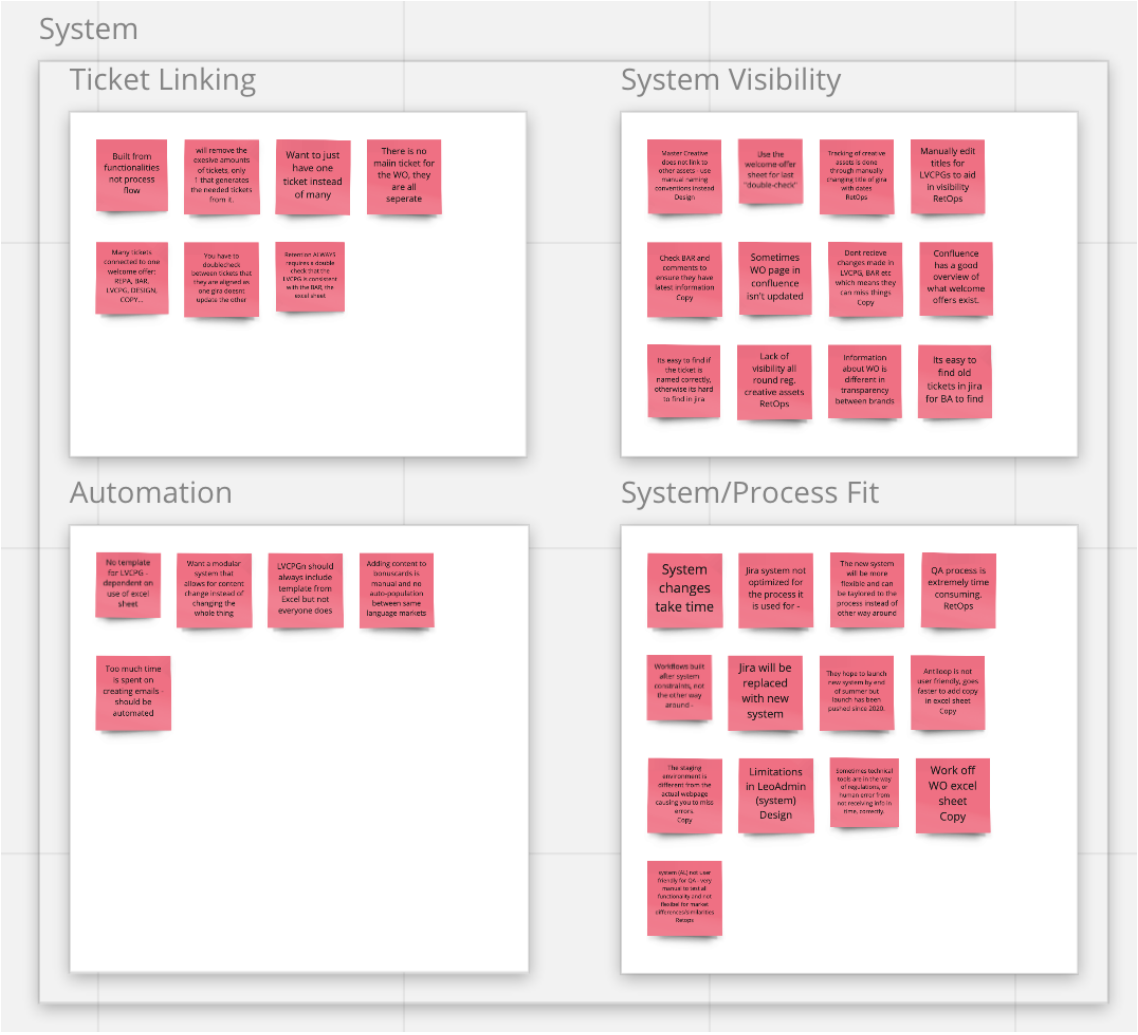

Figure B.1: Findings related to the system divided into the subcategories: ticket linking, system visibility, automation and system/process fit.

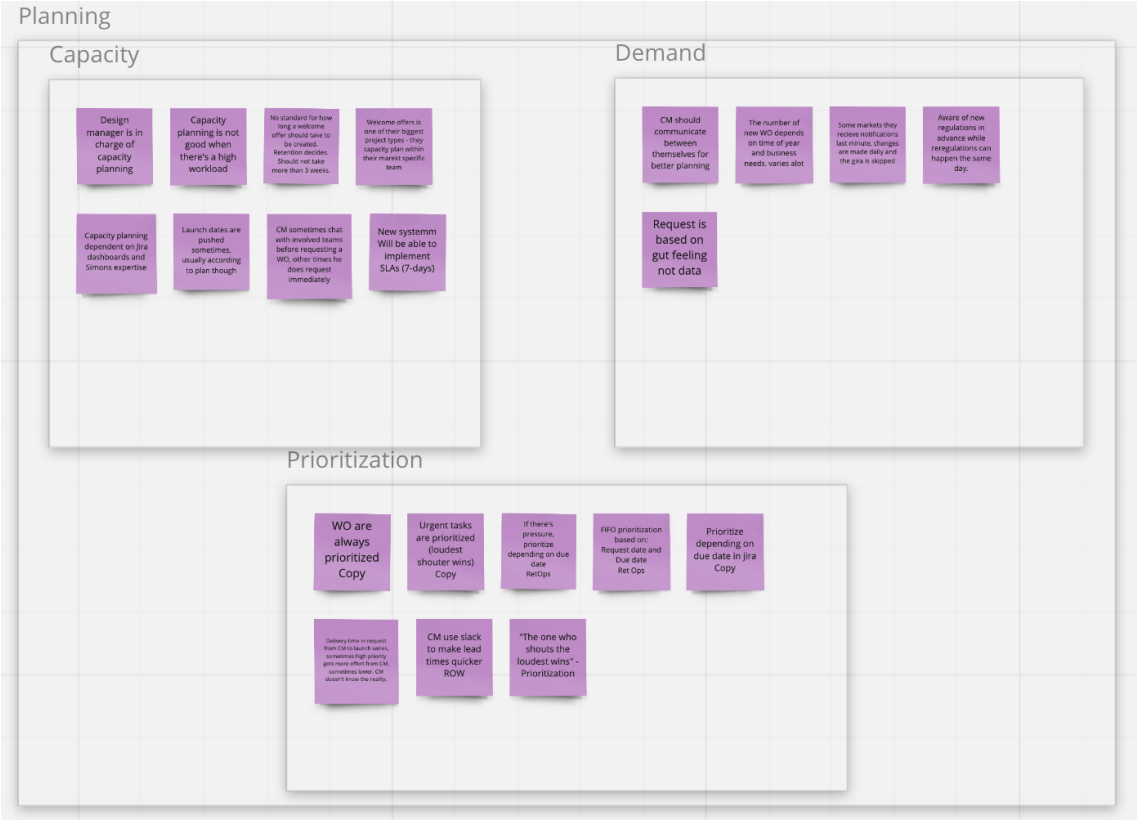

Figure B.2: Findings related to planning divided into the subcategories: capacity, demand and prioritization.

Figure B.3: Findings related to the process divided into the subcategories: Process related, ownership/responsibility, business vs risk, employee competencies, process vs project and standardize vs flexibility.

Figure B.4: Findings related to the market characteristics.

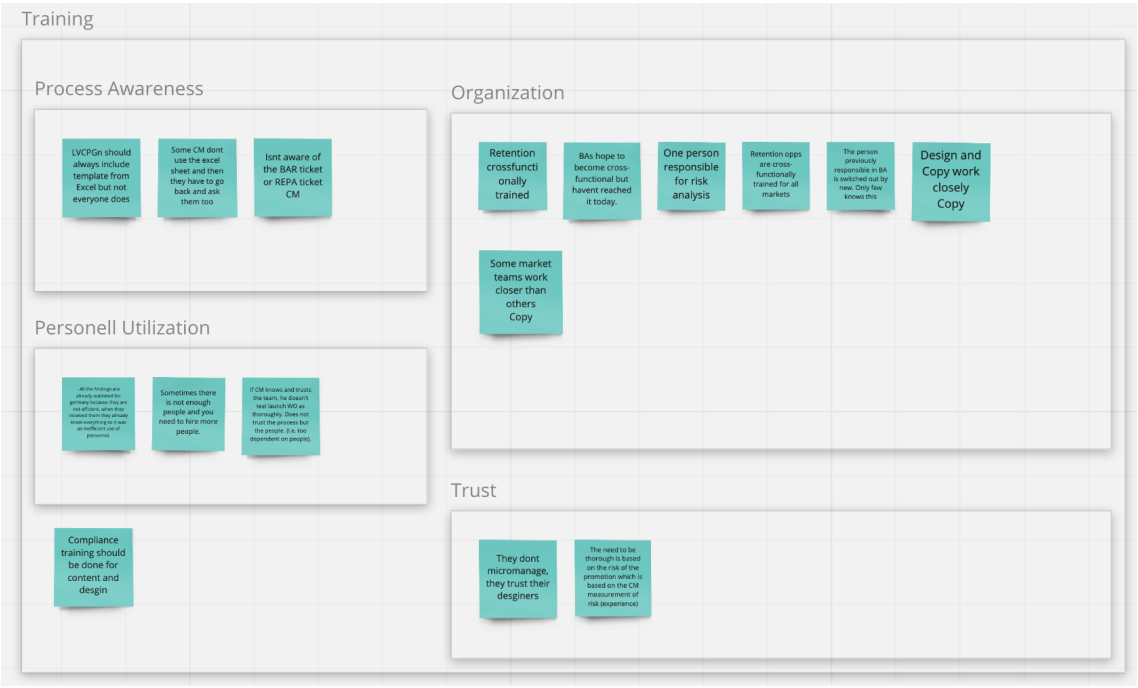

Figure B.5: Findings related to training divided into the subcategories: Process awareness, organization, personell utilization and trust.

Figure B.6: Findings related to the knowledge.

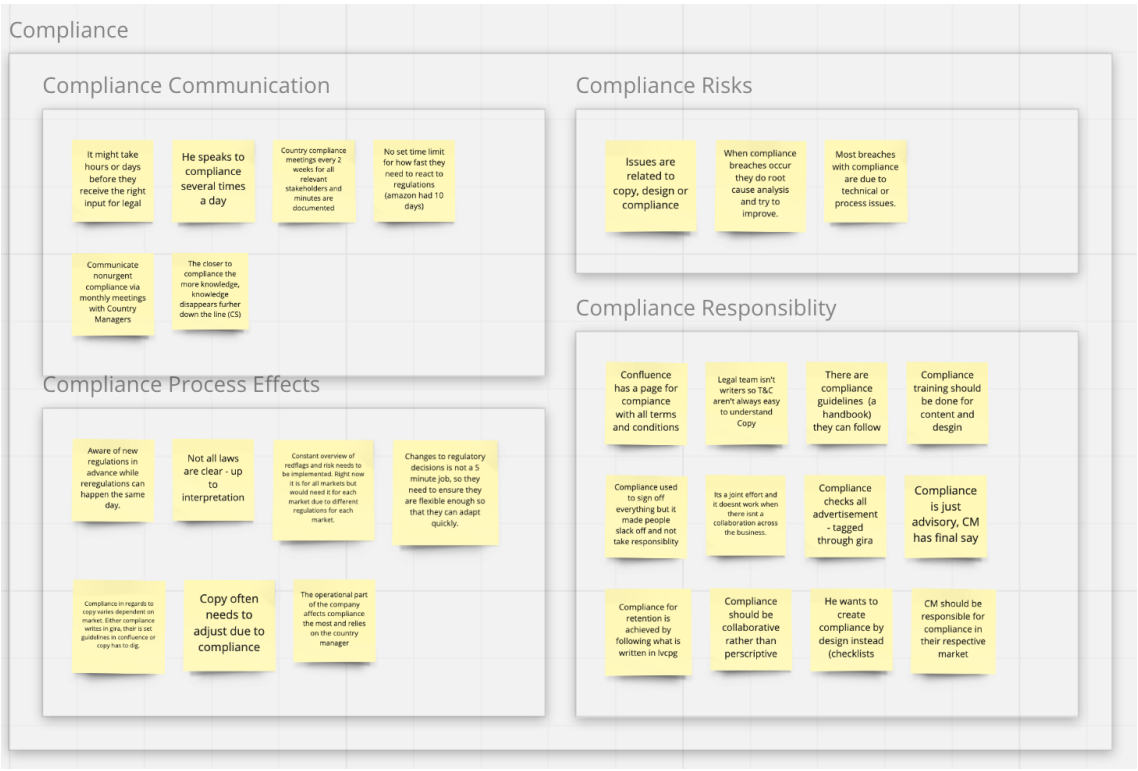

Figure B.7: Findings related to the system divided into the subcategories: Compliance communication, compliance risk, compliance process effects and compliance responsibility.

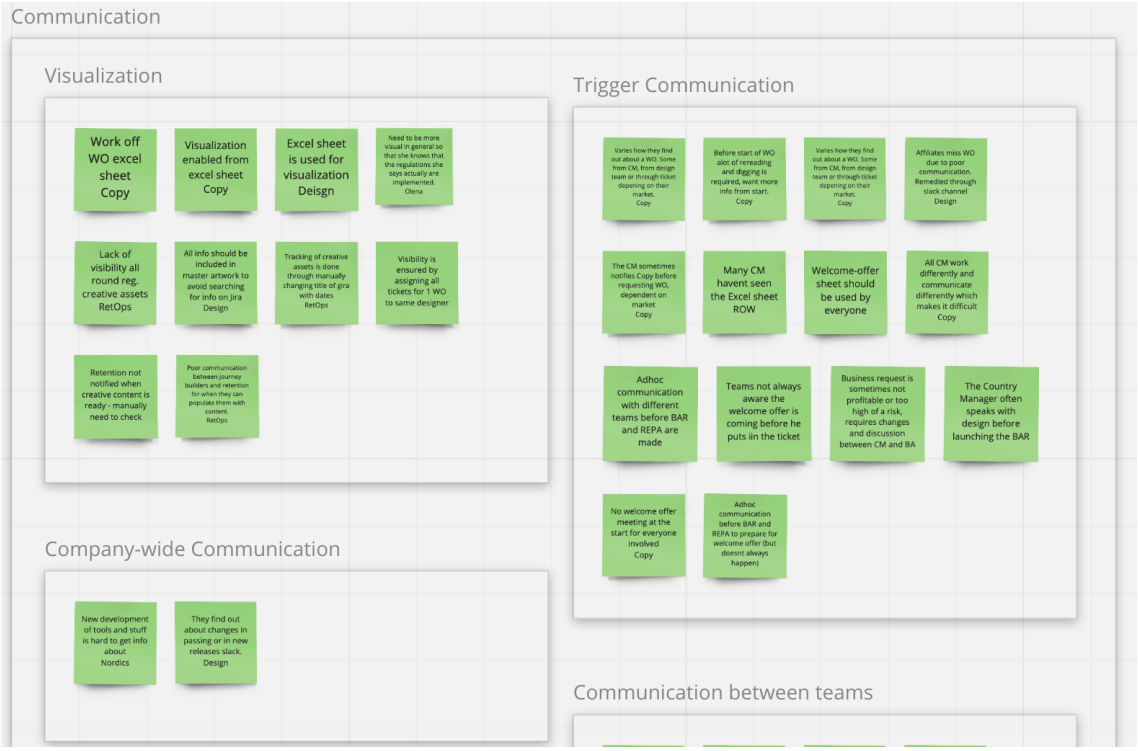

Figure B.8: Part of the findings related to communication divided into the subcategories: visualization, trigger communication and company-wide communication.

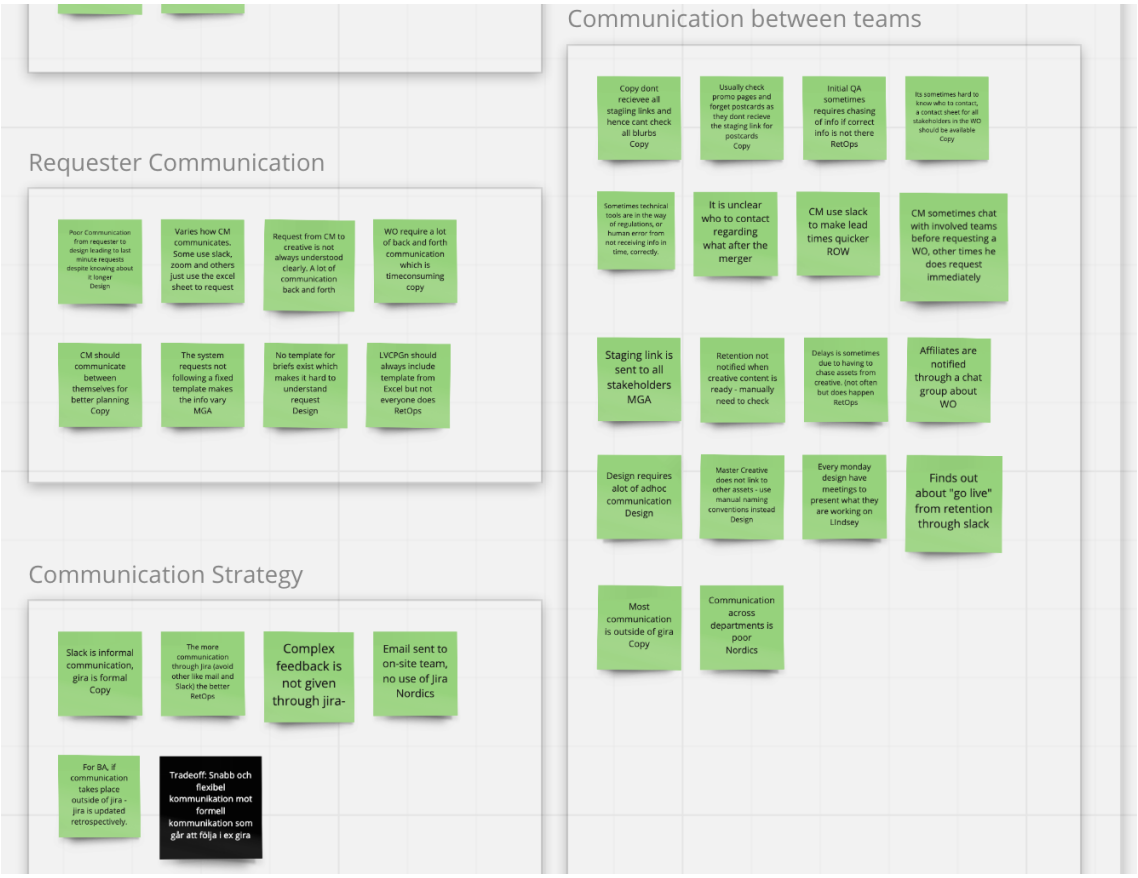

Figure B.9: Part of the findings related to communication divided into the subcategories: requester communication, communication between teams and communication strategy.

Figure B.10: Findings of issues that relate to the characteristics of the market and are related to RQ1.

C

In-Depth Interview Questions

1. Talk us through your involvement in the welcome offer process.
   (a) How does it differ between markets?
2. How do you communicate the regulatory information?
   (a) Could you use a knowledge management system for information sharing? Why/Why not?
3. Do you have any suggestions for imporvements to the process?

D

To-Be Process Map

The process map is presented in figure D.1 and each step is described below.

Initiating phase
Before the start of the studied process it is proposed that each Country Manager hosts recurring planning meetings with the CRM Manager, the BA responsible for the specific market and the Production Manager (head of the Content and Design teams). During this meeting all planned welcome offers should be discussed in order to enable proper capacity planning.

The process is still triggered by either a change in the market, internal changes or regulatory changes. The first two will be planned for in the planning meetings while it will still not be possible to plan for many regulatory changes. The Country Manager remains the requester and will start by discussing the mechanics with the BA to ensure their idea is relevant. The CM will also check what previous designs have been used for welcome offers using the new asset management system called DAM. By checking the DAM the CM can see if any previous designs could be reused, minimizing process lead time.

Request and Risk Analysis
The welcome offer will be requested using one ticket, "the Welcome Offer Ticket" (the WO ticket) that will be filled out using a predefined template. The CM will also define in the WO ticket what creative assets will be required for the welcome offer.

The BAs will conduct their work in the same way as previously. The CM will then approve the changes. New to this map is the start-up meeting with the CM, the Content and Design team, CRM managers and Retention Operations that ensures that everyone is on the same page regarding the welcome offer. This meeting will discuss capacity, design expectations and ETA. Once this meeting has been held the CRM manager finalizes the ETA.

Creative and Technical Asset Requests
From the WO ticket all additional requests can be made. All tickets will hence be linked to the WO ticket and all information needed will be ensured through predefined templates.

She/He sends the request from the WO ticket and fills the requests out using a

predefined template. When these requests are created the associated creative asset tickets are automatically created as well.

Building Technical Assets
The initial QA is removed from the workflow of retention operations as the new template ensures all necessary information is included and all tickets are linked. The remaining steps are the same as before.

Building Creative Assets
The creative asset tickets and the WO ticket are received by the Design and Content team. The main creative artwork asset is created first and is submitted in the WO ticket. The other assets are then created based on it. The collaboration with the CM remains the same as before.

Apart from proofreading the text content, the Design and Content team will no longer perform any checks on how the Welcome Offer looks. Instead, if the CM finds any issues during her/his check the relevant team will be notified and asked to revise.

Launching Stage
The Retention Operations team launch the welcome offer once the CM has approved the offer in the testing environment. The CM then does one final check once the offer has gone live on the site and asks for revisions from relevant stakeholders if necessary before the process is ended.

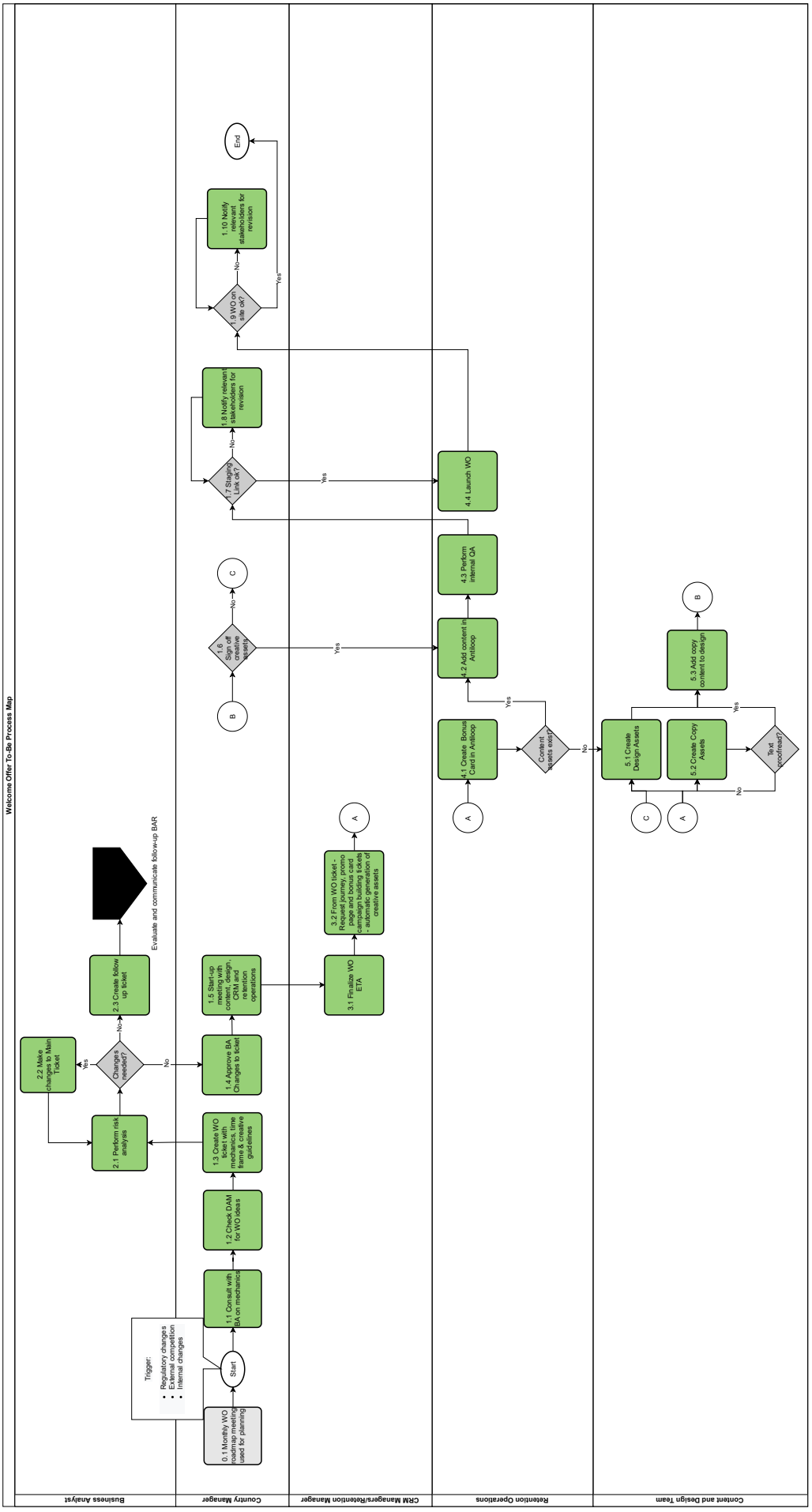

Figure D.1: The to-be process map.

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