Business-to-business software as a service: how gamification can be used as an acquisition tool through its influence on engagement.

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Abstract

This research explores the influence that gamification may have upon the behavioural intentions of new business software users towards the adoption of information technology. Many businesses operating within the business to business (B2B) software as a service (SaaS) industry experience a high rate of churn from new customers, particularly during the onboarding process. This is a phenomenon that can be linked to the compatibility of these systems with existing business processes and norms as well as their perceived complexity– many have a wide array of features on offer and a steep learning curve, that can cause anxiety or ineffective use among novice users. As such, the importance of effective customer engagement and interaction for this process is emphasized, but often lacking in practice. This is an issue that is set to worsen, given recent business trends shifting towards more self-directed sales and training practices which have grown in popularity due to their potential for reducing costs and improving scalability.

From an analysis of literature on the topic of gamification, it is apparent there is potential for the addition of game elements to have a positive influence upon the engagement of customers during this important phase of the customer lifecycle, and thus may prove a useful tool for business software providers to increase their acquisition rates. While existing literature from relevant areas of study does indicate the potential for gamification to be beneficial when used in this context, there has been no research covering this topic so far. The current study aims to address this gap in the literature and provide insight for practitioners as to whether gamification can potentially assist them with improving their customer acquisition process. To investigate this topic, a qualitative methodology was undertaken, utilizing data collected from 12 users of a business software system through the means of semi-structured interviews. The researcher was able to investigate the impact that three key game elements have upon the participant's attitudes and behavioural intentions towards adopting a system into their business.

These three key game elements are point systems, progress bars and badges–all of which are proven indicators of progression, intended to provide feedback for positive interactions a user has taken towards achieving a goal (Morschheuser, Hamari & Koivisto, 2016; Sailer, Hense, Mayr & Mandi, 2017; Werbach & Hunter, 2012). Points systems indicate this progression through assigning numerical measurements to tasks, which are usually intended to be collected as a form of proficiency or status representation, or to be traded for rewards (Bunchball, 2010;

Educause, 2011; Huang, & Hew, 2015; Mekler, Brühlmann, Opwis & Tuch, 2013a; Ueyama, Tamai, Arakawa & Yasumoto, 2014; Werbach & Hunter, 2012; 2015). Progress bars are commonly utilized alongside points, providing a similarly granular indication of progress as tasks are completed, but in a more visual manner. Badges are more of an award than progress indicator, they visually represent milestones or achievements reached by the user within the game and act as a symbol for a user's merits and membership to a group of users who also bare the badge (Anderson, Huttenlocher, Kleinberg & Leskovec, 2013; Sailer, Hense, Mayr & Mandi, 2017; Werbach & Hunter, 2012).

Themes identified between the interviews highlighted several key characteristics of business software users and their companies that influence the suitability of gamification, as well as the effectiveness of this addition upon the IT adoption constructs being measured. If the customer and their organisational characteristics align with those highlighted to be suitable, the interview data indicates a positive relationship between gamification and the likelihood of successful onboarding, and therefore, increasing chances of IT adoption. This is determined by the game element's favourable impacts on the two constructs of perceived ease of use and perceived usefulness, as well as their sub-constructs of enjoyment, anxiety, motivation, competence, perceived technical complexity, and improving the compatibility of the software to their needs.

The results of these findings reinforce numerous studies within gamification literature, such as the potential for game elements to have positive effects on customer engagement, satisfaction, and behaviours, while also providing additional insight on its positive implications if applied to the context of onboarding B2B SaaS customers. This is a contribution that can have directly positive implications for practitioners who are considering ways to improve their acquisition and onboarding process to gain more customers. Academically, this study contributes to gamification literature by being the first study to explore the topic within the B2B SaaS context, while improving the geographical breadth of which gamification and IT adoption literature have been researched from–which have previously been focused upon case studies in the USA and India.

Keywords: Gamification - Customer onboarding - IT adoption - Customer acquisition - Software as a service

Chapter 1: Introduction

The software as a service (SaaS) industry has seen rapid growth over the last couple of decades, the industry was worth over $134 billion in 2018, a figure which is expected to rise dramatically at a rate of ~13% annually, with the expected value to be $220 billion by 2022 (Research and Markets, 2019). Business customers are expected to be paying for a large portion of this, with BCC Research (2019) indicating that globally, business software applications will be worth a total combined value of $94.9 billion in 2022.

This growing demand has been attributed to the unprecedented opportunity which business software systems offer to enterprises that implement and use them. These systems have been designed to assist in improving the efficiency and effectiveness which businesses can manage, track, and streamline many aspects of their day-to-day operations. Covering areas such as general management, inventory, accounting, appointment scheduling, communications, and much more (Gartner, 2020). This wide range of potential business software applications and exponential growth in the industry presents a great opportunity for B2B SaaS providers. It also highlights the importance for these providers to address a major pain point inherent of operating within the industry–the high rate of churn these businesses can experience from customers during the early stages of the customer lifecycle which has been identified by this studies' case study.

A major sticking point contributing to this high turnover of new business software customers has been identified to be the acquisition and onboarding phase. During this, users purchase, implement, and learn how to use their new system effectively for their business. Throughout this process, knowledge and skills imparted from the provider onto the customer are critically important to convert them into effective users of the system so they can co-create value and experience the full utility of the software (Carlen, 2017; Shelley, 2015). However, the B2B SaaS industry has been found to be particularly exposed to issues during this phase. These include a lack of effective engagement, inadequate motivation from customers to learn the platform, or the system being more complex than the customer initially expected (Lazarov & Capota, 2007; Looyestyn, Kernot, Boshoff, Ryan, Edney & Maher, 2017; Mao & Oppewal, 2010; Skok, 2018). All of the above can lead to post-purchase cognitive dissonance, adoption failure, and ultimately cancellations of software subscriptions (Lazarov & Capota, 2007;

Looyestyn, Kernot, Boshoff, Ryan, Edney & Maher, 2017; Mao & Oppewal, 2010; Skok, 2018).

The B2B SaaS industry is rapidly growing to support surging demand for business technology and software (Lambert, 2018), therefore the significance of increasing knowledge on ways these platforms may improve their acquisition phase is essential. The aim of this research is to focus upon issues facing this industry and aims to identify a method to improve the high propensity for customer churn during the early stages of the customer lifecycle as a means for improving customer acquisition.

1.1 Research Background

Software as a service (SaaS) is commonly defined as "a software distribution model where applications are hosted by the service provider… available to end-users through the internet" according to Sandanayake and Jayangani (2018) citing Levinson (2007) (p. 221). Essentially, SaaS is focused on providing software applications to clients through the means of the internet as an ongoing service exchange. The benefit and value being paid for by SaaS customers is the ongoing provision of the software, customer support, and regular updates or bug fixes.

Software as a service literature originated in the 1950s which was around the same time that services marketing was first researched. Both these areas of marketing did not gain much interest among scholars until the 1990s and despite them now being areas of higher interest, SaaS research is still considered to be in its infancy (Huotari & Hamari, 2017, Sandanayake & Jayangani, 2018). Recent service marketing themes include customer experience, customer switching, eCommerce, using technology for enhancing productivity (Baron, Warnaby & Hunter-Jones, 2014; Batra, 2017; Kunz & Hogreve, 2011) and value creation through service-dominant logic (SDL). As part of SDL, customers co-create value with the provider during the service exchange (Baron, Warnaby & Hunter-Jones, 2014; Lindgreen, Di Benedetto, 2018).

This co-creation of value implies a degree of knowledge and learning required from customers to fulfill their role during the service exchange according to Nordin and Kowalkowski, (2010) and Tuli, Kohli and Bharadwaj (2007). This a risk for service providers as customers who are unable or unwilling to learn may endure unsatisfactory experiences during the service encounter, resulting in service failure and dissatisfaction. Further increasing the likelihood of

such negative customer experiences is the intangibility of services–potential customers are usually unable to trial a service before purchasing (Buratti, Parola & Satta, 2018; Österle, Kuhn & Henseler, 2018). This means they have limited indicators of the potential service experience to base their expectations upon which may result in them being unrealistic or inconsistent with what is provided by the company. For SaaS businesses, the customer onboarding process is the phase where much of the important customer learning takes place, it is the stage where new customers are converted into effective co-creators of value who can use the system correctly.

Unlike regular services, SaaS businesses typically provide a standardized service offering, giving customers a more consistent experience than providers operating within a more traditional servicescape. While there may be variances between perceived service quality based upon interactions with customer support staff or differing software versions, setups, operation systems, and performance, SaaS generally offers a more uniform experience than those received from typical services such as hairdressers or plumbers, as these are more personalized to the customer. This is not only beneficial for scalability and providing a more uniform customer experience, but also means these businesses can take measures to streamline customer interactions through initiatives such as self-service systems, which is a current trend in the industry (Grönroos, 2011). This low personalisation, paired with other critical aspects often neglected by those within the industry, such as a low post-sales follow up, insufficient customer interaction, or opportunity to engage with customers can lead to ineffective customer learning, value co-creation and unsuccessful acquisition (Buratti, Parola, & Satta, 2018; Järvinen & Taiminen, 2016; Nicosia & Wind, 1977; Österle, Kuhn & Henseler, 2018; Pacsi & Szabó, 2018).

During the acquisition of SaaS, a customer must go through a process referred to as "IT Adoption", which is a user's first step to sign up and use a new IT platform (Sun & Jeyaraj, 2013) which involves implementing, integrating and learning how to use the software alongside existing routines and processes. IT adoption has been conceptualized through numerous models and theories, one of the most popular, the technology acceptance model (TAM) identifies successful adoption to be reliant upon customer attitudes, which in turn influence their behaviours (Davis, 1986). This model attributes a customer's attitudes to two key constructs, perceived ease of use, and perceived usefulness (Davis, 1986). Favourable perspectives on these constructs have been linked to a higher level of customer interaction and engagement (McKee, Simmers, & Licata, 2006; Shell & Buell, 2019; Van Beuningen, 2009),

which is why many businesses are actively adopting systems to encourage these behaviours (Prentice et al., 2019).

SaaS systems designed for business customers, referred to as B2B SaaS, must place an even higher emphasis on this customer engagement and interaction, due to several predispositions associated with selling to business customers. For example, B2B purchases are slower and more complicated than B2C due to the higher number of decision-makers involved in the product evaluation process. This, paired with their increased complexity, risk, price (Buratti, Parola & Satta, 2018; Habibi et al., 2015; Österle, Kuhn & Henseler, 2018) and the relatively lower volume of customers these businesses serve (Habibi et al., 2015; Österle, Kuhn & Henseler, 2018) all place higher importance on maintaining a high level of engagement and interaction to maintain acquisition and retention rates.

One such avenue for encouraging customer interaction and engagement that has rapidly gained interest in recent years is gamification (Conaway & Garay, 2014; Fitz-Walter, Tjondronegoro & Wyeth, 2011; Hsu & Chen, 2018). While it has not been proven within B2B contexts, gamification has been repeatedly identified as a potential means for improving engagement and interaction in B2C SaaS settings (Conaway & Garay, 2014; Flatla, Gutwin, Nacke, Bateman & Mandryk, 2011; Hamari, Koivisto & Sarsa, 2014; Hofacker et al., 2016; Pacsi & Szabó, 2018; Raj & Gupta, 2018; Rhouma & Zaccour, 2018). It has also been previously utilized as a method for facilitating effective learning environments (Deterding, 2012; Hamari, Koivisto & Sarsa, 2014). As such, the potential remains for this to apply to software as a service systems as a way of addressing shortfalls in acquiring and onboarding new business customers.

Three particular gamification elements will be focused upon for this study; point systems, badges, and progress bars. All three have a high prevalence across gamification literature (Hamari, Koivisto & Sarsa, 2014; Morschheuser, Hamari & Koivisto, 2016; Werbach & Hunder, 2012) and show great potential for application to the context of onboarding B2B SaaS customers through their proven ability in improving customer motivation and engagement (Bandura, 1993; Mekler, Brühlmann, Opwis & Tuch, 2013b; Rigby & Ryan, 2011). These benefits have been attributed to the elements acting as effective indicators of progression, providing granular feedback and positive reinforcement for actions taken towards user's goals (Morschheuser, Hamari & Koivisto, 2016; Sailer, Hense, Mayr & Mandi, 2017; Werbach & Hunter, 2012).

Point systems are numerical rewards typically intended to be collected as a means for reflecting proficiency or spent on goods and services (Bunchball, 2010; Educause, 2011; Huang, & Hew, 2015; Mekler, Brühlmann, Opwis & Tuch, 2013a; Ueyama, Tamai, Arakawa & Yasumoto, 2014; Werbach & Hunter, 2012; 2015). Often paired with points, progress bars serve a similar purpose of indicating proficiency, however, they achieve this through a more visual means with bars that fill up based on the user's percentage of completion towards a goal. Badges are awards usually representing milestones or achievements reached, these are also usually collected to symbolise the user's competency, but can also be used to signify their membership to a group of users who also hold the badge (Anderson, Huttenlocher, Kleinberg & Leskovec, 2013; Sailer, Hense, Mayr & Mandi, 2017; Werbach & Hunter, 2012).

1.2 Research Questions

With the aim of this study focussing on understanding the influence which gamification has upon customer acquisition, the following questions have been set to be achieved through this research.

Research Question 1: How does gamification influence IT adoption behaviour within B2B SaaS settings?

Research Question 2: Which IT adoption constructs are influenced through the use of gamification during the onboarding of business customers into software as a service systems?

Research Question 3: What influence does gamification have upon IT adoption constructs?

1.3 Research Methodology

To achieve the aim of this study, a qualitative approach will be adopted utilizing online face to face semi-structured interviews as the means for data collection. This method was defined due to the majority of gamification research being quantitative, focusing upon behavioural outcomes associated with applying game elements but neglecting the reason behind these changes in behaviour (Hamari, Koivisto & Sarsa, 2014). The focus of this study being upon attitudes underlying these behavioural changes emphasizes the importance of a qualitative approach using interviews, as these are a more suitable means for collecting this form of data.

During these interviews, participants are to discuss their opinions, perceptions, and expected behaviours during the adoption process of a new IT platform. They will be shown a number of mock-up onboarding processes, some with gamification elements applied and some without, to help understand their perceptions of gamifying the process of setting up and learning a new business software system.

The content of these interviews was influenced by several key determinants. The most dominant being the model this study is focused upon, which is the combined Diffusion of Innovation and Technology Acceptance Models from John (2015). Questions were based on the constructs of this model, alongside those of psychological need satisfaction as these address all three levels of gamification, assisting with a more complete view and addressing a key gap in the literature (Hamari, Koivisto & Sarsa, 2014). Prompting questions as part of the semi-structuring of these interviews were adapted from previous studies researching the same constructs (Feng, Jonathan, Yu, Yang & Cui, 2018; John, 2015; Kim & Son, 2009; Koivisto & Hamari, 2014; Lee & Kozar, 2008; Oliveira, Thomas & Espadanal, 2014; Sailer, Hense, Mayr & Mandi, 2017). This model also helps identify the influence a gamified onboarding process will have upon IT adoption behaviours and customer acquisition for SaaS.

As the chosen approach for interpreting results of the interviews was thematic analysis, the researcher followed the six phased approach set out by Braun and Clarke (2006) to collate, analyse and identify themes within the data. The first stage of this process involved coding the transcriptions to assist with the identification of themes. This process was carried out through the use of NVivo software, which assisted the researcher in identifying themes between information provided in the interviews. The researcher first took a deductive approach to code the interviews into the constructs within the model from John (2015). After this, additional codes were then added as they were identified through the means of open coding, before axial coding took place, making them more useful and relevant by linking related codes with one another. After the interviews were coded, the researcher began identifying connections between themes in the coded interviews, existing literature, the attributes of the user, as well as their businesses. The process of interpreting the coded information and identifying themes within the data was carried out from a relativist ontological approach, emphasizing how an individual's differing perspectives can be shaped by their unique combination of experiences and values (Gray, 2013).

1.4 Findings

The findings of this study indicate that gamification can have a positive influence upon the likelihood of a business customer participating in a customer onboarding process and subsequently adopting a software as a service system into their business as according to the combined DOI and TAM model from John (2015). This is indicated by several themes identified amongst the interviews showing favourable relationships between adding game elements and the constructs of technical complexity, competence, computer anxiety, playfulness, relative advantage, and engagement.

Insight was also gained into the user and organisational characteristics which can influence the suitability and effectiveness of gamification being added to a customer onboarding process, along with additional use cases and benefits of the game for business owners.

1.5 Research Contributions

1.5.1 Academic implications

After extensively surveying existing academic literature, to the best of the researcher's knowledge, this is the first paper to explore the application of gamification in the context of the B2B SaaS industry. Giving insight on how gamification may affect this unique context more accurately than drawing conclusions from other relevant research streams such as B2C marketing.

Additionally, this research will be conducted upon a sample of 12 business software users within the context of a New Zealand operated business–which breaks the status quo of the majority of gamification-related studies being researched in India and the USA. This means the study not only provides a more accurate representation of the effectiveness of gamification, as India and the USA have been identified as more responsive to gamification due to their higher proportion of video gamers (KPMG, 2017; Newzoo, 2019; Smith & Kilty, 2014), but also offers an extension of literature by testing these constructs within a country less frequently studied in this field.

1.5.2 Practical implications

The first contribution of this research which can be utilized by practitioners is the knowledge it provides upon how gamification may be used to influence the acquisition onboarding stage of the customer lifecycle.

More specifically, this thesis will shed new insight upon the potential for gamification to improve the onboarding processes for businesses, particularly those which operate within the business software as a service industry–an area previously unresearched. Increasing understanding of how gamification can be used within the context of customer onboarding can potentially improve efficiency which new clients are onboarded through providing a more effective learning environment to impart knowledge and understanding of the system upon customers. From this, the resulting decrease in demand for customer training calls and support assistance may reduce human capital expenditure.

The improved onboarding process should also result in higher levels of customer satisfaction, through facilitating more effective value co-creation and customers experiencing a higher level of value from their business software system, this can reduce the rate of churn IT adoption providers experience from new clients (Merz, Zarantonello & Grappi, 2018; Payne, Storbacka & Frow, 2008). This improvement in acquisition and retention rates can result in higher numbers of business software clients, leading to improved profitability not only through the higher number of clients but also through the potentially lower expenditure on human resources and advertising.

1.6 Thesis Outline

The following thesis is separated into five chapters as follows.

Chapter one provided an introduction to the thesis, overviewing the relevant fields of research being analysed–informing the study and its methodology towards achieving its aims and objectives. Practical and theoretical implications of the thesis were then discussed before outlining its structure and the contents of the following chapters.

The following chapter consists of a full review of literature on the relevant topics touched upon during the first chapter. Examining existing research on gamification and how the tool is

currently being utilized within a business software setting. Studies will also be reviewed from the software as a service, business to business, information technology adoption, and onboarding fields. This review is then used to identify potential connections, gaps, and other weak points within these areas and to help summarize the point of current literature and where it may lead in the future.

Chapter three will then outline the qualitative methodology being undertaken to address the study's aims and research questions. As part of this, the central business being utilized in this thesis's case study will be introduced and summarized. Details will then be provided on why this company was chosen, along with the method being employed to collect data on these user's attitudes towards IT adoption and the impact which gamification has upon these. Finally, to avoid limitations of this study–appropriate manipulation checks undertaken will be discussed before moving to chapter four.

The fourth chapter is concerned with providing the results of the research, covering the demographics of participants, themes and other insights gained from the interviews, as well as categorical insights under the constructs from the combined DOI and TAM model which influence perceived ease of use and likelihood of adoption from John (2015).

Chapter five is the final section of this thesis, it will discuss key findings identified within the previous chapter in detail, relating these back to the core model and other existing literature on gamification, IT adoption and marketing before highlighting the practical and academic implications of this to conclude the study.

Chapter 2: Literature Review & Gaps

The literature chosen within the SaaS and gamification fields was focussed on the last decade in research. The reason for this being that these fields are rapidly growing and changing dynamically with the technological ecosystem which they rely on, causing prior knowledge and research to decline in applicability and relevance to the current situation. Conversely, all timeframes were examined within the B2B, service, and customer satisfaction subsections of this topic (however the past 30 years were focussed upon) as these areas of research are slow-changing and largely concerned with meta-theories applicable to any timeframe.

2.1 IT Adoption

IT adoption is the initial decision of the user to undertake and utilize a new IT platform, it is a separate phenomenon to continuance which, according to Sun and Jeyaraj (2013) referencing Bhattacherjee (2001) and Rogers (2003), refers to the decision to stay with the platform. IT adoption and its associated challenges have been studied extensively from both the practitioner and academic perspectives (Rizzuto, Schwarz & Schwarz, 2014). For the majority, the literature on IT adoption stems from the computer sciences, however, the business and economics discipline also presents a sizeable contribution to this topic**.** Despite its advantages, some companies are still apprehensive towards IT adoption for reasons such as the lack of technology maturity, an incomplete fit with industry standards or existing systems and also the high cost or risk associated with adopting the technology (Bhattacharya, 2011; Borgman, Bahli, Heier & Shewski, 2013; Madrid-Guijarro, Garcia & Van Auken, 2009; Oliveira, Thomas & Espadanal, 2014; Wilson, 2009). There are six dominant models and behavioural theories behind IT adoption literature used to assess the likelihood of adoption and its determinants (refer to table 1).

Table 1: The Six Popular IT Adoption Models and Behavioural Theories

Model/Theory	Description
Technology Organisation Environment (TOE)	Uses technology, organisation, and external environment dimensions to explain the likelihood of adoption.
Technology Acceptance Model (TAM)	Models acceptance and use of technology through perceived usefulness and ease of use.
Theory of Reasoned Action (TRA)	Uses an individual's attitudes and beliefs to predict their behaviours.
Theory of Planned Behaviour (TPB)	An expansion of the TRA also including norms and perceived control.
Diffusion of Innovation (DOI)	Determines likelihood and rate of IT adoption using technical capability, technical complexity, and relative advantage components.
Unified Theory of Acceptance and Use of Technology (UTAUT)	A unified model explaining behavioural intentions and use of IT platforms through constructs of performance expectancy, social influence, effort expectancy and facilitating conditions.

Note: Adapted from John (2015), Oliveira, Thomas and Espadanal (2014), Riemenschneider, Harrison and Mykytyn (2003) and Sherrie and Benbasat (2006).

2.1.1 Attitudes & Behaviours

Behaviours are determined by behavioural intentions, which are described as the perceived likelihood of an individual performing a behaviour (Gullatte, 2006). Much of the literature on IT adoption focuses upon ways that behavioural intentions are influenced and how these influential factors can be manipulated to encourage favourable behaviours leading to successful acquisition and retention of software users.

The Theory of Planned Behaviour (TPB) and its predecessor, the Theory of Reasoned Action (TRA) are two theories from the human psychology discipline which have been applied to the topic of IT adoption to better understand behavioural intentions. The TRA is a highly recognized model which attributes an individual's behaviours to their attitudes, attitudes of which are influenced by their beliefs (Ajzen, 1991, 2005; Ajzen & Fishbein, 1980; Fishbein &

Ajzen, 1977). Researchers argued a better representation would be gained through including attitudes towards an action over the attitudes towards the target that the behaviour is directed (Gullatte, 2006). This saw the creation of the TPB, which expanded upon the TRA through the inclusion of norms and perceived behavioural control for determining behavioural intentions (Gullatte, 2006). The use of the TPB is widespread throughout consumer psychology and behavioural marketing, with studies utilizing this framework to understand behaviours of groups to make meaningful changes to materials which can assist in resolving these issues. For example, it has been used to understand ways which breast screening can be more widely accessible and used by at-risk demographics, or as a method to identify ways for encouraging contraceptive use amongst students during an HIV outbreak (Gullatte, 2006; Xiao, Palmgreen, Zimmerman & Noar, 2010).

An attitude is known as "a disposition to respond favourably or unfavourably towards an object, person, institution or event" (Ajzen, 2005, p3). Attitudes have a significant impact on the acquisition of information technology due to its influence on behaviours (Rizzuto, Schwarz & Schwarz, 2014) which can impact adoption. Business executives holding positive attitudes towards innovation, who have higher levels of SaaS readiness hold higher intentions to adopt and use an IT system (Yang, Sun, Zhang & Wang, 2015). Research upon attitudes has identified a wide range of influential factors, such as pre-existing values, norms, beliefs, security, trust (Wu, 2011; Yang, Sun, Zhang & Wang, 2015). In the context of business adoption, attitudes may also be influenced by a work unit's "personality" which is comprised of the culture and acceptance climate of the company (Rizzuto, Schwarz & Schwarz, 2014). Organizational culture holding higher levels of value flexibility and responsiveness to change tend to have a more positive attitude towards IT adoption (Rizzuto, Schwarz & Schwarz, 2014).

Using the TRA and TPB models as a seed, academics have created models to better understand how consumers and companies adopt information technology specifically. The Technology Acceptance Model is one of these, this model is one of the most widely accepted and validated across IT adoption literature, alongside that of the Diffusion of Innovation (Ajzen, 1991, 2005; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1977).

2.1.2 Technology Acceptance Model

First created in 1986 by Davis (1986), the TAM was developed to determine the likelihood of information system acceptance through the use of two constructs–perceived usefulness (PU) and perceived ease of use (PEOU) according to John (2015) and Lu, Yu, Liu and Yao (2003). The TAM is based upon the notion that PU and PEOU are both influential towards a user's attitudes towards an IT platform, which in turn will impact their behavioural intentions and usage patterns as according to the TRA.

Since its initial creation, the TAM has been utilized to explain IT adoption in contexts such as the application to communication systems, business management systems, information systems, word processors and more across a range of industries from manufacturing to hospitals (Lee, Kozar & Larsen, 2003). In a review conducted by Lee, Kozar and Larsen (2003), they identified the model had been cited 698 times between the initial publication of the model and their study in 2003–this figure has increased to well over 50,000 to date according to Google Scholar (2020). They also indicated that the model has been continuously evolving during this time, improving upon its initial limitations and accuracy (Lee, Kozar & Larsen, 2003).

Perceived ease of use refers to the level to which an individual believes that using a system will be effortless (Davis, 1989). In other words, it is how easy a user perceives an IT system to be to use. This is influential upon attitudes because a user is more likely to want to interact and use a system if it is something they find easy to use. If a system is complex, confusing and difficult to understand this can negatively impact the user's attitudes towards the system in numerous ways. This is supported by findings of Abdullah, Ward and Ahmed (2016) indicating that users perceiving a platform to be more difficult to use experience lower levels of self-efficacy, enjoyment and less favourable behavioural intentions towards adoption. PEOU can be influenced through external variables such as computer experience, customer self-efficacy and subjective norms (Abdullah, Ward & Ahmed, 2016).

Due to PEOU being based upon the perceptions of the user towards a system's ease of use, there is room for issues to occur if their expected ease of use is inconsistent with the actual ease of use experienced. For example, small businesses tend to overstate perceptions of ease of use during the adoption of a new IT platform, as those overseeing the implementation often underestimate the time and effort associated with implementing the system, according to

Riemenschneider, Harrison and Mykytyn (2003) citing Thong, Yap and Raman (1996). This discrepancy between expected PEOU and actual PEOU is a customer gap, which can cause a decrease in perceptions of service quality and result in service failure (Zeithaml, Bitner & Gremler, 2018).

PU is the extent to which a person believes that using IT can improve their performance and effectiveness at work (Davis, 1989). Similar to perceived ease of use, this can also be influenced by external factors (Al-Ammary, Al- Sherooqi & Al-Sherooqi, 2014; Farahat, 2012; Motaghian, Hassanzadeh, & Moghadam, 2013; Zare & Yazdanparast, 2013). For PU, these factors include enjoyment, but also largely perceived ease of use as well (Abdullah, Ward & Ahmed, 2016). Calisir and Calisir (2004) identified perceived usefulness to be one of the strongest antecedents towards end-user satisfaction and can also influence behavioural intentions (Abdullah, Ward & Ahmed, 2016).

2.1.3 The Diffusion of Innovation Theory

First created in 1962, by Rogers and Shoemaker, the Diffusion of Innovation theory is possibly the oldest social science theory aiming to determine the likelihood of a new innovation gaining momentum in its acceptance through a group of potential users over time (Hiran & Henten, 2019). The DOI model utilizes constructs of technical capability, technical complexity and relative advantage (Oliveira, Thomas & Espadanal, 2014).

2.1.3.1 Technical capability

Technical capability refers to knowledge and skills associated with the creation, access and acceptance of technologies such as IT platforms, including software as a service. This construct is comprised of three key dimensions, these are computer self-efficacy, computer anxiety and prior computer experience (John, 2015), these are outlined below.

Computer self-efficacy refers to the individual's judgement of their own ability for using computers in various situations (Compeau & Higgins, 1995; Thatcher & Perrewe, 2002). Self-efficacy has been favourably linked with loyalty intentions, word of mouth behaviour and perceptions of value, which in turn can increase the likelihood of word of mouth and, importantly for this study–reduce exit intentions. Customers will also co-create value with organizations if they have an appropriate level of self-efficacy, those with higher levels of

efficacy are more likely to engage in tasks offering further opportunity for experience, which forms a chain to further strengthen self-efficacy (McKee, Simmer & Licata, 2006). It does not necessarily require a level of self-efficacy for these experiences to take place initially, they can be gained vicariously through observing others completing the tasks (Bandura, 1986; McKee, Simmer & Licata, 2006). With gamification elements such as storytelling offering the user insight into a plausible scenario that may have been experienced by someone in an attempt to assist with learning, and badges depicting the tasks other users have completed, there is potential for gamification containing these to also influence self-efficacy. A notion which is further supported with research from Goodwin (1988) and Van Beuningen, De Ruyter, Wetzels & Streukens (2009) highlighting the importance of customers finding their role engaging to develop self-efficacy and learning to co-create value.

Computer anxiety is the fears associated with computer usage, these may be over things such as making mistakes or losing data (Thatcher & Perrewé, 2002, Fagan, Stern & Woolridge, 2003; He & Freeman, 2010). For computer-anxious customers, these levels may be increased during the adoption phase of new technology due to them being unfamiliar or complex (Meuter, Ostrom, Bitner & Roundtree, 2003; Shell & Buell, 2019). This contributes to why many IT businesses are inherently considered at-risk for anxiety, despite this, many of these businesses are shifting to self-service systems for cost reduction and scalability purposes (Shell & Buell, 2019) which can be detrimental towards customer anxiety levels. This can be attributed to individuals tending to seek advice from others when faced with a situation which makes them anxious, without this interaction and engagement, these anxieties will go unmanaged (Shell & Buell, 2019). Failure to manage customer anxiety negatively affects many aspects of a business, including customer engagement, satisfaction and even retention, particularly for new customers who may experience cognitive dissonance (Shell & Buell, 2019; Suinn, 1965).

Computer experience is another technical capability construct which is a core component of the diffusion of innovation model. It is positively linked with technology acceptance and refers to the level of exposure a user has had with computers and the skills they have gained through using them (Ball & Levy, 2008). Early research upon computer experience viewed the construct to be unidimensional, paired with a relatively vague definition of the topic resulted in a wide range of methods being employed for its measurement with mixed results (Varma & Marler, 2013). More recently, studies have worked to conceptualize computer experience with multiple separate dimensions, in an attempt to better understand and represent the impact which

computer experiences have upon topics such as technological adoption (Munro, Huff, Marcolin, & Compeau, 1997; Potosky & Bobko, 1998; Varma & Marler, 2013). In a recent study by Varma and Marler (2013), two key dimensions of computer experience were proposed–computer proficiency and computer use. Computer proficiency refers to the level of knowledge and skills derived from experiences with computers, irrespective of the amount of time spent interacting with computers. Computer use is a combination of the time spent interacting with computers together with the frequency of which these interactions occur.

2.1.3.2 Technical complexity

Explained by Rogers (2003) to be "the degree to which an innovation is perceived to be relatively difficult to understand and use", complexity is highly influential upon the likelihood of adoption. Platforms which are easy to integrate into existing business operations have a higher probability of adoption than those which do not (Oliveira, Thomas & Espadanal, 2014).

With a positive relationship towards adoption, compatibility is the inverse of complexity for an IT platform, therefore when assessing complexity researchers can also use compatibility. The most frequently referenced definition for compatibility in IT adoption research is that of from Rogers (2010), who explains it to be “the degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of potential adopters” pp224. A significant link has been identified between compatibility and technological adoption readiness, one which has even been found by some to be stronger than perceived usefulness and ease of use (Yang, Sun, Zhang & Wang, 2015). Compatibility with existing technology and processes are particularly important attributes toward IT adoption–those with higher compatibility are more likely to be adopted (Oliveira, Thomas & Espadanal, 2014; Ramamurthy, Premkumar, & Crum, 1999; Wang, Wang, & Yang, 2010; Yang, Sun, Zhang & Wang, 2015). This could be explained through a study by Wilson (2009) which found a majority of SaaS adopters in their study aiming to use the new system for enhancing existing IT deployments instead of replacing them. The influence of compatibility upon IT adoption is situation-dependent, it is found to be more influential in some sectors, such as services, over others like manufacturing (Oliveira, Thomas & Espadanal, 2014).

2.1.3.3 Relative Advantage

Relative advantage refers to the level which a customer perceives an innovation to be of superior effectiveness, both strategically or operationally, when compared against alternative options or existing systems in use (Moore & Benbasat, 1991; Rogers, 1995). This topic is not unique to the IT industry and may be applied to many contexts, however, it has been identified as a relevant attribute to consider when measuring the likelihood of IT adoption. The level of relative advantage is positively linked with the adoption of an information technology system (Oliveira, Thomas & Espadanal, 2014) as customers may be considering a platform against their existing systems trying to find an innovation offering advantage over their current setup (De Ruyter, Wetzels & Kleijnen, 2001).

Due to the widespread use of both the TAM and DOI, these have had a wide reach across IT adoption academics. Many models within this field have been identified to be more effective when applied in conjunction with one another, and some scholars identifying that the TAM is too parsimonious, incomplete and tautological when used on its own (Wu, 2011). As a result, researchers have naturally been inquisitive as to whether combining the two provides a more effective measurement of IT adoption.

A combined model including the foundational constructs from each of these models will provide a more complete view of the adoption of an innovation. This is because it will not only take into consideration the reasons for which the innovation has been accepted at the individual level through the elements of the technology acceptance model assisting in understanding the choices of users. It also will explain the rate in which the innovation is spreading and being acquired throughout the population of potential users through the Diffusion of Innovation Theory elements. There have been multiple combinations of these model's constructs have been tested across literature with varying degrees of success (Lopez-Nicolas, Molina-Castillo, & Bouwman, 2008; Tung, Chang, & Chou, 2008; Wu, 2011).

One such combination has been referred to as TAM-Diffusion Theory Model or "TAM-DTM" for short (Wu, 2011). The TAM-diffusion theory model posits that attitudes towards technology are shaped through eight key constructs, and these technological attitudes are, in turn, influential in adoption behaviours for technology (Davis, 1989; Rogers, 1995). This novel model is comprised of eight constructs which are intended to help determine behavioural intentions, these are media influence, social influence, perceived flexibility benefits, perceived

status benefits, attitude towards mobile innovations, perceived usefulness, perceived ease of use and behavioural intentions (Wu, 2011). Considering social influences such as mass media– which is usually neglected by other models, removing moderating variables, and, in general, being more focused on the impacts of media upon acceptance of end-users over employees in a workplace are all strengths of this model over its alternatives (Wu, 2011).

Another model combination of the TAM and DOI, a recent study by John (2015) tested his own rendition, applying constructs of the two models to measure attitudes towards education faculty technology adoption. This model (Figure 1) saw successful results.

Figure 1: Model combining the DOI and TAM

Note: Retrieved from John (2015).

The combined DOI and TAM model from John (2015) will be used for this study. The main foundation for this model is the constructs from the Technology Acceptance Model, however, this is also supplemented with elements of the Diffusion of Innovation Theory (John, 2015). Constructs to be measured as part of this conceptual model are computer self-efficacy, computer anxiety, prior computer experience, relative advantage and compatibility and how these influence perceived ease of use. It does to indicate customer attitudes and ultimately behavioural intentions towards adoption.

2.2 SaaS Onboarding & Value co-creation

Software as a service is a category of information technology which utilizes cloud computing technology to deliver software applications from the provider to the end-user through the internet (Yang, Sun, Zhang & Wang, 2015; Levinson, 2007). The purpose for users using and (usually) paying for these systems is generally for the benefits which they offer–such as improved efficiency, and productivity, organisation or accuracy for completing a task. SaaS also offers benefits over traditional software licenses that are not cloud-based, such as better cost-effectiveness, reliability, security and speed of updates deployment (Waters, 2005). The utility which these platforms offer vary greatly from platform to platform, with some systems designed as an all-in-one solution, such as business management systems, while others are created for very specific tasks, such as a to-do list.

Parallel with the varying utility, the level of complexity which these systems present the user also fluctuates, between platforms. More complex systems not only take longer to set up ready for use, but they also tend to require additional knowledge and understanding from the user for them to effectively use and experience the value which these offer. Service exchange requiring a degree of knowledge means that customer learning is important (Habibi et al., 2015; Österle, Kuhn & Henseler, 2018) and software as a service is no exception. While some systems are essentially pick-up and play, others require a large amount of preparation to use effectively, either through one-on-one assistance with staff, online guides and even a self-developed "university" to learn their system (MindBody, 2020).

Customer onboarding refers to this process of imparting knowledge and skills upon the user so they can become effective co-creators and gain the full value of the service (Carlen, 2017).
As a field of study, onboarding originates and largely focuses on the organisational field of human resources. Used to describe the process of turning new employees into effective staff members (Carlen, 2017; Cambridge Dictionary, 2018). Customer onboarding takes this notion and applies it to new customers (commonly of service companies) to describe the process they follow when signing up to the ongoing purchase of goods or services (Shelley, 2015). Onboarding is the beginning of the ongoing adoption process of an innovation, it usually has milestones and goals which need to be completed by the user (Aptrinsic, 2017).

In the case of B2B SaaS platforms, onboarding is intended to help business customers use the software to effectively serve its purpose. Therefore, for insight into the onboarding of SaaS,

we can lean into marketing literature for learning, which is commonly referred to as a process of understanding and transforming experiences with an organisation to create knowledge (Habibi et al., 2015; Kolb 1984; Österle, Kuhn & Henseler, 2018). Within marketing literature, two important components of customer learning are commonly identified–customer interaction and customer engagement (Buratti, Parola, & Satta, 2018; Hofacker, De Ruyter, Lurie, Manchanda & Donaldson, 2016; Pacsi & Szabó, 2018). These facilitate company experiences necessary for placing this information into their long-term memory (Pacsi & Szabó, 2018).

Value for a customer can be explained as how much "better off" the individual is or feels after being assisted by a service process, whether this was self-service–like using an ATM, or full service–such as eating at a restaurant (Grönroos, 2008). According to Vargo and Lusch (2008) and service-dominant logic, value is always co-created with the customer (Grönroos, 2011) as the customer must experience the service (Grönroos & Voima, 2013; Vargo and Lusch 2008). Both value and value co-creation are cornerstone marketing concepts, especially for the services industry (Woodruff & Flint, 2006). Customers co-create value with providers during service exchange (Baron, Warnaby & Hunter-Jones, 2014; Lindgreen, Anthony Di Benedetto, 2018), however, additional actors such as other customers can also be involved. In recent years, research has shifted to a perspective which places more weight on customer interaction and experiences in the creation of value (Grönroos & Voima, 2013). Service providers can influence customer value co-creation through the interactions they have during the service exchange (Echeverri & Skålen, 2011; Grönroos, 2008; Grönroos & Voima, 2013; Prahalad & Ramaswamy, 2004; Ramírez, 1999).

Increasing brand interaction and engagement is an effective method for learning new products and services (Österle, Kuhn & Henseler, 2018). Positive interactions with customers have also been shown to favourably influence satisfaction, loyalty, retention and decreased switching behaviour (Caruana, 2002; Chou & Chiang, 2013; Harter, Schmidt & Hayes, 2002; Hollebeek, 2011; Kim & Son, 2009; Klaus & Maklan, 2013; Pieters, Koelemeijer & Roest, 1995; Sashi, 2012; Shankar et al 2004; Zhao, Lu, Zhang & Chau, 2012, Zhou, Fang, Vogel, Jin & Zhang, 2012). For IT services specifically, the number of interactions needed to generate knowledge and trust necessary for retention are determined by platform complexity, user competency, and perceptions of risk for using the software (Van Der Valk, Vynstra and Axelsson, 2009).

Research has identified customers unwilling to learn, or experiencing difficulty in learning complicated software platforms have higher rates of churn–as customers misunderstanding services may lead to ineffective value co-creation, service failure and dissatisfaction (Lazarov & Capota, 2007; Skok, 2018), reinforced by a statement from Kauppinen-Räisänen, H., & Grönroos, C. (2015), "People won't use what they don't understand" (p. 347). This contributes to the fact that newly acquired customers have a higher probability of churn (Harpelund, 2019) which is likely also due to the fact that newer customers may experience post-purchase cognitive dissonance (Mao & Oppewal, 2010)–in other words, they are unsure if they have made the correct decision signing up with the company. Therefore, customer onboarding should take into consideration the complexity of the service or platform when shaping the onboarding curriculum to ensure a positive customer experience.

Other than an online software platform's inherent difficulty maintaining engagement with users (Looyestyn, Kernot, Boshoff, Ryan, Edney & Maher, 2017), a reason for this high turnover also appears to be a lack of opportunity for customers to engage with the provider, many studies identified a lack of post-sale follow up between service providers and their customers (Buratti, Parola, & Satta, 2018; Järvinen & Taiminen, 2016; Nicosia & Wind, 1977; Österle, Kuhn & Henseler, 2018; Pacsi & Szabó, 2018). This goes hand-in-hand with the fact many companies overspend on acquisition, yet underspend on maintaining relations and retaining customers (Rhouma & Zaccour, 2018). Facilitating positive customer experiences during onboarding can be achieved through better managing touchpoints, facilitating easy interactions, setting clear expectations and encouraging co-creation of value (Frow & Payne, 2007; Grewal, Levy & Kumar, 2009)–each of these were previously highlighted to be benefits of gamification.

From the information presented in this section, it is clear that effective customer onboarding for SaaS platforms can address many of these platform's shortfalls leading to a high rate of churn through its facilitation interaction with the business (Van Der Valk, Vynstra & Axelsson, 2009; Rather, 2018). This has been shown to decrease perceptions of risk, uncertainty and improve ease of use and the customer's understanding of a system (Yang, Asaad & Dwivedi, 2017; Buratti, Parola, & Satta, 2018; Barrot, Becker & Meyners 2013). All of these can positively impact a customer's attitudes towards the service (Yang, Asaad & Dwivedi, 2017).

2.3 Gamification

The topic of Gamification, which was first researched in 1973 (Pacsi & Szabò, 2018), has no universally agreed-upon definition (Deterding, Khaled, et al., 2011; Sailer, Hense, Mayr & Mandi, 2017; Seaborn & Fels, 2015; Werbach & Hunter, 2012), however, it is most commonly defined as "The use of game design elements enhancing non-game goods and services by increasing customer value and encouraging value creation behaviours like consumption, loyalty, engagement and product advocacy" (Hofacker et al., 2016 pp. 26-1).

Two dominant interpretations of gamification occur regularly across literature, some academics perceive it as applying features of a game to anything non-game related, while others interpret it to be more of a transformation from the existing system into a game (Seaborn & Fels, 2015). Gamification is typically applied to digital platforms, its use plays on habits of human nature, providing instant gratification and rewards for the completion of goals while making the process fun and sometimes competitive (Pacsi & Szabó, 2018). This makes incentives such as rewards a core component of gamification (Conaway & Garay, 2014; Hofacker et al., 2016; Pacsi & Szabó, 2018; Raj & Gupta, 2018) which, as outlined earlier, are beneficial to stimulating interaction with customers (Rhouma & Zaccour, 2018). However, these are not the only form of motivation which gamification can utilize for encouragement– in fact, researchers believe gamification adoption will see a shift amongst practitioners away from these pecuniary motivations towards more instrumental motivations being employed such as information seeking (Deterding, 2012).

Due to the similarity of gamification and loyalty programs, with each incorporating rewards and other gratification elements towards encouraging interaction, many researchers compare and contrast these two marketing initiatives. The differentiating factor between the two appears to be that loyalty programs are focussed on upselling or encouraging repeat purchase behaviour from customers–which gamification does not (Conaway & Garay, 2014; Hofacker et al., 2016).

Currently an exploding area of business (Conaway & Garay, 2014; Fitz-Walter, Tjondronegoro & Wyeth, 2011; Hsu & Chen, 2018), gamification shows no sign of wavering. The sector has been experiencing consistent growth since 2011 (Nacke & Deterding, 2017), is expected to grow into a ~$36 billion industry by 2025 (Mordor Intelligence, 2020), and has been touted to be part of the next generation of marketing and customer engagement tools (Hamari, Koivisto & Sarsa, 2014). According to estimations from Gartner (2011), it has been estimated that more

than 50% of organizations who manage innovation processes would have applied game elements to their business by 2015 (Hamari, Koivisto & Sarsa, 2014).

Gamification is versatile, with numerous applications available for businesses across a range of industries–such as encouraging greener energy consumption on the Nissan leaf, building loyalty to tv channels, encouraging fitness and healthy lifestyles (Hamari, 2017) and encouraging staff to be more productive through directing and rewarding employee attention (Landers, Bauer & Callan, 2017; Locke & Latham, 2002). The most common application of the technology is to increase customer engagement through interactivity encouragement (Pacsi & Szabò, 2018).

The exponential growth occurring in the gamification industry has been attributed to its application in businesses, as well as the notable interest the field has garnered from academics since the early 2000s (Hamari, Koivisto & Sarsa, 2014; Harwood & Garry, 2015; Huotari & Hamari, 2017; Marczewski, 2013; Shi et al., 2017; Yang, Asaad & Dwivedi, 2017) as well as several environmental factors presenting an opportunity for this industry to grow.

The first notable factor to highlight is the rapid improvement of technology and the rise in the video gaming industry over recent years (Nacke & Deterding, 2017) which paired with the growth in web analytics and behavioural tracking, has helped build a foundation for gamification as it is today (Deterding, 2012). The prevalence of smartphones and tablets are also beneficial to the growth of gamification, offering further opportunity for gamification to reach customers, with average Americans checking their phone 80 times per day (Mordor Intelligence, 2020), and many of these devices which have a greater number of inputs for interaction than regular computers–with gyroscopes, cameras and touch interfaces. Another factor also amplifying the success of gamification is the rise of social media platforms allowing users to share their experiences with their friends, which for good games can increase their reach and effectiveness (Mordor Intelligence, 2020). Deterding (2012) also highlights the fact that wide publication of the success of gamification when applied to mass-market products were strong 'seeds' in which enabled widespread growth of the industry.

Much of the existing research in the gamification field appears to have been conducted either in India or the United States of America–one implication of this is that it may potentially have resulted in a skewed perception of the effectiveness of gamification on engagement. Different

audiences have varying responsivity to gamification, with younger audiences benefitting more from games than old (Koivisto & Hamari, 2014) and video gamers being more responsive to core gamification elements over non-gamers (Smith & Kilty, 2014). The United States is the second-highest consumers of games in the world (Newzoo, 2019). Gaming is also becoming popular in India with an expected 310 million online gamers and market growth of 340% to be achieved from 2016 to 2021 (KPMG, 2017). Which is reinforced by the fact that user qualities are believed to affect attitudes towards gamification (Hamari, Koivisto & Sarsa, 2014), meaning specific environments and individuals result in differing levels of influence from gamification (Hamari, Koivisto & Sarsa, 2014). Video game experience is also one of these influential factors, as these have been found to evoke the same psychological experiences for the user as gamification does (Hamari, Koivisto & Sarsa, 2014). This could be linked to the fact that many providers, such as Microsoft's Xbox, require game developers to incorporate gamification elements such as achievements, points, and leader board systems into their game if they want to run them on their platform (Jakobsson, 2011).

In a recent literature study, Hamari, Koivisto and Sarsa (2014) state the most frequently performed data collection method was quantitative, followed by mixed-method, very few take a qualitative approach for gamification research. As it stands currently, proof-of-concept is the most prevalent academic approach for gamification, which largely may be due to the topic being in its infancy and researchers aiming to better conceptualize the topic. The education and eLearning perspective is one which is most prevalent across gamification literature (Deterding; 2012; Hamari, Koivisto & Sarsa, 2014) followed by computer sciences, psychological motivations (Kasurinen & Knutas, 2018), information studies, human interaction and health (Shi, et al., 2017). Most of these studies have been conducted via the measurement of behavioural outcomes (Hamari, Koivisto & Sarsa, 2014) and use dependant variables relating to increased frequency or quality of interactions with systems, which are highly relevant metrics to marketing in terms of engagement and user activity (Hamari, Koivisto & Sarsa, 2014).

Much of the existing gamification research focuses on its potential applications and benefits on human-to-computer interaction from the computer sciences discipline (Hamari, Koivisto & Sarsa, 2014; Huotari & Hamari, 2017). Academic research from the business perspective has emphasized gamification's potential B2C marketing applications, such as increasing customer engagement, enjoyment and user interaction, or its use in human resources, researching its

influence upon staff performance towards goals and sales targets or staff retention (Conaway & Garay, 2014; Flatla, Gutwin, Nacke, Bateman & Mandryk, 2011; Hamari, Koivisto & Sarsa, 2014).

Benefits of gamification, both utilitarian and hedonic have been highlighted (Österle, Kuhn & Henseler, 2018; Hsu & Chen, 2018). Pacsi and Szabó (2018) states gamification, similar to other experiential marketing techniques, provides many emotional benefits–including improving the sense of accomplishment, fun, enjoyment and gratification received by users upon the completion of tasks when working towards the rewards (Flatla, Gutwin, Nacke, Bateman & Mandryk, 2011). From the perspective of the gamification implementor, benefits upon the businesses bottom line have been outlined, achieved through improvements to loyalty, visits to website and revenue growth (Conaway & Garay, 2014). Some studies argue results of gamification may be linked to a novelty effect, and not the game itself, which mean their benefits may not be long-lasting according to Hamari, Koivisto and Sarsa (2014) referencing Farzan, DiMicco, Millen, Brownholtz, Geyer & Duncan, (2008a; 2008b) and Hamari, (2013).

Gamification can be used to encourage the user to participate more effectively in the co-creation of value by providing them with a more engaging and positive experience. Users are more likely to attend to and participate in something which they perceive as worth their while, the gamification elements can be seen as both a form of incentive and an incremental measurement tool assisting in helping the user realize their progress towards a goal (Sailer, Hense, Mandl & Klevers, 2013; 2017; Werbach & Hunter, 2012; 2015), which has been found to be directly connected to user actions (Rigby & Ryan, 2011).

Drawbacks of the implementing gamification have also been indicated. These include loss aversion associated with the removal of gamification from a platform leading to a loss in awards or points earned for the user (Hamari, Koivisto & Sarsa, 2014), or undesirable behaviours linked to users cheating or exploiting games for rewards and achievements (Fitz-Walter, Tjondronegoro & Wyeth, 2011). Both have been shown to over-rule intrinsic motivations and can as a result undermine gamification, as these motivations are those which gamification aims to influence (Hamari, Koivisto & Sarsa, 2014).

Other than cheating and exploitation to gain rewards associated with games, these elements can also have other negative implications–especially if the goal is to improve performance or

assist the user in learning a platform. Gamification can cause issues through incentivising winning or the completion of the task, more so than the actual objective being intended. Therefore, the user may know how to ace the test but may have no idea what they are being taught, or why these objectives are being undertaken (Mordor Intelligence, 2020). Therefore, it is important to consider this when designing the game to ensure the completion of the task its associated reward does not detract from the intended mission of the game.

As the majority of gamification research thus far has been exploratory and concept-driven, numerous researchers have begun applying theories and models from their own respective fields in an attempt to conceptualize the topic. Various frameworks identifying gamification have been developed, each with their similarities and differences between one another. For example, Hamari, Koivisto and Sarsa (2014) established three key components of gamification's success to be motivational affordances, psychological outcomes and behavioural outcomes. Motivational affordances relate to the specific game elements being applied, such as point systems, leader boards and progress bars. Psychological outcomes relate to the impact which applying this combination of game elements has upon the user psychologically, for example, it might satisfy specific needs they hold. Lastly, behavioural outcomes relate to how the user's behaviour is changed by applying the game to a specific context.

This holds true to a slightly older model from Fitz-Walter, Tjondronegoro and Wyeth (2011) which had defined the three layers of a game to be the utility, context and game layers. The utility layer referring to functions underlying goals which game developers are aiming to address, the context layer outlines user actions requiring completion to achieve the underlying goals, and the game layer refers to the actual gamification elements being added to the system formed by the context and utility layers.

Other than both models including three levels for gamification, they are similar in the sense that the levels found in each are semi-related to each other. The motivational affordances component outlined by Hamari, Koivisto and Sarsa (2014) is essentially the same as the game layer from Tjondronegoro and Wyeth (2011), similarly related are the psychological outcomes and context layers and the behavioural outcomes could be related to aspects of the utility layer.

Behavioural outcomes reference to the impact which the application of gamification has upon the actions and behavioural habits of the user. This could, for example, relate to the frequency

which they engage with the platform, the time spent on the platform or the average number of actions taken when using the system, among others. This relates to the utility layer, as this refers to the functions underlying goals which the game developers are aiming to address by implementing the game–i.e. the actions and behaviours taken to achieve these goals.

Psychological need satisfaction (PNS) plays a significant role in the success and influence of gamification. To understand this, we can examine research upon motivation, more specifically self-determination theory, which is one of the six principal perspectives outlined by Sailer, Hense, Mayr and Mandi (2017) to be relevant in the context of gamification alongside trait, behaviourist learning, cognitive, interest and emotional perspectives (Krapp, 1993). Self-determination theory postulates three key psychological and intrinsic needs of an individual– the needs of competence, autonomy and social relatedness (Deci & Ryan, 1985; Ryan & Deci, 2002; Sailer, Hense, Mayr & Mandi, 2017). Competence refers to the feelings of efficiency and success from environmental interactions (Rigby & Ryan, 2011; Vansteekiste & Ryan, 2013; white, 1959; Sailer, Hense, Mayr & Mandi, 2017), autonomy is the psychological freedom and volition to complete a task (Van den Broeck, Vansteenkiste, Witte, Soenens & Lens, 2010; Sailer, Hense, Mayr & Mandi, 2017) and social relatedness is the feeling of belonging, attachment and care in relation to others (Maumeister & Leary, 1995; Deci & Vansteenkiste, 2004; Sailer, Hense, Mayr & Mandi, 2017). Gamification also commonly utilizes social connections to encourage participation and engagement with the game (Hofacker et al., 2016; Raj & Gupta, 2018; Conaway & Garay, 2014).

Gamification can take numerous forms, there are many different motivational affordances (or game elements) which can be combined and applied differently to suit a specific context and achieve necessary goals or needs. For example, self-determination theory needs can be addressed as follows: the need of competence can be addressed through points, graphs and badges (Hense et al., 2014; Sailer et al., 2013), including stories for the user to relate to can assist the need for autonomy and the need for social relatedness, which leader boards is also influential upon. Refer to table 2 to see the motivational affordances or game elements which have been most frequently employed in existing gamification studies before 2014 (Hamari, Koivisto & Sarsa, 2014).

Table 2: Tested Motivational Affordances in Gamification Literature.

Affordance	Percentage of Gamification Studies Testing
Points	37.50%
Leaderboards	41.67%
Achievements / Badges	37.50%
Levels	25.00%
Story / Theme	25.00%
Clear Goals	16.70%
Feedback	25.00%
Rewards	16.70%
Progress	16.70%
Challenge	29.17%

Note: Adapted from Hamari, Koivisto & Sarsa (2015).

Table 2 indicates that points, leader boards, and badges are three of the most commonly utilized and tested elements in the development of gamification studies. They are used in conjunction so regularly that Werbach and Hunder (2012) dubbed them as the 'PBL Triad', which is now considered as characteristic of gamified applications. Sailer, Hense, Mayr and Mandi (2017) outlined that this specific combination of game elements has a positive influence on a users' competence, need satisfaction and perceived task meaningfulness. Progress bars, while researched less prevalently than the other game elements in the table, are highly applicable to the context of onboarding customers into SaaS platforms through its ability to provide feedback and visual representation of a user's efforts, important for motivation (Attali & Arieli-Attali, 2015; Kohn, 1999; Sadler, 1989; Schrier, 2016).

2.3.1 Badges

Figure 2: Example of Badges

Badges are a visual representation of achievements, confirming and symbolizing the user's merits and/or membership to a group of individuals who also bare the badge (Anderson, Huttenlocher, Kleinberg & Leskovec, 2013; Sailer, Hense, Mayr & Mandi, 2017; Werbach & Hunter, 2012), refer to figure 2. When applied to gamification, badges recognise achievements (Bista, Nepal, Colineau & Paris, 2012; Bunchball, 2010; Educause, 2011; Huang, & Hew, 2015), and contributions (Bista, Nepal, Colineau & Paris, 2012; Easley, & Ghosh, 2013) whilst also being valued by users pursuing them (Easley & Ghosh, 2013). This value is largely tied to the exclusivity of a badge, which diminishes along with the number of users who have achieved it (Easley & Ghosh, 2013). According to Schrier (2016), badges should be viewed as signposts more so than goal posts, demonstrating areas of competence and strength. Those badges which are earned can be kept secret to the individual who has earned them or made public to other users or community members as a form of social proof (Bista, Nepal, Colineau & Paris, 2012).

Badge designs, implementation and how they are awarded can vary drastically depending on the system gamification is being integrated into, the goals of the game, and the audience (Easley, & Ghosh, 2013). However, all badge systems can be divided into three key components–a signifying element, a reward and a fulfilment condition (Hamari, 2013; Hamari, 2017; Hamari & Eranti, 2011; Jakobsson, 2011; Montola, Nummenmaa, Lucerano, Bober, & Korhonen, 2009). Signifying elements refer to visual and textual cues of the badge, rewards are usually the badge itself and fulfilment conditions are the requirements to be achieved for earning the badge which is usually outside regular activities.

There are a wide variety of potential fulfilment conditions for badges; they could be assigned to a user upon the completion of a task or for learning something (Schrier, 2016), after earning a specific amount of points (Bista, Nepal, Colineau & Paris, 2012) or for reaching a threshold of frequency for completing an activity, such as logging in often, at certain times, or when using the system in a certain way, such as visiting a page for the first time or reaching a certain amount of points (Anderson, Huttenlocher, Kleinberg, Leskovee, 2013; Hamari, 2017).

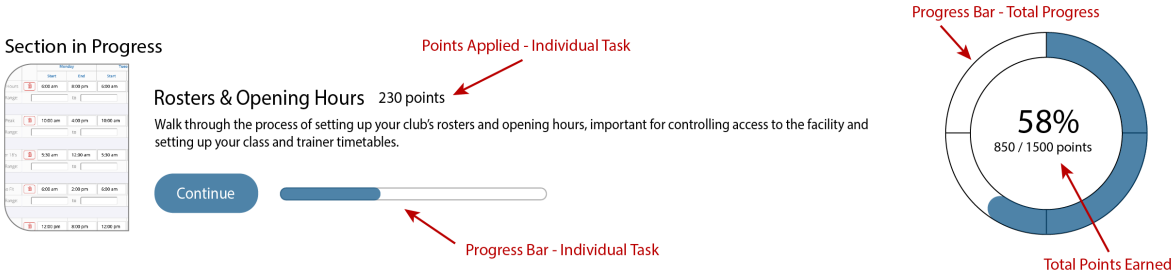
Depending on these requirements, badges can be permanently applied to the user's profile, or they may be kept temporarily while the requirements remain fulfilled–for example, while the user is in the top 10% of contributors to a forum (Bista, Nepal, Colineau & Paris, 2012; Easley, & Ghosh, 2013).

Badges have been found to improve user success, motivation, performance and participation through anchoring expectations, assigning goals which enhance self-efficacy, recognizing achievement to increase satisfaction upon completion and help guide user behaviour (Anderson, Huttenlocher, Kleinberg, Leskovee, 2013; Hamari, 2017; Huang, & Hew, 2015). User effort has been found to be more positively affected by badges as they get closer to attaining the badge (Easley, & Ghosh, 2013). They have been found to lead to better critical reception and increased revenue for a business and make the orientation and onboarding process more fun (Electronic Entertainment Design, 2007; Fitz-Walter, Tjondronegoro & Wyeth, 2011; Hamari, 2017). Businesses can also utilize these systems to monitor and visualize participation (Bista, Nepal, Colineau & Paris, 2012).

According to Landers, Bauer and Callan (2017), badges are supported by goal-setting theory which is well-established psychology theory, goals provided through badges increase behaviours through the self-efficacy and satisfaction received when earning them (Bandura, 1993). Other influential factors linked to increased motivations from badges relate to the increase in social status received from earning them and displaying them on a profile as a form of credentialing system to summarize skills, and completionism (Anderson, Huttenlocher, Kleinberg, Leskovee, 2013; Montola, Nummenmaa, Lucery, Boberg & Korhonen, 2009).

2.3.2 Point Systems

Figure 3: Example of Point System & Progress Bars



Points are arguably the most commonly utilized game element across gamification research (Morschheuser, Hamari & Koivisto, 2016). Point systems are a numerical representation or 'token' of a user's progress towards a goal which can guide user performance (Huang, & Hew, 2015; Mekler, Brühlmann, Opwis & Tuch, 2013a; Werbach & Hunter, 2012; 2015), see Figure 3 for an example. Points are usually collected as status indicators, or to spend on rewards such as goods or services (Huang, & Hew, 2015; Ueyama, Tamai, Arakawa & Yasumoto, 2014). Point systems are usually employed in conjunction with goals, badges, levels or progress bars (Ueyama, Tamai, Arakawa & Yasumoto, 2014).

Point system's most important purpose is to provide a granular form of user feedback, rewards and progress measurement for their behaviour towards a task in-game (Morschheuser, Hamari & Koivisto, 2016; Sailer, Hense, Mandl & Klevers, 2013; 2017), this is a commonly utilized psychological intervention (Attali & Arieli-Attali, 2015; Kluger & DeNisi, 1996) and has been found to be directly connected to a users' actions (Rigby & Ryan, 2011). This gives the user a sense of competence by chunking objectives into smaller, more achievable tasks and recognizing their progress towards achieving the objective (Mekler, Brühlmann, Opwis & Tuch, 2013b; Rigby & Ryan, 2011). Feedback is a large part of learning, which explains why point systems are commonly utilized by teachers (Attali & Arieli-Attali, 2015; Kohn, 1999; Sadler, 1989; Schrier, 2016).

Points can help shape user behaviour in non-game contexts (Mekler, Brühlmann, Opwis & Tuch, 2013a). They have been shown to increase user participation (Ueyama, Tamai, Arakawa & Yasumoto, 2014), effort (Attali & Arieli-Attali, 2015; Mekler, Brühlmann, Opwis & Tuch, 2013b) overall performance (Mekler, Brühlmann, Opwis & Tuch, 2013b), as well as their likelihood to undertaking and completing challenging tasks (Huang, & Hew, 2015). The speed to which tasks are completed has also been shown to be reduced through the implementation

of point systems (Attali & Arieli-Attali, 2015). Systems such as these have been successfully applied into platforms such as LinkedIn to gamify their sign up and onboarding process (Werbach, 2014; Sailer, Hense, Mayr & Mandi, 2017) as well as airlines through encouraging increased travel with mileage initiatives.

2.3.3 Progress Bars

Progress bars are a graphical display of a user's progression through a game, the effects of this game element have been frequently touted as beneficial upon the motivation to participate in a task, an example of these are also presented in Figure 3. A benefit which several studies have attributed to the ability for this game element to improve the perceived competence of a user, as well as providing a visual indication that they are making progress through the goal towards their objective–feedback of which has been shown to improve engagement and learning environments (Attali & Arieli-Attali, 2015; Kohn, 1999; Sadler, 1989; Schrier, 2016).

Literature researching the application of progress bars is usually conducted in quantitatively (Hamari, Koivisto & Sarsa, 2014), either through directly measuring a user's interaction with the gamified system (Farzan & Brusilovsky, 2011), researching cognitive measurements such as their intention to interact (Hamari & Koivisto, 2013), and social or emotional perspectives such as the likelihood of recommendation or enjoyment of the game (Flatla, Gutwin, Nacke & Mandryk, 2011; Smith & Baker, 2011).

2.4 Gamification & Engagement

Customer engagement is the extent which the customer participates and connects with the organisation's offerings or activities that are either initiated by the customer or organisation itself (Vivek, Beatty & Morgan, 2012). It is also described as the behavioural manifestation of a customer towards a brand or firm going beyond purchase behaviour (Bijmolt et al., 2010; Van Doorn et al., 2010). Customer engagement is a process (Rather, 2018) whereby customers partake in a number of interactions with products, the company or part of its organisation provoking a reaction–according to Pacsi and Szabo (2018) referencing Gentile, Spiller and Noci (2007). Customer engagement is becoming more prevalent due to the rapid advancement of communication technology (Sotiriadis & Van Zyl, 2013), and increased interest among brand marketers due to the benefits which it has upon purchase intentions (Brodie, Hollebeek,

Juric, & Ilic, 2011, 2013; Hollebeek, Glynn, & Brodie, 2014; Malthouse, Calden, Kim & Vandenbosch, 2016; Prentice et al., 2019).

Business implications of engagement that have been identified in the literature range from improved profitability, share of wallet (Rather, 2018) and brand equity through improved customer knowledge, awareness, and relationships (Österle, Kuhn & Henseler, 2018). Favourable links have also been made between gamification and purchase behaviour (Malthouse, Calden, Kim & Vandenbosch, 2016; Prentice et al., 2019).

Intention to engage is usually intrinsically driven, with customers seeking information to make informed purchase decisions or providing reviews to identify with the brand (Prentice et al., 2019). There is a positive relationship between engagement and purchase intentions, therefore many businesses strive to develop effective business systems to motivate customers to engage with the brand (Prentice et al., 2019).

Several key determinants have been identified for engagement to occur; businesses may use these to encourage customer engagement. Customer relationship management systems are one of these methods, boosting engagement through facilitating interactions with customers with the ultimate goal of building stronger relationships with them (Musalem & Joshi, 2009; Rhouma & Zaccour, 2018). Incentivising engagement through rewards is another, and as Rather (2018) indicates, this is reinforced by social exchange theory.

Social exchange theory suggests customer interaction requires the value, utility, relevance and emotional bonding associated with the interaction to be perceived by customers as worth their time (Rather, 2018). To achieve this, a degree of personalisation of the service is necessary (Rather, 2018; Van Der Valk, Vynstra & Axelsson, 2009) which also aligns with another theory which is commonplace in marketing–the elaboration likelihood model (Järvinen & Taiminen, 2016), which emphasizes the importance of personalisation in gaining customer awareness (Petty & Cacciopo, 1986; Järvinen & Taiminen, 2016). Expanding on this, the content of an onboarding process should be informed on B2B customer needs (Järvinen & Taiminen, 2016) and those the customer's own clients (Van Der Valk, Vynstra & Axelsson, 2009).

Gamification is a tool shown to encourage customer's participation and engagement with a company (Conaway & Garay, 2014; Feng, Jonathan Ye, Yu, Yang & Cui, 2018) and also

increase their enjoyment (Shi et al., 2017). Essentially, the likelihood of customer engagement increases if they find their experiences fun, enjoyable and valuable – which are also observed to be results of gamification (Looysetyn et al., 2017; Yang, Asaad & Dwivedi, 2017). This is important for the co-creation of value as discussed in the services section of this study (Habibi et al., 2015; Österle, Kuhn & Henseler, 2018), the gamification element is seen as a proposition of value for customers, making it more worth their while in participating in engagement.

Gamification and its benefits on engagement have also been tied to effective learning (Hsu & Chen, 2018; Shi et al., 2017; Nacke & Deterding, 2017) through challenging participants, making the process interesting and interactive (Pacsi & Szabó, 2018) and also by increasing time spent learning (Lavoue, Monterrat, Desmarais & George, 2018; 2019). There have been links made between gamification and brand loyalty, brand awareness, brand knowledge (Dubois & Tamburrelli, 2013; Houtari & Hamari 2012; Hsu & Chen, 2018; Raj & Gupta, 2018), consumer behaviours such as return rate, participation and retention (Conaway & Garay, 2014; Kasurinen & Knutas, 2018; Kauppinen-Raisanen & Gronroos, 2015; Musalem & Joshi, 2009; Rather, 2018) as well as business benefits such as increased share of wallet, profitability and brand equity (Österle, Kuhn & Henseler, 2018).

2.5 Literature Gap

Throughout this review of literature, numerous shortcomings became apparent to the researcher which, if addressed by scholars, may assist with better understanding of how businesses may address the high turnover of new customers for businesses.

The first of these gaps pertain to the IT adoption literature stream, as outlined by Rizzuto, Schwarz and Schwarz (2014) the research conducted on topic has been highly focused upon businesses operating within the business-to-consumer space, overlooking B2B contexts. Throughout the existing literature on the topic, this still appears to be the case today in 2020. This is a sizeable gap within academic knowledge, as businesses have very different adoption requirements, processes and behaviours to those of consumers due to the higher risk associated with adopting a new business system. Business products such as software systems tend to be riskier than their B2C counterparts due to integral position within the core processes and operations of the company such as accounting, management, billing and communications (Gartner, 2020). This means business software systems have a higher number of stakeholders

involved in deciding whether a system should be adopted and how this potential implementation may take place, adding to the complexity of the purchase decision and resulting in a much longer adoption process than that of a B2C platform (Buratti, Parola & Satta, 2018; Habibi et al., 2015). Other than the heightened risk presented to B2B platforms, contextual factors can also influence the likelihood of adoption for these systems, such as company culture, norms and pre-existing software platforms, constructs of which have previously been highlighted in IT adoption research (Gullatte, 2006). All of these emphasize the importance of understanding the adoption process of B2B software users independently of B2C contexts.

While the influence of gamification upon purchase decisions has previously been studied (Malthouse, Calden, Kim & Vandenbosch, 2016; Prentice et al., 2019), to the best of the researcher's knowledge it has not been researched from the perspective of customer acquisition. This is an important gap within marketing literature due to the issues which many businesses experience during this phase, and there appears to be a strong indication from relevant areas of research on the potential of gamification having a positive impact. This potential can be observed through gamification's influence upon constructs such as customer engagement, interaction and satisfaction (Conaway & Garay, 2014; Flatla, Gutwin, Nacke, Bateman & Mandryk, 2011; Hamari, Koivisto & Sarsa, 2014; Hofacker et al., 2016; Pacsi & Szabó, 2018; Raj & Gupta, 2018; Rhouma & Zaccour, 2018), all of which have been identified to have positive relationships towards the acquisition onboarding stage.

Similar to IT adoption, there has also been a great lack in the amount of research being undertaken from the perspective of business to business contexts. The impact of gamification may also be different between business customers and consumers, for example, business decisions are inherently focused more upon utilitarian benefits over hedonics (Buratti, Parola & Satta, 2018; Habibi, Hamilton, Valos & Callaghan, 2015; Hsu & Chen, 2018; Österle, Kuhn & Henseler, 2018)–which means key benefits which gamification facilitates, such as enjoyment may not such play a prominent role.

As many studies researching gamification have been conducted within the United States and India, there is a lack of geographical diversity in the area of study. Cultural and societal influences, such as their high proportion of gamers relative to most countries (KPMG, 2017; Newzoo, 2019) who are more responsive to gamification (Smith & Kilty, 2014) could lead to a skewed representation of the impact that gamification may have.

Most gamification research views the topic as a generic construct, without taking into consideration the unique game elements being employed within the study and how these may influence the results independently (Sailer, Hense Mayr & Mandi, 2017). This, paired with the fact that a sizable portion of the existing studies only focus upon the topic from the perspective of behavioural outcomes and employ descriptive statistics to understand the topic leaves a gap within the literature (Hamari, Koivisto & Sarsa, 2014). According to Hamari, Koivisto and Sarsa (2014), it is important to consider all three levels of gamification when studying the topic–motivational affordances, psychological outcomes and behavioural outcomes.

2.6 Chapter Summary

This chapter has explained four key areas of marketing, each relevant to the topic of this thesis "How gamification can be used as an acquisition tool through its influence on engagement." These topics were that of IT adoption, SaaS onboarding and the importance of effective value co-creation of software-based services. Research upon gamification and a few notable game elements was then covered before explaining the impact which these have upon engagement according to existing studies.

Gaps within these areas of study were then highlighted. This included gaps such as the void of B2B research from both the perspective of IT adoption and gamification, how the majority of research upon gamification has been conducted within countries which are at-risk of skewing results and how impacts of gamification have not been studied upon purchase decisions.

The following chapter will outline the method by which this study will undertake to address some of these issues within the area.

Chapter 3: Methodology

To assist business software providers in their endeavour to improve their success with customer acquisition, as well as the gaps within the literature on gamification–both outlined in the previous chapter, this study aims to improve academic knowledge and understanding of how gamification can influence customer onboarding.

3.1 Qualitative Methodology

To achieve this aim and address research questions 1, 2 and 3, this study will be conducted through a qualitative methodology. This approach was decided upon as qualitative studies offer a greater insight into the underlying psychological reasons behind IT adoption behaviours, such as affect, cognition, association and attitudes (Dickinson & Heath, 2005; Jones 1997) and perceptions as qualitative data collection methods allow a wider scope of information outside the initial subject area (Hanseon & Grimmer, 2005; Jones 1997). This provides more granular and useful insight into how exactly gamification influences IT adoption within the context of B2B SaaS while addressing a gap within literature identified in the previous chapter. This gap is the vast majority of gamification studies taking a quantitative approach, focussing upon behavioural changes without conceptualizing why this change might be occurring (Hamari, Koivisto & Sarsa, 2014). The qualitative approach taken seeks to address this, providing an improved depth of knowledge on gamification and how or why it can influence behaviours beyond just identifying there being a change in behaviour.

3.1.1 Philosophical considerations

Undertaking a qualitative approach inherently imposes a higher level of subjectivity for data collected. As such, it is important to understand the philosophical perspective which this study is being researched from–as this can influence how information is interpreted during analysis, discussed and presented within this thesis. This section outlines the philosophical stance of this study by defining its ontology and epistemology (Holden & Lynch, 2004).

3.1.1.1 Ontology

A study's ontological perspective refers to the viewpoint which reality is perceived upon. This study takes a relativist ontology, which emphasizes the impact which an individual's prior experiences, cultural values and upbringing have upon their views of the world around them.

This perspective emphasizes that a scenario may be perceived differently from one individual to the next based upon these influential factors (Gray, 2013).

3.1.1.2 Epistemology

Epistemology is the philosophical theory of knowledge, particularly focused upon methods, validity, scope and how beliefs are differentiated from opinions by the individual (Browaeys, 2004). The importance of understanding the epistemology of a study is paramount as this provides transparency upon what information is considered fact or fiction whether it be through knowledge presented in academic studies, word of mouth or even through the study being presented itself (Bronwaeys, 2004). This clarifies the academic foundation of the study while giving perspective on the reliability of findings reported (Bronwaeys, 2004; Muis, Duffy, Trevors, Ranellucci, 2014).

This thesis takes a constructivist epistemology, which means the researcher maintains that knowledge is constructed by the scientific community who utilize models and measurements to understand the natural world. As part of this epistemology, it is understood that no single model is entirely valid, instead, multiple various models can be viewed as useful (Schwandt, 1994). This is reflected within the current study as the foundational model utilized to measure behavioural intentions towards IT adoption blends two academic concepts, the Diffusion of Innovation theory and the Technology Acceptance Model.

3.2 Semi-structured Interviews

The chosen method for collecting data for this study is in-depth interviews, a widely used academic research tool for acquiring qualitative information (Zhang & Wildemuth, 2009). Interviews are the most suited method to collecting data for this study because the topic being covered pertains to an individual's thoughts, experiences, preferences, attitudes and behavioural intentions towards adopting a new software system and how gamification may influence these (Zhang & Wildemuth, 2009). Marketing research often utilises interviews to collect this form of data, as they provide useful insight into causes for human behaviour within commercially relevant contexts (Hanson & Grimmer, 2005).

There are three key structure types for interviews–unstructured, structured and semi-structured (Zhang & Wildemuth, 2009), the chosen interview approach for this research is semi-

structured. The middle ground which offers flexibility allowing additional probing questions to delve deeper into interviewee responses (Kallio et al, 2016; Zhang & Wildemuth, 2009), while providing enough rigidity to allow for information gained to be semi-uniform and comparable between interviews, useful for analysis. While this requires a degree of understanding from the researcher to create question guidelines, it improves understanding of the topic, providing insights which might have otherwise been missed through another interview structure (Kallio et al, 2016).

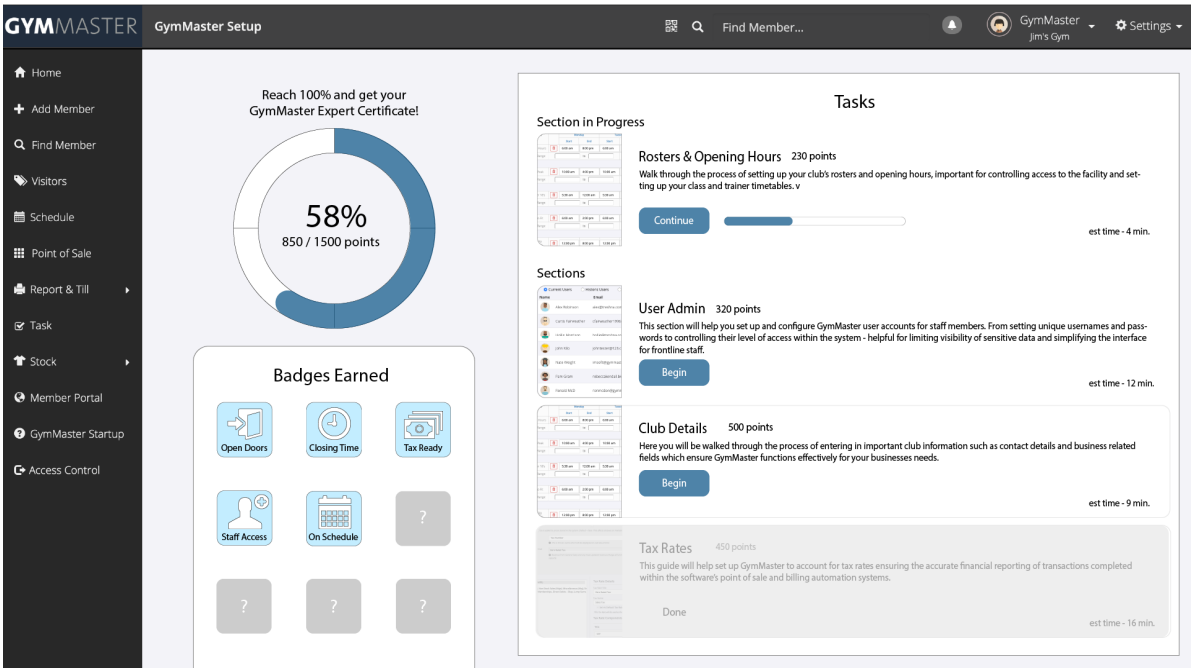
3.2.1 Interview Protocol

The face-to-face interviews will be conducted through an online platform, which was decided upon over in-person meetings or phone calls for a few key reasons. Firstly, during the process of collecting data required for this study, the COVID-19 pandemic was in its early stages of spreading around the globe–meaning many countries, including New Zealand, were in lockdown. This, paired with the fact that the participants were expected to be from countries all around the world given that the software providers client base is largely based in the USA, Canada and Australia made it clear that online interviews were most appropriate.

The chosen online meeting channel for this study is Zoom, which is an enterprise video communication platform which gained a large amount of interest as a result of the pandemic (Zoom, 2020). This platform was chosen for similar reasons contributing to its high rate of growth during the pandemic, is the great ease of use offered to users for joining meetings. Zoom allows face-to-face video calls, which provided the researcher with a higher richness of communication than a phone call, allowing for a greater understanding of their responses through conversational cues such as facial expression and gestures.

At the beginning of the interview, the participant's consent form was collected by the researcher, these, along with an information sheet outlining the research being undertaken and what is required of participants were provided to the volunteers ahead of time. After this, the participants were initially subjected to some general questions to provide supplementary descriptive statistics which is to be used during the analysis phase of the study for a more in-depth understanding of responses and to help identify differences in perceptions across demographics and levels of IT exposure if they arise.

Figure 4: Gamified Onboarding Process Mock-up



The interviewee is then exposed to a series of mock-up onboarding process screenshots (Figure 4), some with gamification elements applied, and others acting as a control without, allowing the participant to compare and contrast between the two versions (see Appendices A and B for all six mock-ups used). These mock-ups are to visually assist the researcher in explaining what onboarding processes are, what gamification is, and how these can be combined during the setup and initial learning phase of a new software system. This is so the participant has a clear understanding of the topics they are being asked about so they can provide more accurate and useful information during the interviews.

Following this introduction to gamification and onboarding, the participant is then questioned about their perceptions of these mock-ups, their potential applicability to their personal experiences with learning new business software systems, and general thoughts and opinions relating to gamification and the specific game elements. These prompting questions are shaped by the combined constructs of the Technology Acceptance Model and Diffusion of Innovation theory used in John (2015), as well as Psychological Need Satisfaction (Sailer, Hense, Mayr & Mandi, 2017). More on the specifics of these questions are outlined in the next section.

The user's responses to most of these questions are to be met with further queries from the researcher to get a deeper insight on the reasoning behind the responses given and for a more valuable level of qualitative information being collected.

After all the planned topics had been covered, the researcher then thanked the participant for their co-operation, informed them of the reward being applied to their software account for taking the time to participate and explained that they can reach out with any questions or a transcription of the interview if they desire.

3.2.2 Interview guide development

The initial stages of the interview were to gain descriptive data on the participant to be used to supplement analysis of the interview data. This includes basic details on the interviewee, such as their age, gender, business size and general use of the SaaS platform. As the study was conducted upon current users of the software, the survey utilizes questions measuring the user's usage habits, time using the system and other experiences with on the platform to help clarify any effect this may have upon the results.

Once these general details were collected, the main data collection phase of the interview began. This consisted of an additional 15 prompting questions covering perceived ease of use and perceived usefulness constructs from the combined TAM and DOI model from John (2015) along with the additional self-determination theory constructs addressing psychological need satisfaction and to satisfy each of the three levels of gamification–psychological outcomes, behavioural outcomes and motivational affordances (Hamari, Koivisto and Sarsa, 2014). These topics were discussed within the context of both hypothetical onboarding scenarios with the assistance of mock-ups, and generalized application to the user and their previous experience with setting up and learning business software systems.

Psychological outcomes were measured from the perspective of the satisfaction of the user's needs. As outlined earlier, psychological need satisfaction is a key level of gamification, using self-determination theory (SDT), three psychological/intrinsic needs are identified, which are competence, autonomy and social relatedness (Deci & Ryan, 1985; 2002; Ryan, 1995; Sailer, Hense, Mayr & Mandi, 2017).

The behavioural outcomes were measured with the assistance of the TAM and DOI models within the IT Adoption literature to understand whether there have been any changes in terms of behaviours or behavioural intentions. To achieve this, the following constructs are employed

from John (2015) which combined both models in a similar study to measure perceived ease of use, attitudes and ultimately behavioural intention, a connection which is reinforced through the theory of planned behaviour: computer self-efficacy, previous computer experience, relative advantage, compatibility.

The third level, the motivational affordances, refers to the game elements being applied to the onboarding process and how they each have their own unique impact upon the results. These are addressed by the additional probing questions asked by the researcher. Refer to Appendix C for a breakdown of which interview prompt questions are associated with what model constructs and the study this prompting question was adapted from. Each of these will be followed with probing questions to gain further qualitative data and a deeper insight into the participant's thoughts and opinions.

As there is some differentiation between the initial questions which each interview prompt is shaped by, it was important for the researcher to ensure that all questions were still worded effectively to measure the intended constructs, as well as being understandable by the target audience of this study. To do so, the researcher conducted a few pilot interviews with both students in their marketing cohort, as well as people external to the marketing discipline to ensure they are worded in a way which is understandable by an audience without a marketing background. As part of this, it became obvious the researcher had to make a number of tweaks to the questions, as well as providing a clear introduction at the beginning of the interviews so the audience could understand the topics of gamification and onboarding.

3.2.3 Transcription

With the consent of the participants, audio recordings were collected throughout the interviews through QuickTime, which is an onboard audio recording platform for Apple computers. These audio recordings allow the researcher to focus on the interview at hand without having to take notes while ensuring a higher quality of information was available for later transcriptions that were utilized during the thematic analysis phase of this thesis. Having audio recordings available also helped with interpretation of interview information, as non-linguistic behaviour is also important for correctly perceiving communication, such as the pitch of the person's voice (Kowal & O'Connell, 2004).

These recordings were played back after the interviews had concluded and were transcribed by the researcher word-for-word into text documents, ready for interpretation within the thematic analysis software.

3.3 Sample

A total of 12 interviews are utilized in this study to explore the perceptions, attitudes and behavioural intentions of business software customers and users. This number of respondents was deemed to be satisfactory to fulfil the purpose of this study due to indications from McCracken (1988) and Guest, Bunce & Johnson (2006) who indicated that the ideal quantity of interviews required to achieve data saturation within a study like this to be 8 and 12 respectively.

3.3.1 Target population & Selection Criteria

The sample consisted of current business software system users. The decision to utilize current clients as opposed to new clients as they are acquired was made due to a number of factors. Firstly, this audience is highly likely to have been involved in the initial set up and learning process involved with a B2B software system (such as that of the case study), which means they understand the process and the potential pain points. They are within the demographic being targeted with the aim of this study, being customers of business software systems, which means they are a great insight upon how gamification might influence the behavioural intentions of these people during the adoption phase of new software.

There is no specific country being targeted for the sample being used in this study, this was purposely decided as to give a more broadened insight while addressing gaps in the literature outlined in chapter two regarding the lack of geographical diversity across gamification and IT adoption research.

The sample of clients from this software provider being interviewed by the researcher are the owners, business managers and administrators of gyms. These individuals rely heavily on their business management software to complete their daily tasks, running their business, making sales, managing memberships and even controlling door access to the club. These individuals are the ones most frequently interacting with and utilizing the software systems and are also usually highly involved during the set-up and onboarding process when implementing the

system into the operations of the business and routines of staff. These individuals are easily reached by the software provider as they are the primary contact listed in their customer relationship management system's database.

Only clients who are very new to the software system are excluded from the sample or those who have had very little interaction with their software system. This is because these individuals are more likely to have been through an onboarding process previously, as new customers may not have had the opportunity to be onboarded, and those using the platform infrequently tend to be less likely to have been onboarded as they may not be ready to use the system yet. This study is focusing on those who understand business software and have had previous experiences with being onboarded.

3.3.2 Sampling Process & Recruitment

The sample will be recruited from a single case study, the researcher partnered with a local business software provider who granted permission to utilize their client base for the purpose of this thesis.

This software as a service provider was founded in the 1990s and is based in New Zealand, but now has staff operating in offices around the world–including Mexico, Vietnam, Australia and South America. They are an international club management system offering its service to a variety of organizations requiring membership management, door access control, booking and appointment scheduling, website integrations and mobile applications. While a host of industries are being serviced by the software provider, the majority of which are operating as gyms and health clubs.

Contacts within the case study indicated that their userbase is largely comprised of health and fitness enthusiasts who ventured into owning their own club rather than a business background. The club management software is intended to assist them with the business aspect of running a gym, helping to simplify and streamline operations. Gyms use the software to store personal details and billing information of their members, organise bookings for personal trainers and fitness classes, control gym door access with key tags, track member visitation, send marketing communications and report key indicators of business performance. Typically the software is used by a receptionist who will sit at the front desk and sign up or check-in visitors into the

club as they arrive, as well as management and owners to monitor performance and send out bulk communications.

Currently, there are thousands of clients using the system to run their business within over 60 countries. The system has gained the most traction in New Zealand, Australia, USA and Canada, and the majority of existing users operate their platform in English. However, a number of other languages are offered and used by clients, the most notable being French, Spanish and Chinese.

To recruit the sample, a direct email was sent from the company inviting a list of 100 random clients to participate in the study being carried out by the University of Canterbury. To encourage involvement, the invitation mentioned an incentive for their participation, a voucher for $20 which can be used to reduce the cost of their next month's subscription to the software. For those who are interested, a link was provided to direct them to a form with an information sheet with further detail on the interviews, along with a submission form to collect their details and register their interest in participation with the researcher.

Of the software provider's 24 clients who responded to the researcher's invitation email, only 12 were required to be interviewed to achieve saturation. The process of selecting the participants from the list who expressed their interest was randomized help reduce the possibility of potential bias being imposed and skewing the data collected in the interviews and ultimately the results of the thesis. This group were then contacted by the researcher via email.

This email thanked them for agreeing to participate, schedule a meeting time for the 20 to 30-minute interview to take place and provide the participants with a consent form to be completed before the interview meeting. Once an appropriate meeting time had been agreed upon, the user is then provided with a meeting link to use to join the online meeting on at the time of the interview.

3.4 Data Analysis - Thematic analysis

The chosen method for analysing data collected within the semi-structured interviews is through the use of a popular tool in analysing and interpreting qualitative data, named thematic analysis. Closely related to grounded theory, a thematic analysis is the process of coding

written textual data, such as that of a transcribed interview, into groups or ‘themes’ which are used to gain insight into an area of research (Tuckett, 2005).

Themes can be described as patterns, consistencies or valuable prominent observations made by the researcher when interpreting coded qualitative information. These can be used to capture something important about data in relation to the research question. This thesis will primarily focus upon latent themes, which are implicit themes identifiable from within information provided by the interviewee. These themes are underlying ideas, assumptions, conceptualisations and ideologies which are theorised as shaping and informing the semantic or surface information provided (Braun & Clarke, 2006).

Thematic analysis is preferable for this study over other widely-used approaches to interpreting qualitative data such as content analysis, narrative analysis, ethnography, phenomenology, or discourse analysis (Ezzy, 2013; Hsieh & Shannon, 2005). These methods are more restrictive than thematic analysis as thematic analysis allows a high degree of flexibility of which theoretical frameworks can be utilized (Braun & Clarke, 2006).

Thematic analysis is useful to make clear, meaningful interpretations of a store of qualitative information, exploring a data set for new ideas and increasing understanding of the thoughts, opinions or attitudes of an individual. This is especially important for this study as it will provide genuine insight as to how new users’ evaluation of a software system is influenced by applying gamification to the onboarding process. While there are other qualitative analysis methods which could also be utilized within this study, the thematic approach is most suited to analysing content within the context of this research for a few key reasons: Firstly, it can usefully summarize features of a large body of data. Secondly, connections are made between themes and between themes and the original dataset, providing a more in-depth analysis (and clearer picture) of the situation at hand. The importance of a theme is also not necessarily tied to the frequency which it occurs within the data, which means highly relevant points which may be understated within the content analysis are more likely to be valued. Answers are absolute, and usually directly observable within the textual content, giving higher credibility than a discourse analysis, and this approach can also be more useful when applied to hypothetical scenarios than methods such as narrative analysis. The selected approach also fits the philosophical disposition of this study well, as constructionists utilize thematic analysis to examine how societal discourses are influential upon events, realities, meanings, experiences

and so on (Braun & Clarke, 2006), particularly through identifying latent themes within the data (Burr, 1995).

Thematic analysis can be carried out in a number of ways, one of the most popular among academic researchers in recent years is through the use of a software platform to assist with the process, such as NVivo–this approach is also utilized in this study. The exact stages of the process which this program will be utilized within this analysis will be outlined in the following section.

3.4.1 Process & Coding

The process being followed for the thematic analysis is informed by a popular study on the topic, conducted by Braun and Clarke (2006). As such, the six steps being undertaken for the thematic analysis of this study are as follows:

The first step undertaken for the thematic analysis of the interview data is the transcription of all 12 interview recordings into a word document. This process entails listening through each of these recordings multiple times and typing these into a text format for the researcher to familiarise themselves with the data, initial ideas are noted during this phase.

Secondly, the researcher will systematically code interesting features identified across the entire dataset–with related data being collated into codes. This second phase will be conducted through the NVivo software platform (version 1.0), which is a system that simplifies the process of analysing qualitative data and is commonly used for thematic analysis.

For coding, the researcher took a three-step approach, firstly a deductive approach will be undertaken (Braun & Clarke, 2006) as the codes will be shaped based upon the initial combined DOI and TAM model from John (2015), the interviews are first inspected for indication of these constructs before moving to the second step, which was open coding. Open coding is used to identify any additional themes within the interviews that may be relevant to the IT adoption process and gamification's effectiveness. The final step used is axial coding, which is the process of grouping all the collective codes identified in the first two steps into useful codes that may be used within the following stage of a thematic analysis.

Stage three, also utilizing NVivo, is where the researcher is actively looking for themes within the data. This is done through the collation of the previously identified codes into patterns, or "themes" which are relevant to each other.

Phase four is the process of ensuring themes work in relation to the coded extracts in level one and the data set from level two as a method creating a map of the analysis–essentially, this is the process of linking themes together and looking for relationships.

In the fifth phase, the themes are then named, clearly defined and given boundaries in which they fall, refining the analysis into an overall story.

Reporting this information is the final, sixth phase of the process–this entails selecting the most compelling extracts from the analysis and relating the analysis back to the existing literature, the aims of the study and research questions 1, 2 and 3.

It is important to note that the thematic analysis will involve constant shifting back and forward between these phases as additional information can be uncovered at any stage of the analysis (Braun & Clarke, 2006).

3.4.2 Reliability and Validity

To ensure all collected interview data is analysed and interpreted to the best possible standard, strict measures will be implemented to ensure the reliability and validity of any information presented, otherwise referred to as trustworthiness (Klopper & Knobloch, 2010). As part of this, the researcher addresses four key contributory factors of trustworthiness–credibility, applicability, consistency & confirmability, all of which are commonly utilized by researchers to examine reliability and validity of qualitative studies (Guba & Lincoln, 1989; Klopper & Knobloch, 2010)

3.4.2.1 Credibility

The credibility pertains to be the confidence which researchers can have in the findings of this study. To ensure the credibility of information presented within this study, measures will be taken by the researcher. These include taking considerable time during analysis to observe data, interpret themes, check these against each other and back upon the original dataset looking for continuous, repeated observations where possible (Braun & Clarke, 2006). As part of this,

various data display techniques will be incorporated to make clearer interpretations, such as tabulations to assist with describing and comparing variables from new perspectives, as well as making more informed, well-rounded observations–validating information for future readers (Alhojailan, 2012; Miles and Huberman 1994; Patton, 1990). Quotes are also included in the quote as evidence supporting and validating themes presented (Alhojailan, 2012; Miles and Huberman 1994; Patton, 1990).

3.4.2.2 Applicability

The applicability also referred to as the "transferability" of a study, denotes the ease of which the results of this study can be carried across and applied to others within a similar context (Klopper & Knobloch, 2010). To assist with the transferability of this study, making it more useful for further researchers, a thick description of the study, context and method being utilized will be ensured so that they have a clear and accurate understanding of how this thesis was carried out.

3.4.2.3 Dependability

Dependability refers to the consistency of the findings within this study, this relates to the repeatability of the study (Statistics Solutions, 2020). To improve this, the researcher will check transcripts against recordings multiple times to ensure the accuracy of the text before analysis begins (Braun & Clarke, 2006). They will also employ the assistance of a third party to audit the process for analysis to ensure findings are repeatable (Statistics Solutions, 2020).

3.4.2.4 Confirmability

Also viewed as neutrality, the confirmability of data is important to be addressed within this study due to its qualitative nature. Interpreting qualitative data, especially through the means of thematic analysis places a heavyweight upon the researcher's perceptions and ability to identify themes within transcriptions. As part of this, there is a particular vulnerability for confirmation biases to arise and skew results. To mitigate these risks, this study will utilize the previously mentioned auditing process (Guba & Lincoln, 1989) as this will assist with re-evaluating themes to ensure they are representative of the entire text to build reliability (Alhojailan, 2012; Miles & Huberman, 1994). A disconfirmation focus for the interpretation of results will also be taken–in other words, this study will seek to disconfirm and not confirm any hypothesis or expectations from the researcher (Burklow, 2018).

3.5 Ethical Considerations

While this study being only based upon the attitudes and behavioural intentions of a user toward adopting business software systems mean it is unlikely for ethical issues to arise, several key considerations have been made within the design of this study to ensure the data collection and analysis of such information is carried out in an ethical and respectful manner. In accordance of regulations held by the University of Canterbury for all master's theses, this study has received ethics approval from the institution's human ethics committee (HEC), see Appendix D. This outlined the necessary ethical precautions to take for the level of risk involved in the study, which is determined by factors such as the sensitivity of information collected, who will have access to this information and other influential elements. The committee deemed this study to be low risk.

However, as part of this approval from the HEC, the researcher was required to provide an information sheet outlining the study and the process for which data will be collected, stored and used by the researcher as well as a consent form, see Appendix E. This was to be provided to all involved stakeholders within the data collection process–namely, the single case study software provider, and the individual participants in the interviews. This is to ensure they have clear expectations on what information will be collected, for what purpose and how it will be handled and presented. As part of this, they are also informed of the measures employed throughout the study to ensure the privacy of all involved actors is retained to the highest standard–such as the immediate removal of all identifiable information from transcriptions, destruction of all recordings and transcriptions after analysis, and the right for participants to review and retract their statements from the study at any time.

3.6 Chapter Summary

The purpose of this chapter was to present and discuss the chosen methodology undertaken as part of this thesis. Initially touching upon the aim and objectives which this study intends to address before introducing the qualitative approach which is to satisfy them. As with all qualitative studies, it is important to understand the philosophical perspective which the thesis is written from, which is outlined in the following section covering the ontological, epistemological and research paradigm for the study. The chosen method for data collection, semi-structured interviews, is then outlined before details on the protocol for carrying these out, the specific guide with question structure, and the process for transcribing these are then described. Following this, the chosen sample, selection criteria and recruitment process are

then presented along with a description of the business being used as a single case study for the thesis. The process for analysing the collected interview data is then covered, along with the measures being undertaken to ensure reliability, validity and ethical handling the collected information.

Chapter 4: Findings

As discussed within chapter three, the researcher has conducted a series of 12 in-depth semi-structured interviews for the purpose of gaining insight upon how gamification can influence the attitudes and behavioural intentions of business customers towards adopting a new information technology platform. The findings observed within the transcriptions of these interviews are presented and explained within this chapter through a thematic analysis of this data, which is then supported by textual extracts from these transcripts.

4.1 Demographic Summary

The interviews were conducted upon a sample of 12 individuals, each of whom were involved in the operations of their own distinct fitness club and regularly utilize a business software package to assist them in their daily administrative tasks. The majority (9) of these participants were owners of these businesses, and the remaining interviewees were either administrators (2) or management (1). The age range of participants was quite broad, with people involved being aged between 21 and 62, however, the mean age was 38 years. The majority of participants were female (75%), and the average experience working within the fitness industry was approximately 6.3 years however the majority had been running for under two years (6), with a few long-time owners 13 (2) and 23 (1) years bringing this average up. The background of participants was also quite diverse and had a fairly observable impact on their attitudes and opinions of gamification. Surprisingly for gym owners, relatively few worked as personal trainers (2), the remaining 10 had worked in different areas in their past life, from being an ex-CEO to an accountant, IT professional and even a nurse. Most of these had left their previous place of employment to start their own gym business.

As it stands currently, the prior computer experience and computer self-efficacy among participants varied quite heavily from user to user. In general, self-efficacy was quite high with only a couple indicating their concerns with making an error when learning computer systems and expressing unease when using a computer, both of whom attributing this to their age and lack of experience with computer systems. Most felt comfortable with using computers, and a few described themselves as "tech-savvy". The extent of computer experience ranged from little to none (2), to having a degree in computer science and working as a programmer for decades (1). However, most participants had done some form of computer training either through their years in education or previous employment.

In terms of the businesses which these participants run, the majority were small and had under 10 staff members, however, some had much more than this–up to 50. Most were located in New Zealand, followed by Australia, the United States, and one in each of Spain and India. Many had been using the software for a relatively short time under two years, the average length of time was 1.24 years and previous to using the current system, 5 had migrated from another software system. The majority of these businesses use the system multiple times a day, with many having more than one concurrent user utilizing the system at one time.

Table 3: Sample Demographic Breakdown.

Gender	Category	Percentage
	Male	25%
	Female	75%
Age		
	18-24	17%
	25-34	25%
	35-54	42%
	55+	17%
Occupation		
	Owner	75%
	Management	8%
	Administrator	17%
Time in Industry		
	Under 12 Months	8%
	1-3 Years	42%
	4-6 Years	17%
	7-10 Years	0%
	10+ Years	33%
Country of Residence		
	New Zealand	50%
	United States	17%
	Australia	17%
	Spain	8%
	India	8%
Number of Employees		
	0 to 4	25%
	5 to 9	33%
	10 to 19	17%
	20 to 29	0%
	30 to 39	0%
	40+	25%
Computer Experience / Training		
	None	25%
	Training through employment	42%
	Training through education	25%
	Computer Qualification / Degree	8%
	Other	0%
Time Using Software		
	Under 12 Months	8%
	1-3 Years	83%
	4-6 Years	0%
	7-10 Years	0%
	10+ Years	8%
Frequency of use		
	Multiple Times Daily	75%
	Daily	17%
	Few times a Week	8%
	Weekly or less	0%
Migrated to Software from Previous platform		
	Yes	42%
	No	0.583333333

4.2 Coding Interview Data

The first stage of analysis involved coding the transcriptions to assist with the identification of themes. This process was carried out through the use of NVivo software, which assisted the researcher in identifying themes between information provided in the interviews and visualising the links between them.

Initially, a deductive approach was undertaken whereby the researcher analysed the interview transcripts with predefined codes based upon the constructs from John's (2015) model, which was also supplemented with additional constructs from Davis (1989) and Deci & Ryan (1985) to better reflect any impact of gamification on IT adoption. In conclusion to this first stage of coding the interview transcripts, in total 11 pre-defined codes were used to analyse the transcripts, these are pointed below.

- Previous computer experience
- Fun / Playfulness
- Technical complexity
- Anxiety
- Compatibility
- Social relatedness
- Competence
- Motivation to engage
- Self-efficacy
- Relative Advantage
- Autonomy

The researcher then proceeded to read through all transcripts and then identify statements which fit within these codes before moving to the next phase of the coding process. This is referred to as open coding, which involved re-reading the transcripts and segmenting the data into any additional expressions or codes as they arose. The process of open coding identified several more codes for the researcher to analyse for themes and also led to the researcher creating several sub-codes within the larger pre-defined categories used for the deductive codes. The codes added within this section were as follows:

- User learning style
- User's confidence in their ability
- User age
- User enjoyment

- User perceived difficulty
- Organisation structure
- Business maturity/age
- Industry
- Organisation size
- Business management style

Axial coding was then used, which is the process of relating codes to one another. Several groupings between codes were identified within this process, such as links between user enjoyment and fun, competence and confidence, organisational structure, size and management style among several others. These codes were then analysed for themes and refined down to only those which were most influential during the thematic analysis phase to identify the most useful results to present within the following findings of this study.

4.3 Key Findings

4.3.1 Compatibility of Software to Business Customer's Needs & Existing Processes

The effectiveness of gamification when applied to the customer onboarding process of a business software system was found to be highly dependent upon contextual factors, these factors were based largely upon the characteristics of the user being onboarded, and their business.

With regards to the user being onboarded, three themes were defined within the interviews which highlighted characteristics of a user which influence their compatibility for gamification–these are age, previous experience with computers or business software systems and exposure to games. The age of the user was most commonly referred to by the participants, both young, and old users expressed the opinion that older users would be less receptive to gamification than young. Users believed older people to be more easily intimidated and find less value in the added game elements than a user from a younger demographic. They believed that the addition of game elements could serve as a source of unease among older users through making the onboarding process appear more technical, complex and intimidating. The following quote from Participant B indicates this sentiment;

> "If I was training a young person gamified, if I was training an older person, probably the most basic version I could get my hands on… For a younger person, I could

> probably just be like here work through the steps and or would they would just be able to figure it out for themselves." - Participant B

Participant L and K provide further insight into this opinion, explaining that young people are more competent and comfortable in using computers, and therefore are more suited to gamification than older users.

> "young people really are tech-savvy and very knowledgeable, but with, with someone my age and my staff's age, you know, simple's better for us." - Participant L

> "Age yeah, because they've not used computers the way we have, I guess, internet, age of computer that age in that sense they might be less comfortable." - Participant K

Prior computer experience of the group varied quite dramatically, with some users having very little prior experience with computers and some having great knowledge of computers, programming and software systems, even holding bachelor's degrees in computer science. One thing which became clear was the compatibility, or rather the relevance of gamifying the onboarding process appeared to have a negative relationship with computer experience, specifically their level of proficiency and capability for using the computers, as opposed to the amount of time they interacted with them. That is, users with a higher level of computer competency were less likely to find the game elements useful for themselves, however, at the same time they also better understand the benefits of adding game elements and were quicker to understand the intended purpose of the study.

Participants D and G, who were some of the more experienced users of computers and IT systems involved with this study, highlighted useful points that essentially outline that as computer experience (and competence) increases, there is a lower need for assistance in learning the software–at a certain level of competency, the addition of a gamified tutorial can become frivolous or annoying. Therefore, they believed that gamifying the process would be more suited to users less experienced with business software. However, participants B, E, and L highlight that having no prior computer experience can make the gamified process appear more intimidating than the un-gamified version with the added visual elements.

> "I just don't know if some people will be overwhelmed by the amount of things that they looking at on that first screen." - Participant B

It was clear this is the case from the interviews conducted within this study. Those individuals who had been exposed to gamification through either video games, apps or other software systems, such as participant G or K, were much easier to communicate the intention of the study and tended to pick up and understand the purpose of adding game elements quicker than those who had no previous experience, such as participant L.

In terms of characteristics relating to the business, several sub-themes were also identified which indicated variables which might be influential on the effectiveness of gamification. These were the industry the company operates within, the management setup of the business, the stage of the business lifecycle the business is in, and the number of staff employed by the organisation.

Participant C was the first to indicate that operating within the gym industry can work favourably for the application of gamification to an onboarding process as users within this industry are inherently competitive and motivated. From this, we get the indication that the industry which the business operates can play a role due to differing psychographics of staff and therefore perceived effectiveness of gamification. Similarly, the business customer's centrality of control can also have this effect, Participant C stated their relatively flat business structure means gamification offers an opportunity for staff to compete amongst themselves not only as a fun way to learn, but also to prove themselves to management.

Participants also outlined the impact of business maturity and size upon the applicability of gamification to onboarding of business software. For example, participant L, who had been running their fitness club for over 23 years, held the belief that the addition of gamification would not be suitable to their business as they had been doing things a certain way for a very long time and it would disrupt their way of doing things. However, they did say that if they were younger and their business was in the early stages it would be more suitable. Participant C, who has a relatively large number of staff stated that gamification would be suitable for their business, due to its flat structure enabling a sense of competition amongst staff to try and compete against one another if gamification was applied. Also reinforcing this fact, it appeared that interviewees hailing from clubs with a higher number of staff showed greater interest in

the gamified mock-up than un-gamified, and some smaller clubs had greater trouble seeing how it might fit into their business, explaining that since they hire staff so infrequently that they would prefer to stick with a hands-on approach to training.

> "From my point of business, myself, you know, everybody's dealing with me, I think the least amount it's been 12 years [since hiring a new staff member]. So yeah. I mean, I'm probably not a good example on this because, I mean, we are just so set in our ways" - Participant L

Assuming the above considerations are accounted for, the inclusion of game elements into onboarding is expected to provide positive results upon the compatibility of the business system and its onboarding process to the customer and their business–based upon themes identified during these interviews. Numerous opinions were raised by participants on how they believed gamification would make the process more compatible with their businesses needs and processes for learning, these will be discussed over the remainder of this chapter, and the next.

4.3.2 Technical Complexity

The perceived technicality of the onboarding process, and in some cases, the IT software platform as a whole, has been indicated to be influenced upon by the addition of gamification, specifically, through the more visual game elements like progress bars and the badges. A good example of this was Participant J, who explained that they preferred visual ways of learning, and when a system is "plain text and boring" it can make it appear to be more technical. They went on to explain how adding the visual elements gave the impression of the software being more robust, and like they didn't need to feel concerned they were going to break anything.

> "It [the gamified version] feels like you don't mind tampering in that where, the other one can feel a little bit more, you know, if you're, um, very, um, like I'm not very technical. Um, and sometimes boring can be technical, like for, for a visual person"

On a similar note, Participant F, who was from Spain also highlighted another interesting benefit of the gamified version of the onboarding process being a more visual way of learning. They said that the progress bars and badges offered them an easier way of understanding the

onboarding process. This is because participant F speaks Spanish as their main language, and while they can speak English, there are some gaps in their understanding–to them, the game elements offered a visual aid to assist them in understanding what the onboarding process is saying or intending for them to do. This was also reinforced by participant H who believed the visual nature of gamification would be useful in their workplace due to its diverse workforce.

4.3.3 Competence & Confidence

A user's competency and confidence in using the business software solution can be increased through the introduction of gamification to the onboarding process, this was identified through a few key themes in the interviews.

The first of these themes was the ability for gamification elements to help identify gaps in a user's knowledge and understanding of the system through highlighting areas being underutilized in their system, or which hadn't been set up at all. This poor understanding of features and functionality on offer within business software systems is a pain-point for users of complex business software systems as it was repeatedly raised by the participants, and they showed great interest in the opportunity for gamification to be utilized in such a way. Business software systems, such as the one used in this case study are relatively complex, in-depth and complicated systems to learn, paired with the rapid development and improvements these systems encourage to maintain their competitive position, it can be easy for someone to overlook certain areas which may be of use to them, or for them to be using the system ineffectively for their needs. A benefit of the gamified onboarding process was its ability to demonstrate their progress and highlight areas which have been untouched through the badges and progress bars. Participants A and K demonstrated this most clearly within the following statements:

> "Sometimes you have holes [in your knowledge] and you don't necessarily know… Where like if it was like this [gamified] I get the sense that you at least might have a way of knowing or it would help walk you through it and it checks it off and gives you your badge then maybe you feel like you have at least you have covered all the bases, with regard to that topic." - Participant A

> "I think it [the gamified version] has made me feel like I've gone over all the features I've not missed out on any feature." Participant K

There is a high importance for business software providers to address this issue, as participants indicated that failure to understand features on offer can lead to them not experiencing the full value of the software, as indicated by Participant F and J:

> "I feel bad sometimes that they have a lot of offer, but the people don't know." - Participant F

> "You're not getting the full benefit of the program." - Participant J

In addition to improving awareness and knowledge of functionality on offer, the addition of game elements can also instil a sense of confidence among users through highlighting the tasks which they have completed. Seeing 100% completion, or earnt badges was highlighted by participants to offer a sense of confidence through reinforcing they have done the intended tasks to help them learn and can rest assured they are following best practices for the system and have "covered all their bases with regard to a topic" - Participant A.

In general, the game elements also offered increased confidence levels through reducing the perceived difficulty of an onboarding task. For example, Participant D provided a useful insight as to how they believed the game elements influenced their perceptions of ease of use. They said that they're not sure they would make it easier per se but would be more helpful in improving their understanding of the system, making them more competent, which in turn reduces the perceived difficulty of the task. Participant H said it would reduce their perceptions of how difficult the task would be, saying that it will be easier to see how they are progressing, what they have done and what's still to go. Participant G reinforced this and also added that they believe it would be easier to pick up where they left off should they not be able to complete a task entirely in one sitting.

Participant I also highlighted that the game elements would make them feel more supported and at ease during the onboarding process, which is reinforced through a statement by participant J highlighted previously under the topic of complexity. It [the gamified version]

feels like you could just play in it and you don’t feel like you're going to break it", this is also clearly an extension of their confidence.

When discussing the gamified mock-up in contrast to the control, participants highlighted that they believed it would improve their self-sufficiency when learning and setting up their system. That is, they would be less reliant on support and training assistance from the IT provider to get their business onboarded. Participants said they believed the gamified version would have reduced the number of one-on-one training sessions required for them to learn the system and could have cut down the number of emails sent to support. There are also less direct statements which would also reinforce this theme, such as participant D highlighting that it would help break the daunting task of setting up their system into smaller, more manageable tasks. Participant J supported this by indicated they would perceive the software system as less breakable with the visual game elements added and therefore would be more inclined to get in and play with things to learn it on their own

The influence of gamification, however, was not universally positive upon the confidence and competence of users–there were also exceptions. For example, some believed that it would have no impact, stating that they "wouldn’t over think it" and would use gamification as an indicator only and still complete tasks as they needed. Some participants highlighted their concern that after a user reaches a certain level of confidence in the system, they believed that the game elements could become frivolous and tiresome and they would want to "just get in and get things done" – Participant G. They also indicated that the impact on the confidence of gamification may depend on pre-existing perceptions, as participant H highlighted that they might feel less confident in their ability. For example, should they see the onboarding process 100% completed but still feel unsure on their ability, it will appear like there's nothing left to help fill in their gaps in knowledge and cause anxiety.

4.3.4 Engagement

The general theme across interviews was that gamification would have a positive influence on the user's motivation to participate in an onboarding process. Several participants indicated that they would be more motivated with the addition of gamification, with Participant K mentioning this would particularly help motivate within the context of the initial stages of learning complex

topics. Statements such as this are favourable for the potential application to onboarding B2B SaaS customers. Participant E made an interesting statement with regard to motivation:

> If my husband was learning this, he would go through exactly what you're doing and mark them all off…. whether he needed to know it now or not, he'd go through and he'd learn the whole thing." – Participant E

Which indicates that for certain individuals, this additional motivation gained through gamification may distract them from their needs for onboarding itself, with the completion or earning of game elements becoming the focus of their efforts.

Sub-themes supporting this notion can also be identified, these include increasing the likelihood of participation through the ability for gamification to visualise progress, increasing enjoyment and "chunking" an objective into smaller, more manageable tasks. In terms of visualising progress, participants highlighted that progress bars and badges as the most influential, these graphically depicted progress as and gave recognition for tasks being completed as they work through the onboarding process. Demonstrating this, participant B stated they would prefer the progress bar to be full and being left complete would bother them. Further reinforcing this, Participant I said “I’m just really drawn to the progress bar, it’s a great way to teach people and make them feel motivated being able to check their progress as well” and H said with the addition of progress bars “you know what you’ve done and what you haven’t”. The best representation of how these statements directly link to a user’s motivation can be gained from this statement from Participant J:

> "You think, you know I'm pretty close, I've got it almost full and I really want to fill it, so I’ll go through and just do it" - Participant J

Segmenting objectives into smaller, more manageable tasks is the second sub-theme reiterating the positive influence of gamification upon motivation levels. Both point systems and badges show promise in this area, however, point systems acted as a motivator through a different light to the above, they were less interested in the ability for these to act as a form of reward or visualisation of progress, but more of an indicator of effort or time required. For example, participant H states that they would be less motivated to start a task with more points later in the day and closer to home time, as they would think it might take a higher amount of effort

and time to complete. This sentiment for using the points to indicate difficulty to shape the order of which tasks are completed (as opposed to being a reward) is also reinforced by statements of participants K and H who said that they (or their staff) would start with tasks indicated to be easier first and work their way up.

Themes across the interviews indicated that the addition of gamification might have positive relationships with participant's perceptions of how enjoyable the onboarding task is to complete, however, this was indicated in two key ways–either directly, by them explicitly saying "it would be more enjoyable" or indirectly through their opinions of other benefits of gamification. Few participants explicitly stated that they believed gamification might make the process enjoyable, such as participant C:

> "I think, yes. I would probably enjoy it more, but I don't know about the rest of the staff. Some of them might not like gaming and I know a couple of them definitely would, but yeah, yeah. Yeah. And so, they definitely would think that was kind of cool. It's different, a different way of learning." - Participant C

However, most participants tended to shy away from the idea that gamification may improve their levels of enjoyment during an onboarding process when asked directly–some even straight dismissing the idea that it would have any influence on enjoyment. Despite this, there was still an indication that gamification might have a positive relationship with enjoyment through their other statements. Participants routinely stated that gamification may add an element of novelty to the learning process, making the task more interesting, some highlighting that it would make their experience more fun, indicating that gamification adds a playfulness element to the onboarding process.

> "They definitely would think that was kind of cool. It's different, a different way of learning….It's a little bit more interesting than the boring old IT systems they normally use." Participant C

However, despite this many of these same individuals were reluctant to call the experience more enjoyable.

> "I think it's definitely helpful… It's a good place to see how your tracking. I don't know if it would make learning the tasks more enjoyable, but I think you'd feel more supported." - Participant C

Participant K believed the potential enjoyment to be gained from gamification will come down to the characteristics of the person. As per their statement:

> "Well, I'm not sure about enjoyable, like depends on the cultural aspects of the person as it was. Yeah. I mean, personally I would enjoy it, but my 60 year old operations person may just see it as something that needs to be done week by week." - Participant K

A potential negative aspect which was highlighted by Participant I was the reward element being tied to badges could lead individuals to interact with the system in a certain way just to achieve the badge instead of the badges being simply a motivator to work through the onboarding process. They made the connection to PlayStation games, how people play differently to achieve the awards in a game instead of playing for their own enjoyment.

4.3.5 Training staff

One of the strongest themes identified within the interviews was the interest which participants had for the idea of utilizing the gamified onboarding process as a means for not only onboarding themselves and their business into the system and learning how to use it, but also applying the system to the context of training and onboarding new staff members. Business software systems such the case study can be quite complex and detailed, making it difficult for owners to train staff how to use the system. Not only because they themselves often have a poor understanding of how to use the system, but they often don't have business management or human resources experience to design a training program for a system which is so complex. This is reinforced by the following statements of Participant G.

> "Um, but I really think that gamifying would be great for staff training and for maybe smaller studios that don't have the management staff that have the general management background…So, you bring on board a salesperson say I want these badges done by

certain dates, if that was able to be built into it as part of an onboarding program would be excellent." - Participant G.

Participant J also highlighted potential negative effects of peer-to-peer or management-employee training of a software system, which is that if the user has bad habits or poor understanding of the system, these will be passed on to the following user without their knowledge. It became clear that many users saw great potential in the application of the gamified onboarding process if it could be utilized as their own form of a staff onboarding tool than being just used to help their own learning and setup of the system.

Participant A mentioned that the gamification would be of little use to them as an owner (other than a few use-case exceptions) but would be greatly useful in training their staff. Utilizing the gamified onboarding system for this purpose offers the business owners a greater means to set up and train staff how to use the system properly, while also allowing this to be done in a hands-off manner, reducing the workload of management.

> “We hired a new operations staff and we had to manually like take them through the onboarding process because they weren't familiar with the software provider and only know how to use spreadsheets. That was a bit of a challenge, but I think something like this would work great for them." - Participant K

> "Just go, here you go. These are the steps. This is how you create a new membership, or this is how you add a new member and having this for the steps that they can go through I think would be useful. Anything to make our lives easier when it comes to teaching somebody something for the first time and this would potentially make it easier. People love pictures and progress bars." - Participant D

A part of this, game elements can also be used to measure performance and competency of the new staff member, demonstrating their ability through the completion of the progress bar, and the number of points and badges earned. Participant G expressed these could be set as KPIs for staff members to aim to achieve, and participant D expands on this by highlighting how they could be role-based, for example, staff may be required to complete certain badges or progress percentages to suit their role in the business - whether it be for administrators, personal trainers or club managers. This could be used to build the confidence of owners in their staff's ability

to use the business software system, by testing their competency before allowing them to go out and use the system on the frontlines.

> "It would be perhaps useful if there was some sort of measure in their profile as far as what, what little kind of micro-courses they'd done within the system that they understood that they know. Yeah, that could be useful." - Participant D

> "If they all had training based on their roles, like the gamified system. Yeah. And I think that they would be feeling much more confident about what they're doing and what the system is capable of…. So, you bring on board a salesperson and you get it say, well, you don't need to know about open doors badge, but you need to know that you need to take those other five badges. And I want these badges done by certain dates if that was able to be built into it as part of an onboarding program would be excellent." - Participant G

One participant, Participant K, even indicated they could see a benefit of job applicants providing proof of earning specific badges, stating they might be more likely to hire them if they had some sort of certification of badges they had earned.

4.4 Chapter Summary

This chapter covered the findings identified through thematically analysing the data collected through interviewing current users of B2B SaaS solutions. Initially, codes used for the thematic analysis of these interviews were described, the chapter then shifted to the overarching themes which are apparent within the coded content. These themes were identified, their boundaries were set, and they were described in detail.

To explain these themes in further detail, the following chapter will discuss and work to examine potential explanations of why these may have arisen in the data. The themes are then conceptualized in relation to one another, as well as back to existing literature and the original research objectives of this study.

Chapter 5: Discussion & Conclusion

The following chapter first discusses the findings mentioned within the previous chapter and makes connections between the identified themes, attributes of the participants and relevant literature. Then, these findings are discussed in relation to the objectives of the study before highlighting the importance of gained information from the perspective of both practitioners and academics. Finally, limitations of the study and areas requiring further research in future studies are identified before concluding the study.

5.1 Discussion of Findings

As identified within the previous chapter, the addition of game elements to the customer onboarding process presents numerous applications and benefits for both the business software provider, the user being onboarded, and the business which the system is implemented into.

5.1.1 Compatibility

Gamification can improve the compatibility of an onboarding process to the business customer's needs and existing processes, and the business software system as a whole if it increases the alignment of the process with important factors, such as the values, needs and past experiences of the user (Rogers, 2010). This is important as a more compatible system gives a higher level perceived ease of use, technology adoption readiness and therefore an improved likelihood of adoption (Oliveira, Thomas & Espadanal, 2014; Ramamurthy, Premkumar, & Crum, 1999; Wang, Wang, & Yang, 2010; Yang, Sun, Zhang & Wang, 2015). Insights gained through the interviews indicate that the compatibility of the onboarding system can be improved with the addition of gamification should it align with the critical factors identified by the participants to be influential in the compatibility of the process to the needs of themselves as the user, as well as their business.

5.1.1.1 User-Level Characteristics Influencing Compatibility of Gamification

As previously discussed, the age and experience of the user with regards to computers, software systems and gamification were identified to be potentially influential in the effectiveness of a gamified onboarding process.

Firstly, users who had a higher level of experience with computer games, or game-related experiences through other learning resources were much more responsive to the addition of

gamification, such as Participant K. Participant C also made the connection between experience with video gaming and the increased compatibility of their staff towards using the gamified mock-up than the original version. This helps solidify that prior exposure to games is still a relevant factor in the alignment of a user towards gamification within B2B SaaS onboarding processes, which had been previously identified in B2C and educational contexts (Hamari, Koivisto & Sarsa, 2014; Smith & Kilty, 2014).

As discussed in chapter 4, the semi-structured interviews also highlighted the amount of prior computer experience to be influential in the suitability of the gamified mock-up to the user. This notion is strongly supported through IT adoption literature, with it being identified as a contributing element of the combined technology acceptance model and diffusion of innovation model which this study is based upon (John, 2015). As the game elements are being applied to an IT system, these contributory elements towards IT adoption may potentially have a two-way relationship with gamification. Not only can gamification improve the likelihood of adoption through influencing the user's level of these constructs (like compatibility as previously discussed), but these constructs can also influence the effectiveness of the gamification itself when applied to these contexts. Therefore, from this study, we can deem a small degree of computer experience to be necessary for gamification to be effective in use for IT adoption. Due to indications given, this is most suited to someone with a low to moderate level of experience, with those having very little or high experience being less suited to a gamified onboarding environment.

This study supports previous findings highlighted by Koivisto & Hamari (2014) that age impacts the responsivity of a user to the addition of gamification as numerous participants indicated this to be influential in the compatibility of the gamified onboarding process to their business. As part of explaining their viewpoint on this, some users, such as participant B, C or K explained this to be due to the relatively lower level of computer experience held by older users, with younger demographics interacting with them more. In this sense, age itself may not be the critical factor influencing the likelihood of compatibility, more so the attributes which are associated with older users, such as less computer experience and interaction with software systems or having less exposure and involvement with video games. Both of which were highlighted by participants as influential in their perceived compatibility, and as mentioned previously, have already been established within other marketing literature (Hamari, Koivisto & Sarsa, 2014).

The three above user attributes can impact the likelihood of acquisition through the gamification by altering how impactful, useful and effective the addition of game elements to an onboarding process will be. As such, there is an indication for gamification to be better suited to business software providers who are targeting users who are younger and have some degree of experience on computers and games.

5.1.1.2 Organisational Level Characteristics Influencing Compatibility of Gamification

Along with the user characteristics above, the findings also present that the additional organizational layer, linked with B2B software purchases is also influential to how compatible software is. The key business characteristics highlighted by participants to be influential were the industry, organisational structure, number of staff and stage of the business lifecycle which they fall within.

Information obtained through this study's semi-structured interviews is supportive of findings that the user's environment can influence how they respond to gamification (Hamari, Koivisto & Sarsa, 2014). Firstly, the industry which they operate within, which Participant C said gamification is suited to the gym industry due to the competitive nature of staff and their desire to achieve–this is a plausible point to raise. This is because competitiveness is an aspect which ties closely to the psychological need of social relatedness, which is a construct shown to be positively related to motivation and has repeatedly been linked to gamification (Deci & Ryan, 1985; Ryan & Deci, 2002; Sailer, Hense, Mayr & Mandi, 2017). Demographics, psychographics, lifestyles and behaviours can vary from one business type to the next (Salomon & Ben-Akiva, 1982; Schipp & Mckenzie, 1981), for example, the employees at a mechanics, school, IT software provider or gym will be all quite different from one another, therefore it is plausible for the industry to have an influence on the effectiveness of gamification, as highlighted earlier, user characteristics can influence compatibility. This can be supported through B2B SaaS research as software compatibility has varying importance between sectors towards likelihood IT adoption, therefore it can be expected gamification applied to SaaS would be similar (Oliveira, Thomas & Espadanal, 2014).

Participants raising that the organisational structure of their business may also influence the suitability of their business to the gamified mock-up is another interesting theme highlighted

within the interviews, which follows findings of Powell (2002) who found that organisations with a flatter management hierarchy can lead to differing culture, attitudes and perceptions of staff. This could, in theory, extend to competitiveness through there being a larger number of individuals competing at the same level of an organisation, which was also alluded to by participant C during their interview. The organisational structure could also influence the likelihood of participating in the gamified onboarding process. This is because organisations with a stricter structure and hierarchy have a higher level of stability, meaning they are more resistant to change, such as new ways of learning, or new software systems being incorporated into the routines of staff (Pardo del Val & Fuentez, 2003).

Similar to organisational hierarchy, the stage of the business within the lifecycle, or rather how long the business has been held by a single owner was also emphasized to be influential on the compatibility of gamification to the needs of the owner and impacted the suitability of the business. This could also be attributed to a high degree of stability existing which is resisting the potential change of using a gamified onboarding system, providing structure and support for the status quo. Businesses which have been operating for a long amount of time can have processes, routines and norms which have been formed over years–or in Participant K's situation, decades. As such, the likelihood of breaking this stability with new, gamified systems is much less likely (Pardo del Val & Fuentez, 2003), as Participant K stated, they would be more interested in the idea if they were a new business owner just starting.

Lastly, the points above paired with business size can both have an influence on the chosen management style of the business, which can also impact the likelihood of favouring the gamified mock-up as indicated by participants. Managers who prefer to take a more hands-on approach are more likely to opt for the un-gamified version, presumably so they can keep a closer eye on staff and have more control over how they learn. The size of a business and how many people are reporting to that manager has an impact on their ability to do this, for example, participant L, who only had a handful of staff, preferred to teach one-on-one and would opt for the un-gamified version, whereas participant D would prefer to automate the process of teaching staff through the gamified option as a means of saving time. The fact the two businesses have a difference in size of about 40 staff could be a contributory factor to this.

5.2 Complexity

According to information obtained through the interviews, gamification can also influence another component of perceived ease of use that is also closely related to the previously covered compatibility–complexity. Complexity being the inverse of compatibility, has a negative relationship with PEOU and the likelihood of adoption (Oliveira, Thomas & Espadanal, 2014). A complex software system is difficult to learn and can lead to anxiety, ineffective value co-creation, dissatisfaction and churn of new customers due to them misunderstanding the system and how to use it effectively (Lazarov & Capota, 2007; Skok, 2018; Van Der Valk, Vynstra & Axelsson, 2009), therefore managing down perceptions of complexity is in the best interests of the business software provider.

Themes identified within the interviews indicate that the inclusion of gamification does just that, reducing perceived complexity through several means. A sizeable portion of the sample, five participants, indicated the gamified mock-up would be less complex to learn from than the un-gamified version. When questioned on this, they attributed it largely to the visual components that the gamification added to the onboarding process, stating that the progress bars and badges can make the platform appear less technical. The visual aspect which game elements provide has often been a cornerstone element of the existing literature on the topic. However, it is well understood within the computer sciences that designs incorporating more visual cues and graphical elements over text-only content helps improve usability for those who have lower computer literacy (Darejah & Singh, 2013).

Not only do visual cues make the system appear more user friendly, but it also helps reduce complexity by making the system easier to understand by providing an element that assists with interpretation and comprehension of the process. Participants said that large amounts of text can be intimidating and put them off learning, whereas the game elements provided them with a simple means of understanding what is going on and their progression through the onboarding process. Those with learning or language difficulties can be onboarded more effectively through the inclusion of gamification, as stated by participant F and I, which is reinforced through the use of gamification amongst educators to help those with language or learning difficulties such as dyslexia (Saputra & Risqi, 2015). In essence, visual elements make it easier to learn content which may otherwise have been difficult (Geelan et al., 2015).

5.3 Anxiety, Confidence & Competence

Themes identified across interviews indicated that the addition of game elements could have positive effects upon a business software user's perceived competence, confidence and overall anxiety levels with regard to using the onboarding process and software system as a whole. All three of these constructs are interrelated and are a function of the customer's ability to use and understand the business software system. This is a core purpose of the customer onboarding process, as they are intended to impart crucial knowledge and skills for improving their competence with the system and turning them into more effective co-creators of value (Carlen, 2017; Merz, Zarantonello & Grappi, 2018; Payne, Storbacka & Frow, 2008; Shelley, 2015), which is especially important due to IT system's inherent susceptibility for causing high levels of anxiety.

The first theme indicating this positive relationship which generated a large amount of support between interviews was the ability of game elements to act as a vector for drawing their attention towards new or unused features. This provides a higher awareness of what functionality is available on the platform for them to use, offering higher value and more effective utilisation of features through making use of functionality which otherwise may have gone unused. This improvement in awareness of features and value co-creation can positively influence the customer's satisfaction with the system and subsequently influence adoption and continuance of the platform (Dubois & Tamburrelli, 2013; Houtari & Hamari 2012; Hsu & Chen, 2018; Raj & Gupta, 2018).

Participants also indicated that the addition of game elements would positively affect their ability to set up and learn the system without the involvement of training and support staff, which demonstrates that with gamification, users gain a higher level of competence, more confidence in their ability, less anxiety or a combination of the three. This is a useful benefit of gamification as it offers the IT provider a potential reprieve from the number of human resources required onboard new clients. It also highlights the potential for gamification to help address a weak point identified in literature with regard to the trend shifting towards providing self-service systems with IT businesses which have been linked to higher levels of anxiety among customers.

The final theme indicating the potential for game elements to address the three constructs of anxiety, confidence and competence is the visual indication of competency which the game

elements provide, which objectively measures and indicates the knowledge that should have been gained through the completion of specific onboarding modules. Participants expressed that this would give them a greater sense of confidence in their ability due to these elements reinforcing the topics which have been covered, as well as highlighting their progress through the system. While this is a common benefit of gamification outlined by existing literature, participant H expressed their concerns that this could potentially have the opposite effect for them under specific circumstances, which to the best of the researcher's knowledge, has not previously been covered in gamification. They believed that seeing a high level of progress through the system may decrease their confidence and give them anxiety if they didn't yet feel like a competent user. This is understandable, however, due to there appearing to be no remaining guidance to assist the user in improving their knowledge and understanding of the system further once they reach 100%, which could lead to higher levels of anxiety should the user not believe they are ready to use the system unassisted.

5.4 Motivation to Engage

Gamification has frequently been highlighted to increase customer engagement and participation (Conaway & Garay, 2014; Feng, Jonathan Ye, Yu, Yang & Cui, 2018; Pacsi & Szabò, 2018) which have been tied to effective learning, a core aspect of onboarding (Hsu & Chen, 2018; Shi et al., 2017; Nacke & Deterding, 2017). As highlighted in chapter 4, there were several key themes found within the interviews indicating potential positive effects of gamification upon the motivation of software users towards participation and completing an onboarding process. These are the incentivisation that game elements provide users through being able to earn points and see their progress, the reduction of perceived difficulty for onboarding by chunking the process into smaller, more manageable tasks, and increasing levels of enjoyment.

Like competence, confidence and anxiety highlighted in the section above, motivation is positively influenced through the addition of points, badges and progress bars as indicated by the interview participants. Participants explained this to be due to the feedback it provides them as they complete tasks, as well as helping them more clearly understand how they are getting closer to their goal of completing the onboarding process, supported by education research and practitioners alike, feedback is a strong motivator for learning, which is why many teachers adopt point systems (Attali & Arieli-Attali, 2015; Kohn, 1999; Sadler, 1989; Schrier, 2016).

The influence of this form of granular feedback on motivation has been well documented in gamification literature, through giving users a sense of accomplishment or gratification for completing tasks (Flatla, Gutwin, Nacke, Bateman & Mandryk, 2011) and providing a measurement tool to realise the progress towards their goals (Sailer, Hense, Mandl & Klevers, 2013; 2017; Werbach & Hunter, 2012; 2015).

This next theme could potentially be considered a flow-on effect of having the above granular indicators of progress. Chunking goals into smaller, more manageable tasks was highlighted as a potential tool to reduce perceptions of difficulty by participants, who explained onboarding as a potentially daunting undertaking which could be broken up through point systems and badges. This 'chunking' has been shown to improve a user's sense of competence (Mekler, Brühlmann, Opwis & Tuch, 2013b; Rigby & Ryan, 2011), and subsequently can improve their motivation to undertake a task as the objectives appear relatively easier achieve, reducing anxiety and the level of commitment to get started. In doing so, it lowers mental barriers to undertaking the onboarding process making it easier for clients to start the process and begin interacting with the onboarding system. This first step is crucial to acquisition as these first interactions can help alleviate unfounded thoughts on difficulty or complexity and result in lowering of anxieties and negative thoughts which may be associated with learning and setting up the system–which otherwise may have resulted in non-acquisition.

The next theme we will address is the ability for gamification to improve perceptions of enjoyment through providing a more 'playful' or 'fun' experience. This has been previously highlighted as a core benefit of gamification within other areas of the research (Electronic Entertainment Design, 2007; Fitz-Walter, Tjondronegoro & Wyeth, 2011; Hamari, 2017), however, the indication from our interview participants wasn’t so cut-and-dry. While this study did not find a large amount of support from participants that gamification would make the onboarding process of business systems enjoyable per se, based on additional information they provided there is an indication that gamification makes onboarding *more enjoyable* or rather *less un-enjoyable* as indicated in chapter four. While existing gamification studies support that game elements can make a task fun and enjoyable (Bateman & Mandryk, 2011; Conaway & Garay, 2014; Flatla, Gutwin, Nacke, Bateman & Mandryk, 2011; Hamari, Koivisto & Sarsa, 2014), the experience of setting up software and learning how to use it could be viewed as an inherently negative task, almost a chore for the users. Due to this, any potential improvement

to the experience by making it more fun and enjoyable may not be enough to make it perceived as enjoyable overall, just less unenjoyable.

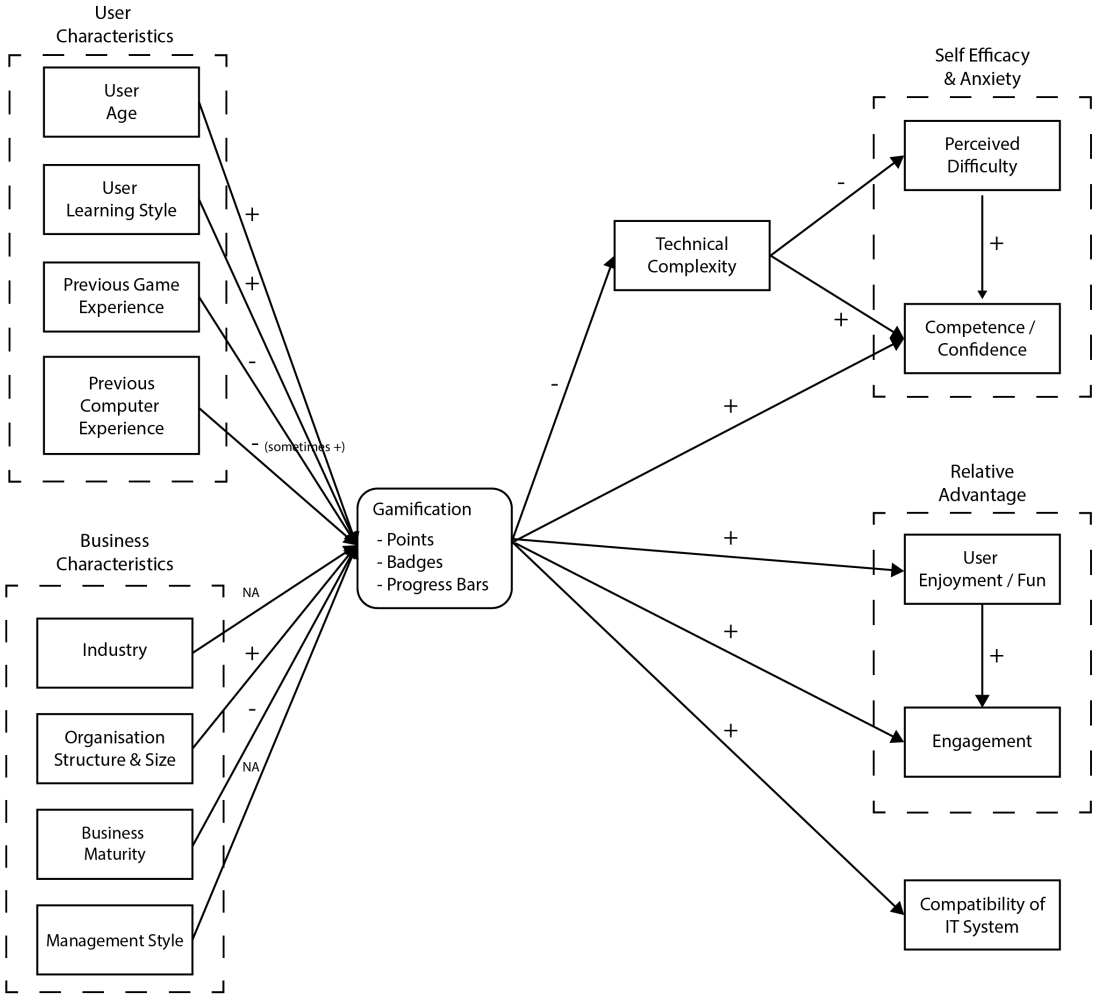
Social relatedness, one of the three constructs from self-determination theory which emphasizes the importance of psychological need satisfaction for motivation to occur (Deci & Ryan, 1985; Ryan & Deci, 2002; Sailer, Hense, Mayr & Mandi, 2017) was found to be influenced through the added game elements also. Participants presented differing opinions on whether the option to share scores, progress and earned badges between staff or from staff to managers would be beneficial or not. As mentioned in chapter 4, some participants enjoyed the competitive aspect of gamification if others were able to see their scores and thought that this would bring an element of fun to the process through being able to show off if they are performing well. This is in line with existing gamification literature, which highlights social proof to be a positive benefit of game elements such as badges (Bista, Nepal, Colineau & Paris, 2012). However, participants believed those with lower technical capability, extraversion or confidence would shy away from the idea, which also supports existing research on game elements such as leader boards, identifying the favourability of this competitive aspect of gamification to be a function of extraversion (Codish & Ravid, 2014).

While motivating, a potential adverse effect highlighted It might also encourage the wrong behaviours. Participant I stated that they saw this competitive behaviour as an opportunity to deviate from the main purpose of the onboarding process to try and "beat the system" and cut corners to gain more points, progress and badges–missing the intended goal of the process which is to improve learning. This supports a well-established flaw of gamification, that people often will cheat to reach a goal in a game to receive the reward or benefits of completion (Mordor Intelligence, 2020). This is why Schrier (2016) states that badges should be set up and used as more of a signpost indicating a user's progress and areas of strength through the game instead of a goalpost to reach.

Figure 5 visualises the themes identified above and their relationship with one another, gamification and the business customer’s perceptions. This diagram demonstrates how user and business characteristics influence the effectiveness of gamification when applied to the context of a B2B SaaS company’s onboarding process, and in turn how this gamification influences the user’s perceptions of the software. This diagram also provides insight as to how the themes identified are influential upon constructs of the foundational model of this study,

the combined DOI-TAM model from John (2015). As the game elements researched within this study provided similar results on the constructs, they have been grouped into a more broad "gamification" for simplicity. In reality, while it appears the nature of the relationship remains the same across game elements, the strength of their influence varies–for example, participants were more infatuated with the benefits which progress bars and badges offer their business than that of points, and therefore would discuss these more during the interviews.

Figure 5: Key themes identified and their relationships.

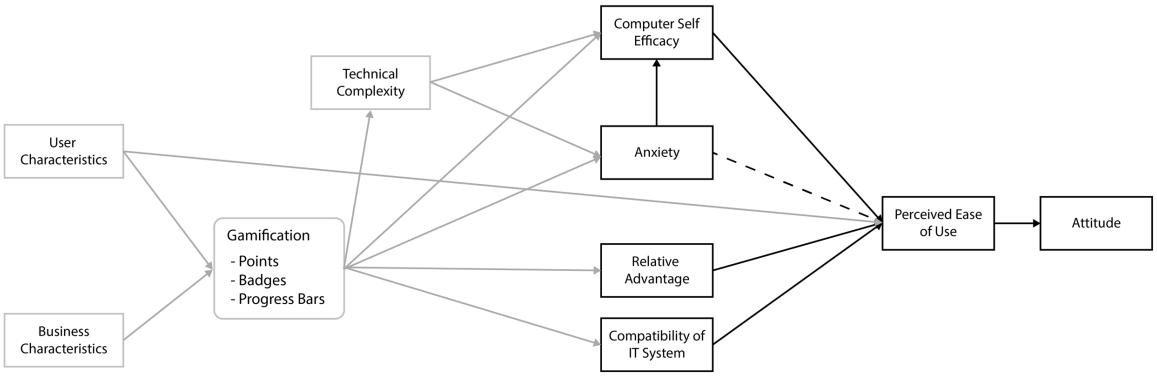


Note: Adapted with sub-constructs from Davis (1989)

Using the relationships identified within Figure 5 above, the researcher provides the model from John (2015) revised to reflect the findings of this study and how gamification can influence IT adoption process of business customers in Figure 6. To present this, gamification, user characteristics, business characteristics and technical complexity have been added to the model, while prior computer experience has been removed, this is because prior computer

experience was identified to be influential upon gamification and was subsequently recategorized under "user characteristics" as indicated in figure 5 above.

Figure 6: Revised DOI-TAM Model Demonstrating Gamification's for B2B SaaS



Note: Adapted model from John (2015) with constructs from Davis (1989).

As previously mentioned, the business and user characteristics can influence the compatibility of gamification to the specific context of use. These game elements then directly impact the four remaining DOI-TAM constructs of computer self-efficacy, anxiety, relative advantage and compatibility, while reducing perceived technical complexity. As the technical complexity decreases, this also has a secondary effect improving the user's self-efficacy and anxiety levels. The relationship between these constructs, perceived ease of use and customer attitudes remains the same as in John (2015) in accordance with the technology acceptance model.

5.5 Key Findings & Research Objectives

5.5.1 Research Question 1: How does gamification influence IT adoption behaviour within B2B SaaS settings?

When used within the correct contexts as outlined previously, it is indicated that the application of gamification to the customer onboarding process of a business software solution can improve the likelihood of successful acquisition. The themes identified during the semi-structured interviews with existing users of business software as a service platforms present promising results pointing to an increased likelihood of a user completing the assigned

onboarding modules and effectively setting up and learning how to use the business software with the addition of gamification to the onboarding process.

Upon completing this onboarding process, it is expected that the user will be more likely to successfully acquire and adopt the software into their business operations and continue using it long term based upon the benefits that a successful onboarding process will offer. These benefits include things such as more effectively using the system through a greater understanding of how it works and using more features as well as reducing the likelihood of churn by customers getting more value for their money, further integrating it into their business having a lock-in effect and lower occurrence of service failure leading to service cancellations.

5.5.2 Research Question 2: Which IT adoption constructs are influenced through the use of gamification during onboarding of business customers into software as a service systems?

As indicated by themes occurring between the semi-structured interviews, two overarching components of the technology acceptance model are influenced by the addition of game elements to a customer onboarding process. These are perceived ease of use and perceived usefulness of the information technology platform.

The foundational model of this study, John (2015) focused upon perceived ease of use, indicating for the purpose of improving IT adoption that PEOU is of higher relevance. The findings of this study indicate that perceived ease of use is influenced through gamification altering the user's perceptions of technical complexity, competence, confidence, anxiety, relative advantage, compatibility, and to a lesser extent, their perceived self-efficacy for using the software on a computer system.

As a side note, it could be argued that the perceived usefulness of the system may be improved through the addition of gamification as well, with the users indicating that they would be interested in using the gamified version for the purpose of training their own staff, it can be argued that this also improves the perceived usefulness of the software.

5.5.3 Research Question 3: What influence does gamification have upon IT adoption constructs?

The onboarding process and IT platform are perceived as being more compatible with the user being onboarded and the business which the SaaS platform is being integrated into. However, this is dependent on the alignment of the gamified process to the needs and characteristics of the organisation and the user in charge of setting the platform up for the business. Critical success factors of the user were identified to be their age, computer experience, software experience and previous interaction with games, whereas suitability at the organisation level was highlighted to be dependent on the industry, organisational structure, number of staff and the length of time the business has been running.

The technical complexity of the system is decreased, making the software system appear less difficult to set up, learn, and understand. Gamification reduces perceived complexity through the provision of visual cues that can reduce the complexity of the system while helping the user understand and interpret the system easier. This is identified to be particularly useful in the context of individuals who may have difficulty in understanding or learning through written text, such as those whose native language differs from that provided in the software system.

The anxiety associated with learning and setting up the system is decreased through improving levels of competence of the user and giving them more confidence in their ability to use the platform effectively. Gamification achieves this through helping to identify gaps in knowledge, improving the self-sufficiency of users by enabling them to onboard themselves without requiring as much training and help from the IT provider's support team and making the system appear more robust and less intimidating with the addition of visual aids.

Users are more motivated to participate or engage with onboarding modules through them appearing more engaging and enjoyable with the addition of visual cues and indicators of progress. This is also improved through the ability for gamification to break large, daunting tasks into smaller, more easy-to-manage objectives with badges and progress bars, while helping to indicate the effort required to complete each of these with points.

Gamification is also beneficial to perceived usefulness through two key advantages relative to the regular, un-gamified version. The first of these being a heightened perception of value, achieved through a more effective and engaging onboarding session leading to better users of

the platform, more aware of its features and less likely to experience service failure. The second is that gamified onboarding can have a secondary benefit of offering businesses a feature which can be used to onboard, train and monitor new employees who are learning to use the software system, without requiring direct involvement of a manager or other team member.

5.6 Importance of Findings

5.6.1 Theoretical implications

The first theoretical contribution this thesis provides is being the first paper to explore gamification within the B2B SaaS industry. There have been many studies surrounding the application of gamification in other business industries, and the impact it has upon customers, however, to the researcher's knowledge, there are no studies that explore within this context. A review of the literature indicates that existing marketing research on the topic of IT adoption and using gamification to influence purchase decisions have both been only researched from the perspective of B2C products (Malthouse, Calden, Kim & Vandenbosch, 2016; Prentice et al., 2019; Schwarz & Schwarz, 2014).

The findings of this research support and extends upon the blended TAM and DOI model from John (2015) through providing an insight as to how this applies to the context of B2B SaaS and the impact which the addition of game elements has upon specific constructs of the model. Therefore, it improves understanding of both IT adoption and gamification through applying these elements to the B2B context. It also extends gamification literature by providing insight into factors contributing to user's different responsiveness to games and factors contributing to their suitability and effectiveness to an application. Such as reinforcing existing literature that age and exposure to computers and video games can be influential (Hamari, Koivisto & Sarsa, 2014; Koivisto & Hamari, 2014; Smith & Kilty, 2014) while highlighting other user and organisational-level characteristics influential to the context of applying games to B2B SaaS.

Additionally, this research is conducted upon a sample of business software users within the context of a New Zealand operated business–which breaks the status quo of the majority of gamification-related studies using samples acquired from businesses operating within India and the USA. This means the study may provide a more accurate representation of the effectiveness of gamification by being conducted upon a business operating within a country

which has not been identified by researchers as having a heightened response to gamification (Newzoo, 2019; KPMG, 2017).

Similarly, it was also studied qualitatively providing further insight into the attitudes behind behaviours, which most gamification research fall short upon with their quantitative or descriptive statistics only focus (Hamari, Koivisto & Sarsa, 2014). This leaves gaps in understanding of the topic as this is mainly useful for understanding behavioural outcomes and neglects the other two levels influential in gamification research, the impact of the games motivational affordances and how they affect psychological outcomes such as attitudes and needs (Hamari, Koivisto & Sarsa, 2014).

5.6.2 Practical implications

A key contribution of this thesis for practitioners is the insight it provides into how gamification can be utilized to improve current acquisition and onboarding practices, an area which B2B SaaS providers are exposed to experiencing a relatively low success rate and high propensity for customer turnover. Findings within this study will help them in shaping their onboarding processes and deciding whether gamification is a right fit for the needs of their business. Businesses can use information gained within this study to decide whether their clients may fit the audience to be receptive to the addition of game elements added to the onboarding process, and therefore identify a potential opportunity to improve the success of their onboarding process.

This study also provides businesses with a clearer indication of how gamification might be useful within the B2B realm while highlighting the key areas which can be improved through its addition–compatibility, motivation, levels of anxiety and complexity and competence. As part of this, the study also offers IT businesses with high expenses associated with training and onboarding clients with an option to potentially improve the self-sufficiency of clients and shift towards a more self-directed approach to learning. One which still satisfies the needs of clients and provides them with the confidence necessary to learn and use the new software systems.

Finally, practitioners are provided with additional insight into how gamification applied to onboarding can benefit their business clients, through offering a secondary benefit of being used as a training tool for onboarding their own staff members into their business. This was a

strong theme identified across the interviews and was indicated by the participants to be beneficial for them in numerous ways.

The first benefit of this is it offers clients the means to effectively onboarding staff without the involvement of management, while still ensuring the user is learning the best practices of the system. It has been highlighted within the literature that complex business software systems can have issues with informing customers of new features, as new developments are added regularly and not all users have the same requirements of the system (Findlater & McGrenere, 2010), meaning management may not keep up with the latest developments and could be using the system more effectively.

Another key benefit of this is the fact that the majority of those business owners who are currently championing business software systems have limited background with regards to experience in business management and human resources. As such, it is clear that they will not be highly suited to devising an effective onboarding program for their staff themselves. This means that the gamification of the onboarding process could provide an unintended benefit, or even feature that is helping to streamline staff training and onboarding removing the need for management's involvement and ensuring all staff know how to use the system effectively.

The game elements, as highlighted by participants D, G and J could be utilized as KPIs for training these new staff members, setting role-based tutorials and requiring a certain level of progress or earning specific badges based on the required competency of a user. These elements could be displayed to management and used as a metric to monitor performance and progression of new staff through the system and to highlight their competency so managers can feel more confident in their ability before allowing them to use the system on the frontlines. This aspect of gamification, incorporating the ability for being able to monitor and track the behaviour of users, is a foundational component which has helped aid the growth of the research topic (Deterding, 2012), and has been used frequently for businesses in monitoring and visualising participation (Bista, Nepal, Colineau & Paris, 2012).

The benefit of this for the business is two-fold, firstly they can rest assured that staff are using the system correctly, meaning they are getting more value out of their system and are less likely to get confused, causing errors or requiring assistance. Secondly, it can provide them with a means of training which is developed by experts of the software and requires no input on their

end, this is in line with recent business trends, shifting from hands-on services towards more self-service systems, such as the mocked up onboarding process to save costs and help improve the scalability of their business (Shell & Buell, 2019).

From the perspective of the IT provider, this functionality offers them a selling point for their system, as being able to easily train and onboard staff into effective members of their club is a useful feature for business owners who, as indicated by Participant K, would rather be working their passion than training staff how to use technical software. Not only this, but it also can increase retention of business software customers, as it reduces the opportunity for incorrect usage or someone making an error in the system by teaching them to effectively use it to co-create value which otherwise could lead to service failure, dissatisfaction and ultimately, churn (Aarikka-Stenroos & Jaakkola, 2012; Merz, Zarantonello & Grappi, 2018; Payne, Storbacka & Frow, 2008).

5.7 Limitations & Direction for Future Research

The first and potentially most influential limitation of this study is due to the COVID-19 pandemic. This took hold during the data collection phase of this thesis, which resulted in the researcher having to make numerous changes to the design and topic of this study due to restrictions placed on the availability and accessibility of the target audience being researched. The initially planned version of the thesis was intending on using an experimental design to directly test influences of gamification upon the IT adoption behaviours of an audience, the findings of this study support the potential for this to be the case and could be an area for further researchers to look into. The pandemic also potentially may have influenced information collected due to the influence it had upon people, both internally through changing their attitudes, but also externally through influencing their behaviours, income, spending habits, expectations and other routines (McKinsey & Company, 2020). This reinforces the decision for a qualitative approach, as it allows a better opportunity to understand the underlying reasons for their given information through probing questions.

Another aspect of this study which is influenced through the circulating COVID-19 pandemic could potentially be the actual data collected from participants. At the time of data collection, the virus was in full effect–with most businesses either closed due to lock-down or highly hindered from operating at full capacity. This could have imposed numerous effects upon the

collected data due to the impacts of the virus influencing things such as; the people willing to participate in the study and those which showed up to interviews–for example, only approximately 40% of those who indicated they would participate in interviews turned up. As part of this, people were in the process of making changes to their business operations to accommodate government restrictions and many were in the process of getting ready to reopen, the available free time of participants may have been lower than normal, which may have had an impact on the results. This is because the virus could have brought the attention of participants to things which they never usually consider, for example, it was quite common for interviewees to highlight that they had been recently trying to do something in the software system that required set-up or more knowledge as a result of the virus when discussing gamification and giving examples. These would not have been applicable had the virus not caused many businesses to rethink how they are running and forcing them to make changes to their software setup. The virus may have changed the geographical breakdown of the sample, due to the varying impact of the virus on specific countries, the results may have been skewed due to the differing impact which this had on certain participants. Similarly, it might have impacted businesses of different sizes in different ways, which also could have some influence. Key success factors may have changed as a result of the virus, with people placing higher importance on productivity due to economic impacts cutting potential revenue, there may have been a greater emphasis on the importance of staff productivity, monitoring this, and their ability to perform value-added jobs.

Another limitation facing the researcher, while it is less influential, may still have had an impact upon the results. Gamification has been shown to be overridden by sensory attributes, for example, the application of colours in a game can impact behaviours more so than the actual gamification elements themselves (Hamari, 2017). This may impact the results of the survey through influencing the user's perceptions of the mock-ups in ways other than that of the gamification being applied, going against the purpose of testing these mock-ups against one another. To combat this, both mock-up photos (Gamified, vs Non-Gamified) were made equally visually appealing in terms of colours used.

Gamification has also been found to present a novelty effect. Many studies show that gamification may not have a long term positive effect upon individuals, rather has a more immediate positive novelty effect, which may wear off over time (Hamari, Koivisto, Sarsa, 2014). A consequence of this could be skewed results which may appear more positive than

they should due to the users finding immediate positive feelings towards the onboarding process with gamification due to its novelty. The most effective countermeasure for this limitation would be through conducting a more longitudinal study upon individuals who have had time to experience the real gamified onboarding process for some time–however, for this study, there is insufficient time and resources for this to take place. This could be an avenue for future researchers of the gamification topic to follow up on at a later date to provide further contributions to the literature.

As the study is being sent out to existing clients the length of time might influence their perceptions of the software and alter the data collected within the interviews, as satisfaction and engagement changes during the customer lifecycle due to temporal usage patterns of SaaS customers (Hamari, 2017). They also may have had differing onboarding experiences with the software provider which may also influence their perceptions of the proposed gamified onboarding process. Both of these aimed to be addressed at the beginning of the interviews with initial questions regarding previous experiences with the software provider to help make connections during the analysis.

Utilizing semi-structured interviews as the method for data collection has its own inherent weaknesses and potential for bias which could prove to be a limitation of this study. Semi-structured interviews allow opportunity for demand characteristics to have an effect, which is a topic from social psychology referring to the participants guessing the hypothesis of a study to give the answers that the researcher is wanting to hear.

5.8 Conclusion

This study provides an insight into how gamification influences the attitudes, and in turn, behavioural intentions of business customers towards IT adoption for SaaS systems.

The findings of this thesis support the notion of existing gamification literature that game elements can positively influence the likelihood of engagement with customers, and highlights that this still holds true within the context of B2B purchases. This is demonstrated by the findings in this study indicating that added game elements increase the likelihood of participation in customer onboarding processes by improving perceptions of compatibility,

technical complexity, competence, computer anxiety, playfulness, relative advantage and increasing motivation to participate.

As these are key components of the technology acceptance model, the results of this study indicate that gamification can positively influence IT adoption behaviour, increasing chances of acquisition. These findings will also assist practitioners operating within the B2B SaaS space in the development and ongoing improvement of their businesses' onboarding process through providing insight as to how gamification elements can potentially be effective within this setting.

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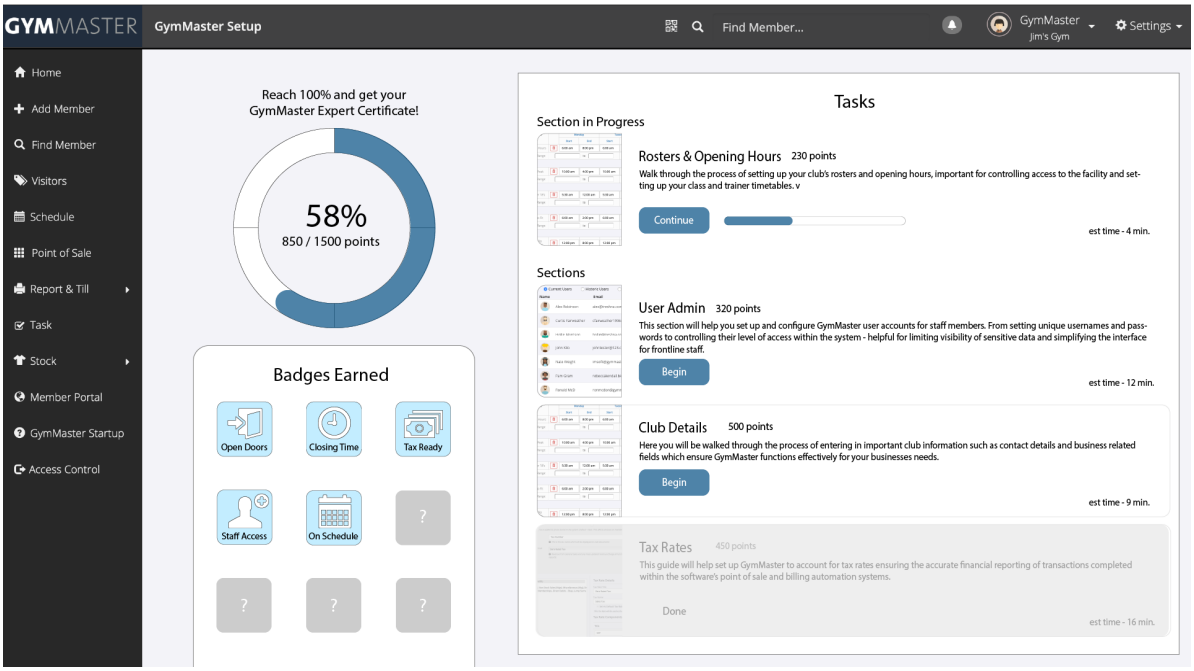
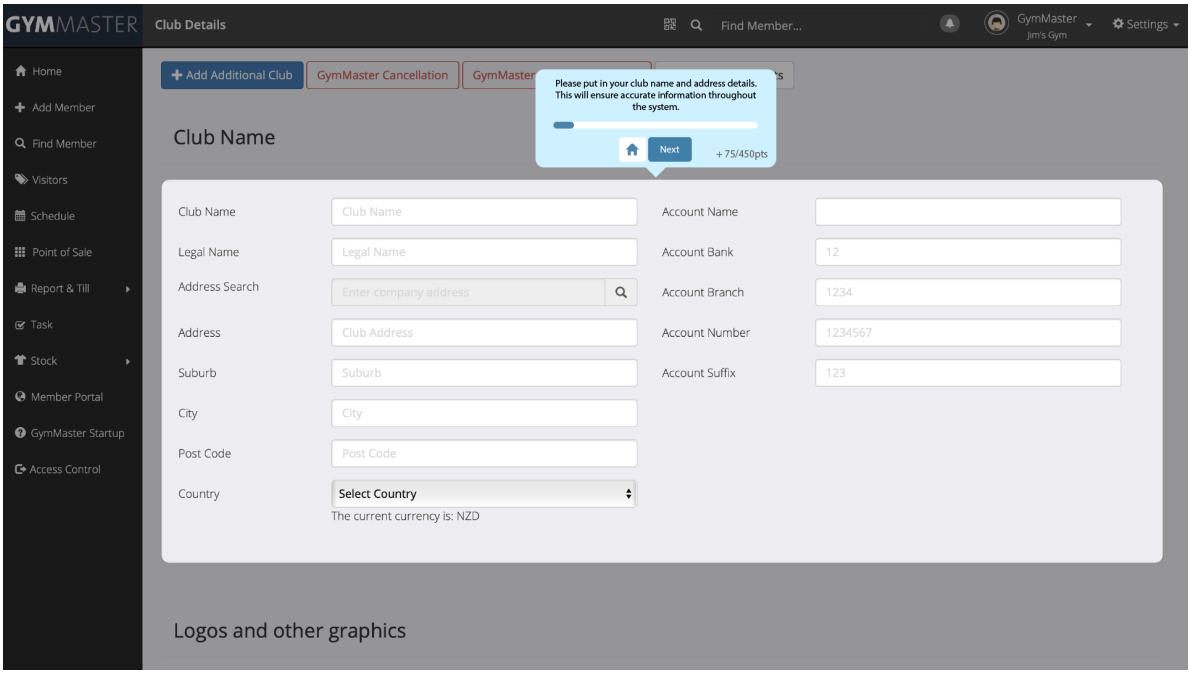
Appendix

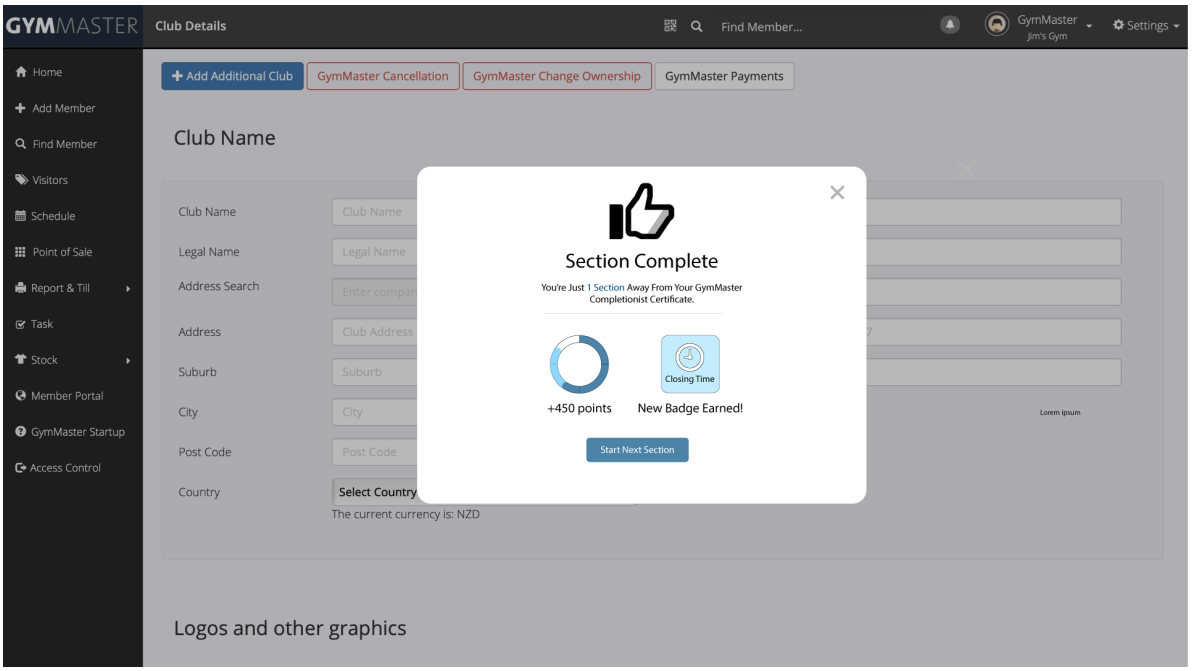
Appendix A: Gamified Mock-ups For Interviews



Homescreen of Onboarding Process (Gamified)

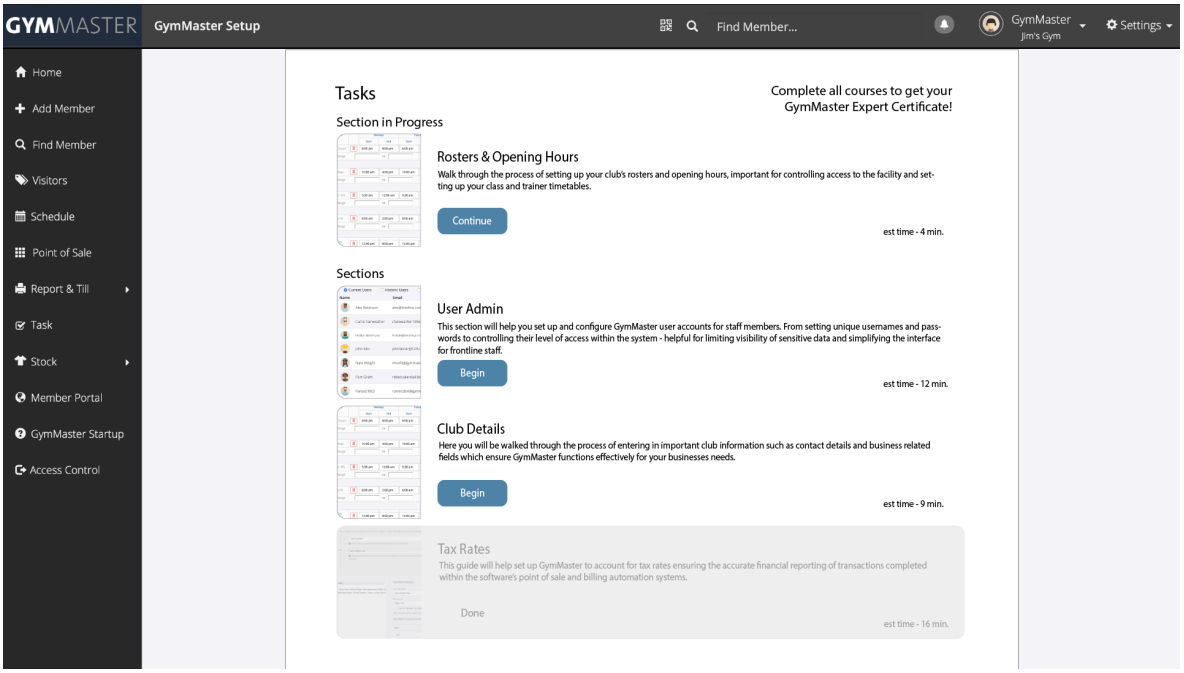


Example of Onboarding Module In Progress (Un-gamified)

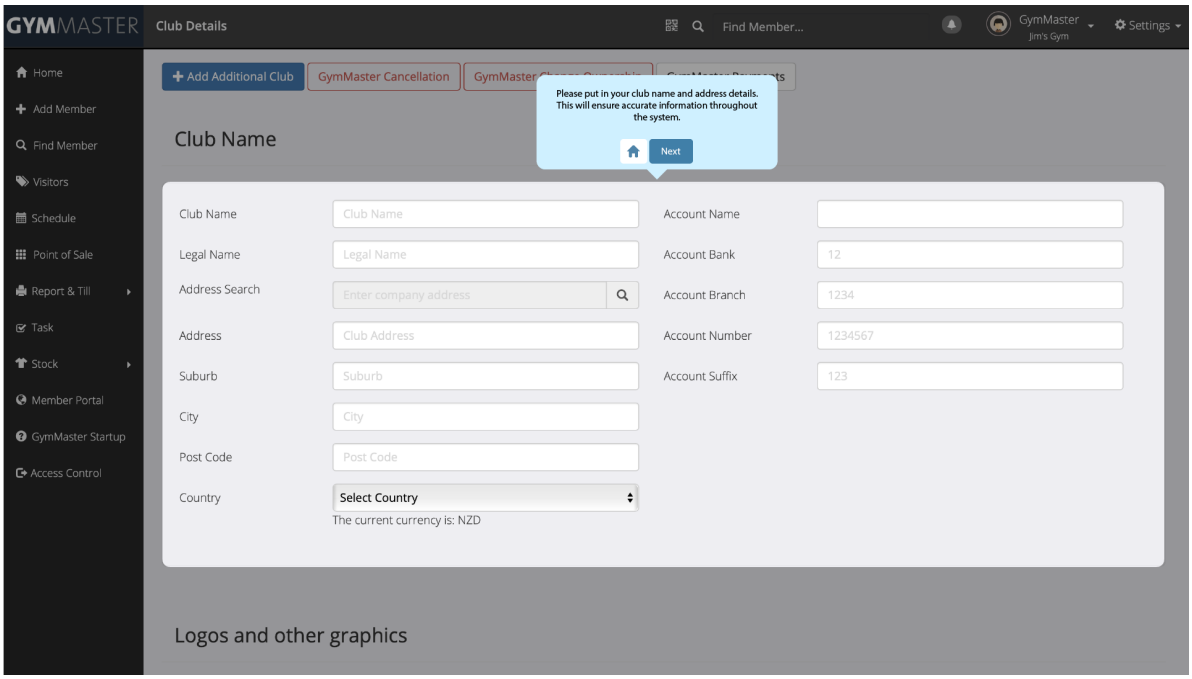


Completion Screen of Onboarding Module (Un-gamified)

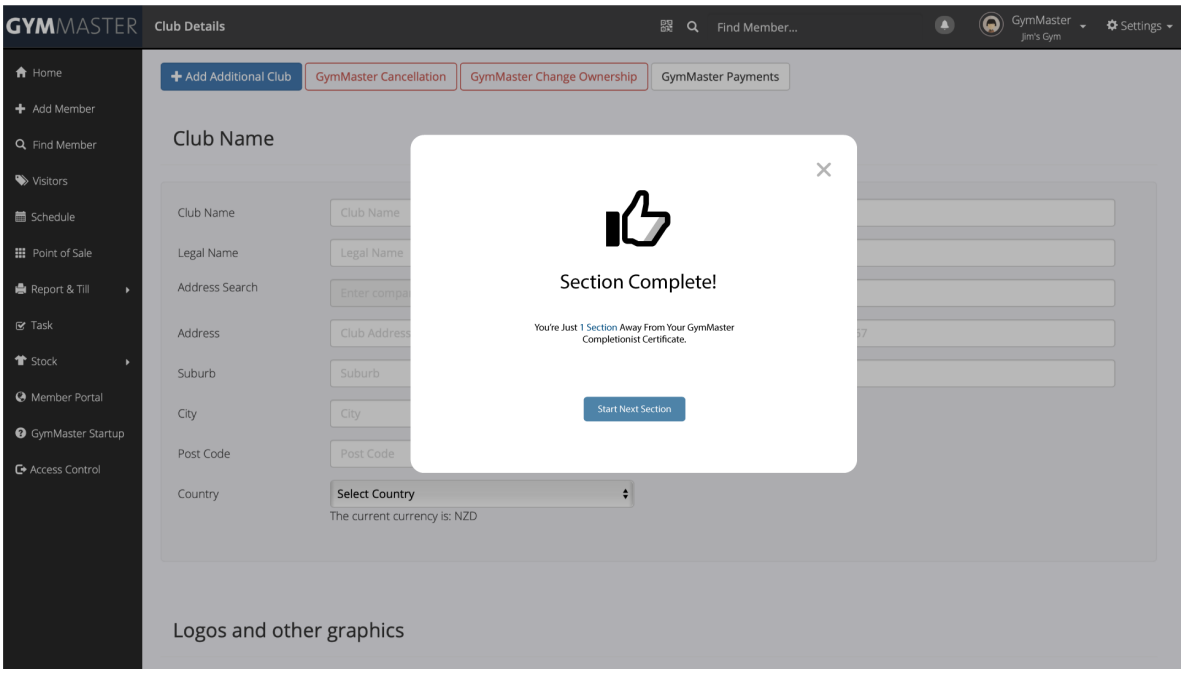
Appendix B: Un-gamified Mock-ups For Interviews



Homescreen of Onboarding Process (Un-gamified)



Example of Onboarding Module In Progress (Un-gamified)



Completion Screen of Onboarding Module (Un-gamified)

Appendix C: Interview Guidelines & Relation to Constructs

Basic Information

- What is your gender?
- What country are you in?
- What is your age?
- What experience do you have in the fitness club industry?
- Have you had any previous computer training? During employment, courses etc?
- Can you give an estimation on the number of employees your workplace has?
- How long have you been using [software platform]?
- How frequently do you log in and use the software?

Prompt Questions

1. Of the two mock-ups, gamified or un-gamified, which looks the least complicated to learn from? Why? (Complexity).

2. If you were learning how to use [Software Platform] again for the first time, how might an onboarding process like this gamified version impact your confidence in using the system? And why? (Self-Efficacy / Competence).
   - Which of the two mock-up processes would give you more confidence in your ability?

3. When you first learnt how to use [Software Platform] how concerned were you that you may do something wrong and destroy a large amount of your data or make an unfixable error? (Prior Computer Experience).
   - Can you provide details on these concerns?
   - If you did have concerns, could an onboarding process, like this one [gamified] reduce this concern? If so, how?

4. How might point systems or badges influence your motivation to participate in the onboarding modules? (Participation & Motivation).

5. Do you think these game elements could influence your enjoyment of the process? If so how? (Attitude towards computer usage, Playfulness).

6. If you were to use this as a system to train new staff, or a friend who wants to use the software for their club, which version system would you opt-for? (PEOU Compatibility & Relative Advantage).
    - How might [preferred] process better assist you in this process over the alternative?

7. What approach would you take to learning the system? Doing them all at once, maybe start with just the easy ones? Or only do them as the need arises (Autonomy).
    - Would gamification elements like points or badges affect the order you did these in at all?

8. If point systems and badges were tied to staff-specific profiles, and displayed for others to see, how might this influence their attitudes towards learning the system? (Social Relatedness).

Appendix D: Human Ethics Consent Form

HUMAN ETHICS COMMITTEE
Secretary, Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

Ref: HEC 2019/89/LR

30 October 2019

Curtis Fairweather
Management, Marketing and Entrepreneurship
UNIVERSITY OF CANTERBURY

Dear Curtis

Thank you for submitting your low risk application to the Human Ethics Committee for the research proposal titled "How Does Gamification Impact Customer Experiences and Satisfaction of B2B SaaS Clients?".

I am pleased to advise that this application has been reviewed and approved.

With best wishes for your project.

Yours sincerely

Dr Dean Sutherland
Chair, Human Ethics Committee

Appendix E: Information Sheets Provided To Participants

Participant Information Sheet

Curtis Fairweather
MCOM Student (Marketing)
UC Business School | University of Canterbury
+64 27 4411192; curtis.fairweather@pg.canterbury.ac.nz

B2B SaaS - How gamification can be used as an acquisition and onboarding tool through its influence on engagement.

Information for Participants

Thank you for considering to participate in this research. This project is being carried out by Curtis Fairweather, a University of Canterbury student, under the lead of Associate Professor Jörg Finsterwalder (supervisor, joerg.finsterwalder@canterbury.ac.nz), as part of the course requirements of his Master of Commerce (Marketing) degree.

This project aims to improve understanding of the potential that gamification possesses if applied to the context of B2B SaaS as a means for improving customer acquisition.

If your business chooses to take part in this study, the involvement in this project will be to allow the researcher to conduct research upon 12 [software company] clients in the form of a 20 minute interview. This interview is specifically concerned with their perceptions of perceived usefulness, ease of use and psychological need satisfaction, as this will help determine any influence that gamification may have upon information technology attitudes and behaviours. These interviews are to be audio recorded for later transcription and analysis. No identifiable information about the product or the client involved in the interview is required for this study and therefore will not be utilised by the researcher during the analysis.

All information will be obtained by the researcher from clients directly, who will be recruited via email or a pop-up within [software company] inviting them to participate. With the exception of those clients which the researcher identifies as not meeting the selection criteria, the entirety of [software company]'s list of clients will be invited to partake in this study– unless specified otherwise by [software company] management.

Please note that the material collected will be used for student research. Only the student and his thesis supervisors will have access to the raw data collected from your clients. Once the analysis has been completed, all unused data will be destroyed. The results of the project will

be used for the student's thesis or research based presentations and publications utilising anonymisation.

You may be assured of the complete confidentiality of data gathered in this investigation: your identity will not be made public. You will be given the opportunity to review any recorded data, prior to its utilisation and you have the right to object to, and have removed, any or all of the material relating to your participation.

As we are investigating perceptions and behaviour towards normal business practices there are no foreseeable risks associated with participating in this study.

Participation is voluntary and you have the right to withdraw at any stage without penalty. If you withdraw, we will remove information relating to you. You may ask for your raw data to be returned to you or destroyed at any point. However, once analysis of raw data starts, it will become increasingly difficult to remove the influence of your data on the results.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz). HEC No. [insert number here later].

If you agree to participate in the study, you are asked to complete a *consent form* and return to the research team prior to any interview taking place.

Thank you again for agreeing to participate in this research.

Curtis Fairweather
MCOM Student (Marketing)
UC Business School | University of Canterbury
+64 27 4411192; curtis.fairweather@pg.canterbury.ac.nz

Organisation Information Sheet

Curtis Fairweather
MCOM Student (Marketing)
UC Business School University of Canterbury
+64 27 4411192; curtis.fairweather@pg.canterbury.ac.nz

B2B SaaS - How gamification can be used as an acquisition and onboarding tool.

Information for Participants

Thank you for considering to participate in this research. This project is being carried out by Curtis Fairweather, a University of Canterbury Masters student, under the lead of Associate Professor Jörg Finsterwalder (supervisor, joerg.finsterwalder@canterbury.ac.nz), as part of the course requirements of the Master of Commerce (Marketing) degree.

This project aims to improve understanding of the potential that gamification possesses if applied to the context of Business-to-Business Software as a Service (B2B SaaS) as a means for improving customer acquisition.

If your business chooses to take part in this study, the involvement in this project will be to allow the researcher to conduct research upon approx. 12 [software company] clients in the form of a 15-20 minute interview. This interview is specifically concerned with their perceived usefulness, ease of use and psychological need satisfaction, as this will help determine any influence that gamification may have upon information technology attitudes and behaviours. The interview might be audio recorded for accuracy of your comments or narration (rather than the interviewer's interpretation or memory) so it can be used in any analysis. You will be given the choice of having the interview recorded as an audio or as written notes of the spoken word only.. No identifiable information about the product or the client involved in the interview is required for this study and therefore will not be utilised by the researcher during the analysis.

All information will be obtained by the researcher from clients directly, who will be recruited via email by [software company] or a pop-up within [software company] inviting them to participate. The entirety of [software company]'s list of clients can be invited to partake in this study—unless specified otherwise by [software company] management.

Please note that the material collected will be used for student research. Only the student and the thesis supervisors will have access to the raw data collected from your clients. Once the analysis has been completed, all unused data will be destroyed. The results of the project will be used for the student's thesis or research based presentations and publications utilising anonymisation.

You may be assured of the complete confidentiality of data gathered in this investigation: no identity will be made public. Interviewees will be given the opportunity to review any recorded data, prior to its utilisation and have the right to object to, and have removed, any or all of the material relating to their participation.

As we are investigating perceptions and behaviour towards normal business practices there are no foreseeable risks associated with participating in this study.
Participation is voluntary and participants have the right to withdraw at any stage without penalty. If they withdraw, we will remove information relating to them. They may ask for their raw data to be returned to you or destroyed at any point. However, once analysis of raw data starts, it will become increasingly difficult to remove the influence of such data on the results.
This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz). HEC No. [2019/89/LR].

If you agree to participate in the study by inviting your clients to participate, you are asked to complete a consent form and return to the researcher prior to any research taking place.

Thank you for considering to participate in this research.

Curtis Fairweather
MCOM Student (Marketing)
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