ADAPTING TO THE AGILE WORKPLACE: A DESCRIPTIVE CASE STUDY ON THE ROLE OF CORPORATE MOOCS IN ORGANIZATIONAL LEARNING PROCESSES

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Abstract

Constant change is driving organizations to strategically manage their workforce through organizational learning (OL) processes (Crossan, Lane, & White, 1999). In response, corporations are implementing massive open online courses (MOOCs), which are a type of knowledge management system that can unite geographically dispersed workers through learning engagements (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014; Radford et al., 2014). However, it is unknown how MOOCs, as a type of informal learning, support organizational learning within a global insurance company’s Information Technology (IT) department. The purpose of this research study was to understand how organizational learning is supported through employee participation in massive open online courses within a global insurance company’s IT department during a period of agile transformation. The research was a qualitative descriptive case study. The results found that while MOOCs supported some OL processes, the work environment presented barriers that limited a complete OL system for the workforce. In addition, the MOOC platform supported both exploration and exploitation but not necessarily strategic renewal.

Keywords: Organizational Learning, Massive Open Online Courses, Agile, Information Technology
Dedication

To my parents, for teaching me a love of continuous learning and for always encouraging me to persevere.
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Chapter 1: Introduction to the Study

Modern industry growth, globalization, and technological advances have forced a fast and continuous pace of change in organizations (Schneckenberg, Truong, & Mazloomi, 2015). In response, firms are strategically utilizing their internal talent through organizational learning (OL) processes (Arumugam, Idris, Omar, & Munusamy, 2015; Kumaraswamy & Chitale, 2012; Marvasti, Nafari, & Kavousi, 2014; Schneckenberg et al., 2015). At this point in the research, organizational learning (OL) is defined as the strategic utilization of knowledge contained within a firm’s dynamic social systems and across organizational levels to increase performance (Crossan et al., 1999).

OL has been seen in literature to enhance innovation and therefore business performance, allowing for companies to flex and adjust to change (Marvasti et al., 2014; Schneckenberg et al., 2015). To accomplish strategic objectives, OL makes use of firms’ social systems for knowledge creation and dissemination, enabling the workforce to collectively learn and innovate (Crossan, Lane, & White, 1999; Schulze et al., 2013).

At the same time, corporate units created in the 1970s do not necessarily align to the current needs of businesses (Hollow and Vik, 2016). One instance is the corporate training department, which finds itself juxtaposed between the declining consumption of traditional training and the resurgence of informal learning and new technology, both of which have been found to support OL (Kimiloglu, Ozturan, & Kutlu, 2017; Matsuo & Nakahara, 2013). Thus, these groups are changing the products and services they provide. For example, workplace learning technology has evolved significantly in the past decade, and knowledge management platforms that store and manage content across a company’s network have grown in use (Chen & Chen, 2010; Yazdi & Haddadi, 2018).
As a result, globally dispersed organizations can bring together diverse, virtual teams to share ideas and learnings (Milligan & Littlejohn, 2014).

A specific type of a knowledge management platform is MOOCs, which offer features that support the social and informal learning characteristics of OL (Egloffstein & Ifenthaler, 2017). Research on the use of MOOCs in corporations is quite limited (Egloffstein & Ifenthaler, 2017; Radford et al., 2014). Thus, although OL is more broadly embraced in today’s industries, and the response of the corporate training function points to supporting its processes through technology, still unknown is the value new technologies in the form of MOOCs bring to OL processes.

Therefore, the purpose of this research study was to understand how organizational learning is supported through employee participation in massive open online courses within a global insurance company’s IT department during a period of agile transformation. Knowledge generated from this study adds to the empirical research on the topic of the value of MOOCs in the corporate sector where there is limited empirical literature (Egloffstein & Ifenthaler, 2017), and intends to uncover a link between MOOCs and OL. This chapter describes the case study, its specific problem statement, the purpose for the research, and the research questions. It continues by describing the significance of the problem, the theoretical framework, and a definition of terms that will be used in the thesis. It closes with an outline for the following chapters.

**Problem Statement**

It is unknown how MOOCs, as a type of informal learning, support organizational learning within a global insurance company’s IT department. MOOCs were first used in academia in 2008 and corporations did not gain scalable access to MOOC providers for
professional development until 2012 (Radford et al., 2014). As of 2018, only five percent of 1,481 surveyed employees reported that their company supported employee learning through MOOCs, where a majority of employees reported that lack of awareness in their organization was as the most common reason for not doing so (Hamori, 2018). The empirical literature confirms this gap by outlining the scarcity of scholarly research conducted on companies who are using MOOCs and what learning benefits they may find as a result (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014; Radford et al., 2014).

Conversely, literature demonstrates that OL has led to increased organizational performance (Arumugam et al., 2015; Crossan et al., 1999; Garcia-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012; Kumaraswamy & Chitale, 2012; Lee & Lee, 2014). Also, researchers have found that workplace learning technology, including knowledge management platforms, can support OL processes (Chen & Chen, 2010; Maravilhas & Martins, 2018; Yazdi & Haddadi, 2018). However, specific research into the insurance and IT sectors is limited on the topics of OL or MOOCs (Berends & Lammers, 2010; Egloffstein & Ifenthaler, 2017; Hu, Found, Williams, & Mason, 2014; Schulze et al., 2013). The literature implies that OL supported by a MOOC platform could enhance organizational performance and make companies better positioned to respond to the current pace of change.

**Purpose of the Study**

The purpose of this research study was to understand how organizational learning is supported through employee participation in massive open online courses within a global insurance company’s IT department during a period of agile transformation.
Research Questions

The following central research question directed this qualitative study:

RQ1: How do insurance Information Technology professionals describe corporate massive open online courses as support for knowledge conversion processes while adapting to a new agile workplace?

Also, this study considered four qualitative sub-questions:

RQ2: How do MOOCs contribute to the process of intuiting?

RQ3: How do MOOCs contribute to the process of interpreting?

RQ4: How do MOOCs contribute to the process of integrating?

RQ5: How do MOOCs contribute to the process of institutionalization?

Significance of the Study

Historically, corporate training departments have relied on point-in-time, formal classroom education to impart learning, without harnessing the organizational system to reinforce it. As modern companies seek to become more competitive in uncertain environments and continuous change, they are implementing OL processes, where knowledge creation and dissemination takes place in social interactions across an organization (Crossan et al., 1999; March, 1991). Thus, companies who are strategically utilizing OL are observing higher organizational performance, flexibility to change, and competitive advantage (Arumugam et al., 2015; Crossan et al., 1999; Garcia-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez., 2012; Kumaraswamy & Chitale, 2012; Lee & Lee, 2014). As such, if traditional training departments are to support OL, they cannot continue to do so with formal education alone.
An institution’s greatest asset is its talent (Kennett, 2013; Kumaraswamy & Chitale, 2011; Mamaqi, 2015). For this reason, corporations significantly invest in corporate training departments. In 2018, U.S. companies committed 34% of their training budgets to new learning technologies to support learning and development (“2018 Training Industry Report,” 2018), and the worldwide e-learning industry is anticipated to increase by $241 billion by 2022 (Kimiloglu et al., 2017). Data from a 2018 survey by the Association for Talent Development confirmed the need for companies to implement workplace learning technology, as 60 percent of respondents answered they favored self-regulated learning, and 68 percent preferred learning to be included informally in their daily tasks (Association for Talent Development, 2018).

Research confirms that when learning technology supports OL the ability to increase real-time access to new knowledge is improved and disseminated more readily to teams and the broader organization (Crossan et al., 1999; Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014). Therefore, organizations demonstrate two needs: a) OL to be purposefully used to improve business strategy, and b) investment in workplace learning technologies to support OL. As a result, companies could connect the diverse, global networks who characterize them.

Because empirical research on MOOCs is limited, the goal of this research study was to expand the current literature on OL and the corporate use of MOOCs (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014). The benefit of studying the problem in the context of the phenomenon of an agile transformation builds upon the literature regarding agile as a potential catalyst for OL (Annosi, Martini, Brunetta, & Marchegiani, 2018). Lastly, the value of adding to the research is that it provides new perspective on
MOOCs and OL in a global organization located within the insurance and IT sectors, where research is lacking (Berends & Lammers, 2010; Egloffstein & Ifenthaler, 2017; Hu, Found, Williams, & Mason, 2014; Schulze et al., 2013).

**Theoretical Framework**

The theoretical framework selected for the research was Crossan et al.’s (1999) OL 4I Model. OL can be defined as an organizational process to acquire, distribute, and manage information, knowledge, and skills throughout the hierarchal levels of an institution (Crossan et al., 1999; Fiol & Lyles, 1985; Huber, 1991; March, 1991). When firms successfully utilize OL, they can flex and change with uncertain environmental pressures (Hu et al., 2014; Jansen, Vera, & Crossan, 2009).

**The 4I Model and Supporting Processes**

Crossan et al.’s (1999) model emphasizes learning new ideas (*exploration*) and utilizing existing knowledge (*exploitation*) and suggested that it is the managed tension between the two that allows organizations to achieve strategic renewal, which ultimately is the catalyst for change. Exploration disseminates learning in a feed-forward loop, while at the same time, exploited knowledge is in a feedback loop to groups and individuals to take advantage of established experiences. Crossan et al. (1999) also posited that learning occurs at three levels of an institution: individual, group, and organization, and the levels are interconnected by four processes: intuiting, interpreting, integrating, and institutionalizing (4Is). Thus, within the framework, OL is a socially dynamic process in which individuals *intuit* new concepts and associate them to patterns and memories. Intuiting allows workers to compare ideas to existing mental maps to *interpret* their meanings. Once understood individually, people use communicative tools
to co-create explanations of learnings within and across groups, leading to broader *integration* of the knowledge into actionable work tasks. Over time, the shift from knowledge creation to behavioral action elevates daily habits to become integrated into policies, documentation, and standardized practices, and it is then considered *institutionalized* by the organization (Figure 1.1).

**Figure 1.1** Crossan, Lane and White’s (1999) OL as a Dynamic Process Model

**Rationale for OL**

Organizational learning theorists have presented several frameworks in the past few decades, and the 4I Model by Crossan et al. (1999) has been established and broadly tested (Hu et al., 2014; Schulze et al., 2013). Researchers examining the 4I model have used a case study design to observe the four learning processes as a social construct (Berends & Lammers, 2010; Hu et al., 2014; Schulze et al., 2013). However, since intuiting is an individual process and difficult to witness, it is also challenging to observe or measure in a case study (Hu et al., 2014; Schulze et al., 2013).
In addition, while the 4I model has been applied in a study in an IT department in a lean transformation (Hu et al., 2014) and another in an agile transformation (Annosi et al., 2018), as well as across various sectors of international telecommunication, manufacturing, and banking (Annosi et al., 2018; Berends & Lammers, 2010; Schulze et al., 2013), it has not appeared in an OL study of an insurance company. Studies that have included OL in the insurance industry utilize a variety of frameworks separate from Crossan et al. (1999) but not the 4I model (Lee & Lee, 2014; Marvasti et al., 2014; Mousavi, Ghiasi, & Khodayari, 2017; Yao, Deng, & Wang, 2017). Thus, there is a gap in empirical literature that connects OL, IT transformational change, and the 4I model.

Despite this gap, there is much to learn from the literature available. First, findings suggest developing a shared knowledge for interpretation and integration is critical when a company brings in external knowledge (Hu et al., 2014; Schulze et al., 2013). Second, all members across organizational levels need to collectively participate in each of the 4I learning processes for knowledge to flow successfully for the organizational unit to purposefully use it (Berends & Lammers, 2010; Hu et al., 2014). Specifically, Berends and Lammers (2010) studied and validated the 4I model as a non-linear set of processes, with loops and flow of knowledge that can become bogged down or accelerated depending on the circumstances of the organizational level contributing to it any point in time. For example, if there are power conflicts or group structure changes, the flow of knowledge may be delayed or stopped altogether. Thus, OL effectiveness is dependent on both organizational levels, as outlined by Crossan et al. (1999), as well as the interplay of organizational design and politics (Berends & Lammers, 2010).
To summarize, studies show that OL in a variety of environments supports innovation and business outcomes. While not an exhaustive look at current research, it is possible to discern that literature has not repetitively utilized Crossan et al.’s (1999) 4I OL model within the insurance sector or IT. It also shows that the research on OL conducted within the insurance sector is heavily focused outside of the United States.

Therefore, OL was selected as a framework to guide this study for several reasons. First, the IT organization under investigation recently experienced a shift to agile work practices. This adaptation demands work teams to work collaboratively and not individually, altering their social dynamics and routine learning practices (Annosi et al., 2016). Also, the IT organization is continually adapting to environmental and industry changes, creating a need for quickly learning as an organizational unit (Annosi et al., 2016; Annosi et al., 2018; Gandomani & Nafchi, 2016). Finally, the implementation of a MOOC platform for knowledge management and sharing connects learners and information through digital and social interactions (Egloffstein & Ifenthaler, 2017; Maravilhas & Martins, 2018), but could be hindered by legacy politics from the organizational levels that exist in the research site (Berends & Lammers, 2010).

**Applying OL to This Study**

The OL model presented by Crossan et al. (1999) supported the current study by providing a framework that demonstrates the value of both new learning (exploration) and existing knowledge (exploitation) in a dynamic loop. Since the case study’s sample was an organization over 100 years old, there was institutionalized knowledge to learn from, while at the same time, innovations were needed to stay relevant in its industry. The case study examined a group who has gone through an agile transformation and
reorganization, where external members with agile expertise have joined the department, and legacy members took on new agile skills. Collectively, they learn from each other (explore and exploit), with a MOOC platform, which allows them to learn across the 4I processes of intuiting, interpreting, integrating, and institutionalizing on the individual, group, and organizational levels.

The potential challenge of using Crossan et al.’s (1999) OL model was that it is difficult to observe the 4I processes as they happen organically between organizational members. In particular, intuiting is an individual and internal process and thus unlikely to be observed by the researcher. The methodological design for data collection and analysis of the case study helped overcome this challenge (Merriam, 1985; Welch, Piekkari, Plakoyiannaki, & Paavilainen-Mantymaki, 2009).

In closing, a reminder is the problem of practice under review was to understand how MOOCs, as a type of informal learning, support organizational learning within a global insurance company’s IT department. This research attempted to answer the following central question: How do insurance Information Technology professionals describe corporate massive open online courses as support for knowledge conversion processes while adapting to a new agile workplace?

**Definition of Key Terms and Concepts**

This doctoral dissertation contains vocabulary associated with language and methodologies commonly utilized by the research site. Therefore, this section presents definitions of the terminology. The following terms were used operationally in this study.
**Agile.** Agile is a methodology most commonly used in product development and information technology work environments (Annosi et al., 2016). The premise of agile is that work teams use flexible work practices to complete projects more quickly with the ability to iterate and change with environmental uncertainty (Annosi et al., 2018). Workgroups are often matrixed, the organizational structure is flat, and units own and solve their problems (Annosi et al., 2016). Managers enable the teams to set goals and make decisions (Annosi et al., 2018).

**Agile Transformation.** Agile transformation is the process of firms implementing large-scale changes to work practices from traditional work methods to agile ones (Gandomani & Nafchi, 2016). Some of the differences workers in agile transformation experience are focusing away from the individual use of processes to an emphasis on role clarity and collaborative work projects (Gandomani & Nafchi, 2016). Transformations are often met with challenges in adoption, change management, and ineffective social relationships because of the significant shift in mindsets needed in agile (Gandomani & Nafchi, 2016).

**Lean.** Toyota’s Taiichi Ohno established lean as a management technique for operational excellence as well as a leadership mindset (Sparrow & Otaye-Ebede, 2014; Womack, Jones, & Roos, 1990). Lean practices include iterative problem-solving to continuously improve processes and eliminate wasteful effort (Sparrow & Otaye-Ebede, 2014; Womack, Jones, & Roos, 1990). In a lean management system, leaders are expected to enable the learning environment by teaching problem-solving skills and empowering teams to improve their work (Sparrow & Otaye-Ebede, 2014).
**Knowledge management platforms.** Knowledge management platforms are digital networks where information and materials can be stored, organized, maintained, and distributed across an organization (Maravilhas & Martins, 2018). The platforms use technology for the strategic management of organizational knowledge (Maravilhas & Martins, 2018).

**Massive open online courses.** Massive open online courses (MOOCs) are a web-hosted open platform of curated content that can include videos, eLearning, games, simulations, and other learning materials (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014). MOOCs are flexible environments that contain social elements such as discussion boards, social networking, and even the ability to have video or in-person interactions scheduled (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014).

**Summary and Organization of the Remainder of the Study**

The theoretical framework selected for the study provided a structure for the research questions and a frame for each step in the thesis process. The research centered on the organizational learning processes at all levels of an IT department, during a change event, as it utilized a MOOC platform. The remaining chapters are organized as follows. Chapter two presents a literature review describing workplace learning technology in the form of knowledge management MOOC platforms, how they have been seen to support learning, and barriers to their adoption. It then explores the nature of OL and its supporting processes and practices in the context of corporations and their training departments. It closes by examining the potential links between OL and workplace learning technologies.
Moving forward, chapter three describes the methodology, research design, and procedures for this investigation. Chapter four explains the data analysis process and includes both written and visual summaries of the findings. Finally, chapter five interprets and discusses the results as well as correlates it to current empirical research similar to the dissertation topic.
Chapter 2: Literature Review

Modern industry is confronted with technological advances and continuous environmental uncertainty, causing organizations to act nimbly to flex and adjust to the rapid pace of change. It is an organization’s capacity to learn as a whole, and not only through individual members that enables the ability to change, since learning and change are intrinsically connected (Schwandt & Marquardt, 2000). The use of technology facilitates an organization’s ability to adapt to its external environment due to higher efficiency and productivity by its workers (Egloffstein & Ifenthaler, 2017; Schneckenberg, Truong, & Mazloomi, 2015). As a result, corporations are embracing informal and timely learning (Egloffstein & Ifenthaler, 2017) and replacing traditional training events with organizational learning (OL) processes supported by technology (Milligan & Littlejohn, 2014).

While many technological advances have been made for workplace learning in recent years and the training industry has broadened its awareness on their capabilities, research is still limited on how well workers have adopted them (Egloffstein & Ifenthaler, 2017; Radford et al., 2014) and whether they are supporting OL processes (Milligan & Littlejohn, 2014). For example, knowledge management platforms, or digital networks for storing, managing, and sharing information across an institution, are more widely used for gaining and distributing new and institutionalized knowledge (Easterby-Smith & Prieto, 2008; Schneckenberg et al., 2015). One such type of knowledge management platform is massive open online courses (MOOC), which consist of eLearning, videos, games, or simulations contained in an environment where groups of users can interact with one another and the content, connecting and sharing new skills across geographies.
(Egloffstein & Ifenthaler, 2017). However, research is limited on how useful MOOCs are to OL processes, especially in the corporate sector (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014; Radford et al., 2014).

This literature review first examines the evolving trends in corporate training in response to OL. Next, it studies how early technology in the form of learning management systems and knowledge management platforms were precursors of MOOCs. The review then investigates the nature of corporate MOOCs as learning tools, followed with a discussion of OL and the conceptual components that distinguish its processes. Finally, this review looks at how MOOCs and OL may be connected.

**Corporate Training**

Formal corporate education programs typically consist of planned events and activities such as classroom training, e-learning, simulations, webinars, and job aids (Kimiloglu, Ozturan, & Kutlu, 2017; Mamaqi, 2015). These are often packaged within various curricula designed and implemented by training professionals (Jayanti, 2012; Kimiloglu, Ozturan, & Kutlu, 2017; Mamaqi, 2015). However, the pace of change makes it difficult to produce and resource training fast enough, and people are finding new ways to learn without them (Jayanti, 2012). In addition, with the rise of new technologies, demand for learning in innovative and informal ways has increased, inciting the need for corporate training departments to re-evaluate what, when, where, and how they provide their services to their internal customers (Kimiloglu et al., 2017; Mamaqi, 2015).

At the same time, the corporate training industry is experiencing “a paradigm shift involving a switch from formal, intermittent and discontinuous learning to increasingly
informal, experiential, asynchronous and real-time-oriented learning” (Matsuo & Nakahara, 2013, p. 195). As learning processes evolve in organizations, so too are the people and systems that support them. As such, corporate training departments are investing in new learning technologies and redefining their work practices to be more effective contributors to OL.

**Workplace Learning Technology**

In order to achieve competitive advantage, organizations’ greatest value comes from a skilled and productive workforce (Kennett, 2013; Mamaqi, 2015). According to Kumaraswamy and Chitale (2011), “knowledge is one of the most important intangible assets possessed by human beings” (p. 309). In making this comment, Kumaraswamy and Chitale (2011) urge firms to strategically utilize their workforce’s knowledge to increase performance. Thus, companies continue to increase expenditures on workplace learning, with American companies alone devoting 34% of their training budgets to new learning technologies in 2018 (“2018 Training Industry Report,” 2018) and a global e-learning market projected to rise to $241 billion by 2022 (Kimiloglu et al., 2017).

Findings from recent survey of global companies validate investments in workplace learning (Association for Talent Development, 2018). The survey assessed workers’ perspectives of workplace learning and discovered that 60 percent of workers preferred self-paced learning, over half wanted to learn in real time, and 68 percent asked for learning to be embedded in their work (Association for Talent Development, 2018).

Thus, technology is changing the landscape of the corporate training industry. Over the past decade, the digital workplace has connected the workforce so that social exchanges can happen between individuals, groups, and the broader organization in real-
time across continents (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014). Learning technologies quickly grew in use when eLearning was introduced at the turn of the millennium (Joo, Lim, & Park, 2011), and with the introduction of the internet, expanded to knowledge management platforms such as massive open online courses (MOOCs) (Joo, So, & Kim, 2018). More recent learning technologies have been shown to foster problem solving and support informal learning in the digital workplace (Schneckenberg et al., 2015).

**Learning Management Systems**

Since the inception of the internet, corporate training departments have implemented learning management systems to host formal learning content (Ramirez-Correa, Rondan-Cataluna, Arenas-Gaitan, & Alfaro-Perez, 2017). A learning management system is a technology service hosted on the internet or company intranet which houses materials such as eLearning modules, classroom scheduling, job aids, videos, or any other content facilitators need to give a geographically dispersed audience (Ramirez-Correa et al., 2017; Ulker & Yilmaz, 2016). Employees who use a learning management system manage the pace and scheduling of their learning activities (Ramirez-Correa et al., 2017). Furthermore, administrators find a learning management system beneficial for maintaining and updating content (Ulker & Yilmaz, 2016). However, as training functions progress their learning practices away from formal modalities, newer platforms with progressive technologies are replacing traditional learning management systems.
Knowledge Management Platforms

Knowledge management platforms are technological systems for saving, organizing, and distributing information across a company (Schneckenberg et al., 2015). There are numerous digital platforms of workplace knowledge management (Egloffstein & Ifenthaler, 2017). For example, many organizations use informal communities of practice and other collaborative technologies supported by internal social networks (Schneckenberg et al., 2015), while others seek more formal options such as curated online courses with built-in social features (Joo et al., 2018). The common denominator among knowledge management technology is the importance of a constructivist ability to create shared meaning across an organization or network (Chen & Chen, 2010; Easterby-Smith & Prieto, 2008; Joo et al., 2018; Maravilhas & Martins, 2018; Schneckenberg et al., 2015).

Massive Open Online Courses

MOOCs are a type of knowledge management platform designed so that an end-user can configure channels that feed relevant content so that a new skill is learned in real time (Hassani & Ghanouchi, 2016). End-users can also rate the MOOC’s content, join discussions boards and provide feedback, and share content with others (Egloffstein & Ifenthaler, 2017; Hassani & Ghanouchi, 2016; Milligan & Littlejohn, 2014). Milligan and Littlejohn (2014) postulated that MOOCs benefit organizations by providing a platform that modernizes formal learning and supports informal learning at the same time. To illustrate, formal learning practices such as classroom training are diminishing, but curated, online, networked content that can reach across a global enterprise could take their place. At the same time, informal learning that happens when doing work or
collaborating with others can also happen within the networked MOOC environment. In addition, Milligan and Littlejohn’s research showed how when MOOCs were implemented, workplace learning became more scalable and united diverse learners.

Furthermore, MOOCs include a social aspect due to their collaborative ability to share peer-to-peer feedback and encourage learning across groups and the organization (Nkuyubwatsi, 2014). Also, the connection of employees within the MOOC environment elicits exploitation of legacy worker knowledge while equally situating new information for individuals and groups to internalize (Milligan & Littlejohn, 2014). Fundamentally, MOOCs were originally created from two schools of thought. First, connectivism, in which the learner makes connections based on resources and people in a network (Margaryan, Bianco, & Littlejohn, 2015). Second, constructivism, where people are thought to co-create shared meanings based on social interactions (Creswell, 2013; Margaryan et al., 2015). Thus, the foundational frameworks for MOOCs illustrate the social intention within their design.

Further, MOOCs allow for curated learning content to be organized and funneled for organizational use when most needed (Milligan & Littlejohn, 2014). Egloffstein and Ifenthaler (2017) explained the flexibility of MOOCs and how a learner can own how they interact with the platform, thus empowering them to adjust content based on complexity and how they want to approach internalizing it. Also, learners can use content features such as simulations or games to practice new skills without fear of failure.

It is important to note that MOOCs are emerging in both academia and corporate training departments, and MOOCs used in corporations differ from those used in
academia (Egloffstein & Ifenthaler, 2017; Park, Jung, & Reeves, 2015). In academia, MOOCs are open sources of courseware available to the public and draw tens of thousands of participants to any given university offering to host the platform (Littlejohn, Hood, Milligan, & Mustain, 2016). Conversely, the content included in a corporate MOOC is open to the organization but also contained solely within it (Egloffstein & Ifenthaler, 2017). This fundamental difference is critical for understanding the purpose and usage of academic versus corporate MOOCs. In particular, MOOCs in academia are on a decline since an initial spike in use in 2012 because they are driven by self-regulation and supported by engagement in content (Park et al., 2015). On the other hand, MOOCs in corporations are purchased by a company as part of its professional development programs and supplied as both a benefit and requirement for employees to do their jobs (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014).

**MOOCs in Academia**

MOOCs in academia have been more widely studied than MOOCs in business, and literature agrees there are elements which contribute to successful adoption by student users (Joo et al., 2018; Jung & Lee, 2018; Kizilcec, Perez-Sanagustin, & Maldonado, 2017; Littlejohn et al., 2016; Park et al., 2015). For instance, the design of a MOOC platform is a significant feature for learners, as it needs to be easy to navigate, flexible for collaboration, and contain relevant content (Joo et al., 2018; Jung & Lee, 2018). Moreover, perceptions of the benefits of MOOCs can drive usage of the platform up or down depending on how it is communicated to learners through objectives (Kizilcec et al., 2017; Littlejohn et al., 2016).
Researchers often focus on the self-regulating aspect of MOOCs in academia, particularly along factors such as perseverance, self-efficacy, and motivation (Joo et al., 2018; Jung & Lee, 2018; Kizilcec et al., 2017; Littlejohn et al., 2016; Park et al., 2015). Learners participate in MOOC programs because they are free and readily available, but their motives may not always be completion or immediate completion, but rather exposure to content or working at their own pace (Jung & Lee, 2018; Nkuyubwatsi, 2014). There appears to be a direct link between high academic self-regulation and completion of MOOCs, and another link between quality content and completions (Jung & Lee, 2018; Kizilcec et al., 2017; Littlejohn et al., 2016; Margaryan et al., 2015; Nkuyubwatsi, 2014). However, Margaryan et al. (2015) and Park et al. (2015) both agreed the most significant driver of completion was the quality of the instructional design, whereas Joo et al. (2018) and Jung and Lee (2018) suggested completion hinged on the learners’ perception of simplicity of the MOOC.

**MOOCs in Corporations**

Corporate adoption of MOOCs started to rise in 2012 with early adopters taking advantage of newly founded MOOC providers (Radford et al., 2014). Although the literature is not expansive, research shows that MOOCs are most frequently used by corporations to relay content related to professional development for career progression (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014; Radford et al., 2014). In contrast to academic MOOCs, when businesses integrate their MOOCs in curricula directly tied to an employee’s ability to stay current in their field, earn a promotion, or do their work more effectively, motivation to use the MOOCs correlates higher for corporations (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014; Radford et al.,
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Also, companies who have implemented MOOCs have seen employee satisfaction increase (Park, Jeong, & Ju, 2018).

**Benefits of MOOCs in corporations.** MOOCs can be maintained and updated with minimal effort and thus present lower cost and greater efficiency for corporate learning (Egloffstein & Ifenthaler, 2017; Park et al., 2018). Organizations can avoid the substantial cost of developing massive amounts of online content and more affordably utilize MOOC providers to curate and update content and design user-friendly interfaces (Egloffstein & Ifenthaler, 2017; Radford et al., 2014). As previously mentioned, MOOCs offer geographic scalability for global institutions with a dispersed workforce (Milligan & Littlejohn, 2014).

Radford et al. (2014) examined human resource professionals to ascertain how MOOCs were being used in corporations and found that many organizations were talking about implementing MOOCs but had not started to do so. In addition, employee perspectives where MOOCs were present showed interest in using MOOCs as an alternative, smaller commitment than pursuing an academic degree. On the other hand, Radford et al. did note the labor time investment to allow workers to use MOOCs could present a counterproductive challenge to organizations looking to save money in implementing them.

In a different study, Milligan and Littlejohn (2014) described how vital MOOCs could be in work environments where technology continually changes the specific skills needed for roles. They posited that MOOCs are a potential way to stay current in necessary skills and enable workers to gain knowledge while working and when needed. However, although their study showed that MOOCs encouraged workers to own their
learning experiences, they were not able to validate transfer of learning from MOOCs to behavior in work, showing a need for further research in this area.

Additionally, Egloffstein and Ifenthaler (2017) characterized successful corporate MOOCs as ones that contain quality content with a broad span of topics. They also recommended the technology be flexible and relatable to employees’ environments to better motivate use and apply the learning in context. However, despite the contributions of Radford et al. (2014), Milligan and Littlejohn (2014), and Egloffstein and Ifenthaler (2017) and the suggestion that MOOCs may allow for individual, group, and organizational explorations and exploitations of institutional knowledge, there is very little empirical research on corporate MOOCs to validate their support of OL processes. In addition, Milligan and Littlejohn (2014) studied the health sector, and Radford et al. (2014) reviewed human resource professionals, both within the United States. Egloffstein and Ifenthaler (2017) surveyed several industries such as finance, wholesale, education, and IT, yet their response rate was low. Ultimately, more research into a variety of industries and geographies would be relevant for companies looking to see the value of investing in a MOOC platform.

**Challenges with MOOCs in corporations.** Since MOOCs are a relatively new learning tool, it is necessary to examine the potential barriers they present to organizations trying to implement them. MOOCs are presented in research to thrive best when adoption is high (Joo et al., 2018; Jung & Lee, 2018; Kizilcec et al., 2017; Littlejohn et al.; Park et al., 2015). However, adoption tends to be low when its instructional design has an overuse of video, poor personalization of content, or limited and low-quality content (Klemke, Eradze, & Antonaci, 2018; Margaryan et al., 2015).
Furthermore, a potential risk to MOOCs is the learner, since by nature of the open and flexible design of MOOCs and the potential technology utilized, novice users may struggle with the platform’s complexities (Hassani and Ghanouchi, 2016; Nkuyubwatsi, 2014). Alternately, Marchiori and Cantoni (2018) suggested that barriers to MOOCs are avoidable if the social technology can encourage collaboration, feedback, and recognition. They added that learners face less anxiety when the technology platform allowed them to learn from others in a non-competitive manner. Their study reinforces the findings of Hassani and Ghanouchi (2016) who found collaboration was critical for achievement with MOOCs and that consequently, conflict amongst participants can have a negative consequence on the learning process.

Finally, evaluation can be a barrier to MOOCs. The ability to measure the benefits of MOOCs is still an evolving area of study (Hassani & Ghanouchi, 2016; Milligan & Littlejohn, 2014). Where Milligan and Littlejohn (2014) were not able to validate if there is transferrable knowledge to work behaviors in their study, Margaryan et al. (2015) resolved that MOOCs were unable to support the ability to use new knowledge to solve problems. Egloffstein and Ifenthaler (2017) further suggested that the academic assessment scales are potentially insufficient for corporate MOOCs due to context, again inviting a need to expand current research in the field.

**Organizational Learning**

Modern organizations are changing rapidly, and workers must quickly adapt with nimbleness and acumen. In order to create a workforce capable of managing change while simultaneously innovating for competitive advantage, companies are implementing OL processes (Egloffstein & Ifenthaler, 2017; Matsuo & Nakahara, 2013). The ability of
an institution to harness the knowledge contained within the dynamic social exchanges and complex interactions between workers and use it to learn as a collective unit characterizes OL (Crossan, Lane & White, 1999).

Formal OL theories emerged in the 1970s and continue to be refined and studied (Annosi, Martini, Brunetta, & Marchegiani, 2018; Crossan et al., 1999; Crossan, Maurer, & White, 2011; Hu, Found, Williams, & Mason, 2014). Daft and Weick (1984) developed an early OL framework drawing connections between how people scan for concepts, to then interpret their meaning, and thus learn as a result. Their research also highlighted the importance of acting on the knowledge as part of the learning process, postulating that education becomes behavior once one does something to put it into practice. This concept of active learning became a recurring theme for OL theorists to follow (Crossan et al., 1999; Huber, 1991; March, 1991; Nonaka & Takeuchi, 1995; Segne 1990). However, a limitation of Daft and Weick’s (1984) OL framework is that it centered on the individual and did not consider organizational levels (Crossan et al., 1999; Daft & Weick, 1984).

A subset of OL theorists in the 1990’s presented OL as a strategic management practice (Nonaka & Takeuchi, 1995; Segne 1990). Segne (1990) considered the importance of systems thinking and team collaboration to connect information within an organization. Nonaka and Takeuchi (1995) focused on product innovation as a result of knowledge creation. Both of their frameworks were established on quality management practices such as Total Quality Management and lean in which tacit knowledge (learning by doing), versus explicit knowledge (educational materials), is emphasized as the driver of organizational performance (Annosi, Magnusson, Martini, & Appio, 2016; Nonaka &
Takeuchi, 1995; Segne 1990). Segne (1990) described the use of cognitive maps as a critical factor for transferring knowledge from an individual to a group, using communication through shared language and concepts. Still, neither theorist demonstrated how learning occurred at the organizational level or considered the interdependencies between levels (Crossan et al., 1999; Nonaka & Takeuchi, 1995; Segne 1990).

To reassess the literature on OL, Huber (1991) specifically focused on four processes, which would later be reflected in Crossan et al.’s (1999) 4I model. Huber’s (1991) four constructs were knowledge acquisition, information distribution, information interpretation, and organizational memory. He agreed with former theorists that action is a catalyst for changing behavior. However, he expanded his theory to include how learning moved across three levels: the individual, group, and organization. Also, he emphasized organizational memory, or the strategic use of institutionalized knowledge, as a necessary and generally unexplored aspect of OL (Crossan et al., 1999; Huber, 1991.)

At the same time that Huber (1991) was writing about organizational memory, March (1991) set forth the first OL framework to include the concepts of exploitation and exploration, both of which would serve as the foundation for Crossan et al.’s (1999) OL framework. March (1991) explained that exploration was the generation of new knowledge, which could happen through a variety of channels, including learning by doing. Conversely, exploitation was the process of utilizing existing organizational knowledge. March (1991) posited that how a firm balanced exploration and exploitation determined its ability to be adapt and be flexible during constant change. However,
March (1991) failed to connect the systemic relationships between organizational levels (Crossan et al., 1999).

Crossan et al. (1999) acknowledged the importance of March’s (1991) consideration of exploration and exploitation, but ultimately diverged in how they discussed the interplay of the two processes (Crossan et al., 1999). Thus, Crossan et al.’s (1999) OL framework was built on the elements of prior theorists and has since been widely discussed and utilized (Berends & Lammers, 2010; Crossan et al., 2011; Hu et al., 2014; Schulze et al., 2013). The next section examines their framework at length.

**Crossan, Lane, and White’s OL Model**

Crossan, Lane, and White (1999) proposed the 4I model as an OL framework, characterizing it as a dynamic process which describes how new ideas flow through the human structures of an organization, align to goals, and form shared meanings. They posited that former OL frameworks failed to consider the importance of the relationships and interdependencies of the three levels of an institution: individuals, groups, and the organization. They also introduced the importance of the four processes that connect the three organizational levels, as well as strategic renewal, and feedback and feed-forward loops.

Crossan et al.’s (1999) OL framework laid out the 4I model to describe the processes of OL: intuiting, interpreting, integrating, and institutionalizing. All four occur at various levels of the organization (Figure 1.1). The 4I model considers the social constructs of institutions and provides the mechanisms for them to work together.
According to Crossan et al. (1999), *intuiting* is a solely individual and biased process, where people take in and process new concepts by looking for familiar associations compared against past experiences. The greatest challenge for learners is finding the language to express intuited learning to others. When done well, this process advances to the next level, *interpreting*, which begins with an individual moving from internal intuiting to external interpreting of knowledge, through communication, with a group. Again, for the group to truly integrate shared learning, they must put it into action. When the action is taken, the group moves from interpreting to *integrating*. It is during integration that agreed upon meaning is enacted in the organizational system and enhanced through frequent discussion (Crossan et al., 1999).

Finally, Crossan et al. (1999) defined the fourth OL process as *institutionalization*. At this level, integrated knowledge has become an organizational norm and through action has formally made it a part of work structures through policies.
and documentation. Institutionalization can only happen at the organizational level and is necessary for OL; meaning OL does not occur if learning stays within the individual or group levels and does not move into the broader system.

**Strategic Renewal**

Crossan et al. (1999) distinguished their OL framework by presenting *strategic renewal* as the underpinning concept. They explained that for organizations to equalize the disparity between stability and change, they need to go through renewal, which can only happen through OL. According to Crossan et al. (1999) strategic renewal represented the tension between the exploration of new learning coming into the organizational system, and the exploitation of legacy knowledge already contained within it. Thus, the feedback and feed-forward processes manage the tension across the 4I processes and organizational levels (Figure 1.2).

*Figure 2.2* Crossan, Lane and White’s (1999) OL as a Dynamic Process Model

Crossan et al. (1999) described the tension in strategic renewal as more than a balance between new learning and historical knowledge as suggested in March’s (1991)
theory. Instead, Crossan et al. (1999) stated it was the management of the tension which had specific considerations. Shown in Figure 1.2, feedback and feed-forward occur in parallel with each other and across the levels of the organization. Thus, when institutionalized knowledge feeds back from the organization, individuals and groups are simultaneously feeding forward new learning. As a result, tension is created, specifically in the interpreting-integrating and institutionalizing-intuiting intersections (Crossan et al., 1999).

Crossan and colleagues (1999) illustrated that when employees move from interpreting to integrating (feed-forward), learning moves from being individualized to a shared connotation among group members. For this to happen, individuals project their learning frameworks and use communication to form a collective group meaning. The tension thus lies in how well language expresses ideas. However, Crossan et al. (1999) were explicit that learning needs action to become a behavior, and to ensure shared meanings have taken place amongst group members, they need to act on the new knowledge.

At the same time, Crossan et al. (1999) described the tension between institutionalizing and intuiting (feedback). They posited that legacy learnings could become deeply embedded in a culture, making it difficult to unlearn in favor of bringing in new knowledge. Once more, they suggested taking deliberate action to move away from what is known and be open to learning, insisting that institutions would be remiss to not utilize institutionalized knowledge and equally manage the tension of the feedback and feed-forward processes.
Learning Management Systems and Link to OL

Learning management systems have been in existence for over 20 years (Little, 2015). While they are useful for managing and hosting content developed by corporate training departments to broadly dispersed audiences, they also are costly to maintain and inadequate in technical features (Lal, 2015). Due to the amount of time, budget, and people resources needed to support learning management systems (Lal, 2015), corporate training departments are exploring knowledge management platforms, including MOOCs, as an alternative learning technology (Egloffstein & Ifenthaler, 2017).

Knowledge Management Platforms and Link to OL

Knowledge management platforms serve as a support mechanism to OL processes (Schneckenberg et al., 2015) by connecting the workforce of companies that are geographically dispersed (Egloffstein & Ifenthaler, 2017) and facilitating the flow of knowledge through an organization and across its four processes: intuiting, interpreting, integrating, and institutionalizing (Crossan et al., 2011). Knowledge management platforms have been linked to many benefits at the individual, group, and organizational levels, including enhanced collaborative problem solving and individual/group learning (Schneckenberg et al., 2015) and increased speed in which learning can be institutionalized (Chen & Chen, 2010). Further, when knowledge management is successfully utilized, corporations benefit from an innovative workforce connecting diverse capabilities for strategic success (Chen & Chen, 2010; Easterby-Smith & Prieto, 2008; Schneckenberg et al., 2015). Thus, the need to continuously manage, store, and share organizational knowledge emerged as a strategic requirement for corporations’ competitive advantage (Schneckenberg et al., 2015).
Some literature confirms knowledge management platforms are being used in both the IT and insurance industries in support of OL (Chen & Chen, 2010; Yazdi & Haddadi, 2018). To start, Chen and Chen (2010) surveyed a Taiwanese IT firm and found that organizational learning and knowledge management connect to organizational innovation and performance. In particular, when workers were innovative, they were more engaged to learn and be open to the exploration and internalization of new information. Moreover, sharing knowledge during innovative teamwork fostered dissemination of knowledge between individuals and across the company, ultimately leading to improved operational performance. Notably, they concluded that knowledge management has value as a strategic planning tool for managers facing rapid change.

In a different lens, Yazdi and Haddadi (2018) wanted to find the key elements contributing to the effectiveness of knowledge management platforms in the Iranian insurance industry. They determined five categories and 28 sub-categories could contribute to the achievement of knowledge management platforms. A few included change management, ease of use, and structured communities of practice. Thus, they concluded that due to the volume of success factors, it is unrealistic for firms to try to address them all. Rather, they recommended companies prioritize a few as part of a strategic implementation plan.

Overall, the literature demonstrates knowledge management platforms facilitate OL (Crossan et al., 2011; Easterby-Smith & Prieto, 2008; Maravilhas & Martins, 2018) and while there are many types of knowledge management platforms, they are frequently seen to contribute to generating shared meaning and language in organizational culture (Chen & Chen, 2010; Easterby-Smith & Prieto, 2008; Joo et al., 2018; Maravilhas &
Martins, 2018; Schneckenberg et al., 2015). Finally, findings from the IT and insurance industries demonstrate knowledge management is a tactical instrument for managers confronted with change (Chen & Chen, 2010) and is most successful when its infrastructure is dependable and managers encourage its adoption and use (Yazdi & Haddadi, 2018).

**MOOCs and Link to OL**

OL processes can potentially benefit from the use of MOOCs. Programming MOOCs with simulations, games, and other experiential learning modes allows employees to practice skills in a fail-safe location (Egloffstein & Ifenthaler, 2017). Also, MOOC content is flexible to many formal and informal modalities and thus can accommodate a variety of learning styles to enhance knowledge creation in organizations (Egloffstein & Ifenthaler, 2017; Margaryan et al., 2015).

Moreover, MOOCs provide opportunities for groups to work together across the peer networking platform to share information and learn from one another (Marchiori & Cantoni, 2018). For instance, Marchiori and Cantoni (2018) discovered that the community features in MOOCs could facilitate trust and openness in teams, enabling the exchange of knowledge and co-created learnings. Also, MOOCs can connect groups previously unable to share ideas due to language constraints, since MOOCs are global platforms with translation features (Milligan & Littlejohn, 2014; Nkuyubwatsi, 2014).

Finally, MOOCs create the ability to institutionalize knowledge for organizations through the robust nature of their servers (Joo et al., 2018). When MOOCs are designed to be a user-friendly platform that is simple to navigate, they become a mechanism for companies to tactically store and manage institutional learnings (Milligan & Littlejohn,
Additionally, companies can use strategic planning to decide what content to host in their MOOC to support organizational goals (Egloffstein & Ifenthaler, 2017), as well as determine which historical knowledge to feedback to employees (Milligan & Littlejohn, 2014).

Summary

This literature review uncovered how corporations are moving towards OL processes to achieve competitive advantage for their business and talent assets (Crossan et al., 1999; Kumaraswamy & Chitale, 2012; Matsuo & Nakahara, 2013). In response, corporate training departments within organizations are moving away from traditional classroom instruction to find new ways to support informal learning using team interactions and technology (Jayanti, 2012; Kimiloglu et al., 2017; Mamaqi, 2015). An example is digital knowledge management platforms, which have demonstrated some success in support of OL processes (Schneckenberg et al., 2015), even within the IT and insurance industries (Chen & Chen, 2010; Yazdi & Haddadi, 2018).

However, there is a gap in the current literature in how broadly companies have successfully drawn any value from specific knowledge platforms known as MOOCs, particularly in their support of OL processes (Egloffstein & Ifenthaler, 2017; Radford et al., 2014). Equally, the research failed to connect OL, IT, and the 4I model (Berends & Lammers, 2010; Hu et al., 2014; Schulze et al., 2013). Furthermore, studies on OL and MOOCs are sparse or non-existent in the combined IT and insurance sectors (Egloffstein & Ifenthaler, 2017). Only one study considered OL with a multi-level framework while looking at an agile transformation (Annosì et al., 2018) but did not use Crossan et al.’s model (1999).
In addition, while the 4I model has been applied in a study in an Information Technology (IT) department in a lean transformation (Berends & Lammers, 2010), as well as across various sectors of international manufacturing and banking (Hu et al., 2014; Schulze et al., 2013), it has not appeared in an OL study of an insurance company. Research that has included OL in the insurance industry utilized a variety of frameworks separate from Crossan et al. (1999) but not the 4I model (Lee & Lee, 2014; Marvasti, Nafari, & Kavousi, 2014; Mousavi, Ghiasi, & Khodayari, 2017; Yao, Deng, & Wang; 2017). Thus, the empirical literature contains a gap in tying OL, IT transformational change, and the 4I model together.

This doctoral thesis intended to study a global insurance company’s IT department, where the workers recently underwent an agile transformation and the corporate training department installed a MOOC platform. In using a case study design from a constructivist paradigm, data allowed for understanding co-created sense-making of the phenomenon and use of MOOCs, thus adding to the research perspective on OL, the 4I model, and MOOCs.
Chapter 3: Research Design

This study sought to answer the following central research question: How do insurance Information Technology professionals describe corporate massive open online courses as support for knowledge conversion processes while adapting to a new agile workplace? This chapter describes the research methods and procedures used to answer the research question. The chapter begins with an overview of the research paradigm and role of the researcher, followed by a description and rationale for a qualitative design. It then expands in more detail the case study methodological approach, its philosophical underpinnings, and applications in empirical literature. The chapter describes the research site and the process to access and recruit participants, followed by a detailed account of the data collection and storage, as well as the data analysis procedures. Finally, the researcher’s positionality is explored to provide context on how trustworthiness, verification, and protection of human subjects was addressed.

**Research Paradigm and Role of the Researcher**

A paradigm outlines the potential beliefs or assumptions, epistemological beliefs, and interpretive lens a researcher is predisposed towards and is addressed in a study to create self-awareness for the researcher (Creswell, 2013; Yazan, 2015). Researchers’ epistemologies towards knowledge creation serve as a foundation for their entire methodological design (Yazan, 2015), and accordingly set the framework for all elements of the study, such as the problem statement and data analysis (Creswell, 2013). Therefore, this doctoral thesis was framed by a social constructivist paradigm which is characterized by the manner in which social interactions, often amplified by phenomenal change events, lead to the creation of shared meanings amongst participants (Baxter &
Jack, 2008; Crossan, 2013). Merriam (1998) explained that knowledge is both co-constructed and co-interpreted socially, and thus realities formed through knowledge creation cannot be an individual output. As a result, within a social constructivist paradigm, the researcher admits their study’s findings are a construct of their interpretivist reality which has been mutually formed by interactions with their participants (Creswell, 2013; Walsham, 1995; Yazan, 2015).

The role of the researcher in this study was to design a study that controls for subjectivity or other unreliable processes (Merriam, 1995). Additionally, the researcher was directly involved in conducting participant interviews and analyzing the corresponding data to explore the social narratives of the participants and understand their realities (Creswell, 2013; Walsham, 1995; Yin, 2014). As the theoretical framework for this thesis also considered the social interpretive nature of knowledge creation, there is a clear link to situating the researcher and study within the social constructivist paradigm.

**Research Approach**

The research under review followed a qualitative research approach. Qualitative research seeks to explore a social phenomenon surrounding the participants to learn from what they are experiencing and uses a central research question to guide the study, rather than a series of hypotheses to prove or disprove (Creswell, 2015). Using an overarching research question to guide the inquiry, the study sought to investigate the social phenomenon of how employees going through an agile transformation utilize a MOOC platform with collaboration features. By using a qualitative approach, the researcher wanted to learn from the employees’ experiences with a MOOC platform. Qualitative
methods are also applicable to explore and address a problem (Creswell, 2015). Furthermore, qualitative research utilizes an adaptable methodology to develop detailed accounts of the phenomenon (Creswell, 2015).

Data collection methods for qualitative research studies typically consist of interviews, focus groups, observations, and materials (Creswell, 2013). This study used interviews with open-ended questions, observation, and company documentation to answer the research questions. Further, qualitative research uses non-statistical data collection and analysis designs, allowing for narrative data from interviews, memos, and other reflections to be coded thematically (Creswell, 2015; Saldana, 2016). The data collection explored the problem in its environment and examined how the participants reacted. Finally, the researcher used the data to construct thick descriptions of the phenomenon.

**Research Tradition**

The research under review employed a descriptive case study design. The study considered a phenomenon in one site and sought to describe how the individuals involved were reacting to the problem it created (Creswell, 2013; Stake, 1995). Therefore, as the participants collectively experienced change, the data collection included their co-created sense-making of their environment and the meaning they drew from it, and the analysis attempts to depict learnings from the case that may apply to the audience (Creswell, 2013; Yin, 1981).

It is first necessary to consider the history and evolution of case studies in scholarly research to justify the methodology. The following section defines a case study
and its philosophical underpinnings, examines critical scholars of the case study approach, and discusses the scholarly debate on case study as a research method.

**Philosophical Underpinnings**

Case study is a qualitative method for studying an in-flight event, phenomenon, process, group, or program that has time and/or space boundaries, for gaining detailed data to understand what is happening in the context of the environment (Creswell, 2013; Merriam, 1998; Stake, 1995; Yazan, 2015; Yin, 1981). Yin (1981, 2014) likened case study to an investigative report, working to gather the details as if the researcher is a detective. Merriam (1998) characterized case study as one that yields particulars and thick descriptions of a phenomenon to enlighten readers’ understanding of the situation. Eisenhardt (1989) discussed the process of using a case study to arrive at a theory. The challenge of a case study is determining a unit of analysis. Further, if the unit of analysis consists of one case study, as opposed to multiple sites, then defining the unit of analysis becomes the researcher’s challenge to overcome (Yin, 2014). Regardless, case study has been shown to provide essential insights to social phenomena in many research fields when examining individual, group, and organizational structures, specifically educational research (Creswell, 2015; Walsham, 1995; Yazan, 2015; Yin, 2014).

The philosophical underpinnings of a case study vary based on the seminal scholars who have historically defined it as a methodology. Yin considered case study from a postpositivist paradigm, using rigorous structure to determine the reality of a phenomenon in an objective fashion, whereas Stake (1995) Merriam (1995; 1998), and Eisenhardt (1989) utilized a constructivist paradigm which is subjective and allows the researcher more flexibility in taking part in the phenomena and generating shared
interpretations (Creswell, 2013; Boblin, Ireland, Kirkpatrick, & Robertson, 2013; Yazan, 2015). Some modern researchers have employed critical realism as a framework for interpreting the reality of a phenomenon and therefore separate the observer from the context (Easton, 2009; Welch, Piekkari, Plakoyiannaki, & Paavilainen-Mantymaki, 2009). However, empirical literature continues to rely on a constructivist paradigm for case study for its consistency in addressing the social creation of knowledge, specifically when the role of the researcher is internal versus external for data collection and analysis (Baxter & Jack, 2008; Boblin et al., 2013; Walsham, 1995).

Critical scholars. Although case study research has roots in medical sciences, psychology, political science, and law dating back to the early 1900s, it did not become more widely used in the field of social sciences until the 1950s, with its first uses in sociology and anthropology (Creswell, 2013). In the 1960s, Matthew Miles began debating the merits of qualitative research, and Robert Yin was one of the first to respond to the potential for improvements to case study research as a qualitative method (Yin, 1981). Yin suggested explanatory, exploratory, and descriptive as three types of case study methods, and generally prescribed a strict scientific process for collecting data and controlling bias in field notes (Boblin et al., 2013; Yin 1981, 2014). Yin also focused on cause and effect in relationships from a qualitative rather than quantitative perspective (Creswell, 2013).

In contrast, Robert Stake, who entered the conversation not long after Yin, wanted a more flexible approach to a case study and proposed three of his methods: intrinsic, instrumental, and collective (Baxter & Jack, 2008). Stake wanted the researcher to be close to the case and participants and to have more freedom within his conceptual
framework to make adjustments in his research process as it unfolded (Boblin et al., 2013). Meanwhile, Sharan Merriam also began presenting methods for conducting case studies, and in many ways resembled Stake’s approach, such as taking a constructivist paradigm, but she offered a set of guidelines that added the structure of Yin’s methods with the flexibility of Stake’s (Yazan, 2015). Most importantly was her careful alignment of a theoretical framework for all elements of a research project (Merriam, 1985).

Yin (1981, 2014) wanted to address the issue of generalization and posited that interview data should be field notes and not narratives, and that data should be first collected and then analyzed methodically. Stake (1995), on the other hand, suggested that data be collected and analyzed concurrently as the researcher draws insights in the moment of interacting with the case (Boblin et al., 2013). However, Merriam challenged both Yin and Stake and instead asserted that while there should be an overlap in the collection and analysis process, it should not happen simultaneously or the risk of bias could enter into the data (Merriam, 1985; Yazan, 2015). She also relied heavily on thick descriptions of the data to help detail the particulars and veer away from generalization (Welch et al., 2009).

Finally, the use of case study to develop a theory is another essential element to consider when conducting one. Kathleen Eisenhardt began adding to the case study dialogue by taking additional steps in her process to be more explicit and deliberate in her process to inductively arrive at a theory from the controlled generalization of the research, and thus researchers replicated her procedures for many years after (Eisenhardt, 1989; Ravenswood, 2011). All of the early work set forth by Yin, Stake, Merriam, and
Eisenhardt would go on to shape many case studies in the fields of social science in the coming decades, resulting in evolution in thinking and methods.

**Scholarly debate.** As case study gained popularity as a qualitative research method in the 1980’s and beyond, many researchers attempted to put consistent standards around its design so that the academic world would accept its validity. Most researchers agreed in general with Yin, Stake, and Merriam’s perspectives that case studies focus on a specific event, bound by criteria such as time and space (Easton, 2007; Hughes & McDonagh, 2017; Noor, 2008; Poulis, Poulis, & Playkoyiannaki, 2013; Tsang, 2013; Welch et al., 2009). Moreover, they also assented that case study should be rooted in a research paradigm, shaped by a framework, and outline the context of the case (Easton, 2007; Hughes & McDonagh, 2017; Noor, 2008; Poulis et al., 2013; Tsang, 2013; Welch et al., 2009). Finally, there was alignment amongst researchers that the value of case study was the ability to capture multiple data sources to get thick descriptions and rich detail to describe their phenomena through inductive analysis (Easton, 2007; Hughes & McDonagh, 2017; Noor, 2008; Poulis et al., 2013; Tsang, 2013; Welch et al., 2009).

However, despite the collective agreement on crucial case study elements, there was also much debate on how to approach the research design to address the issue of generalization.

For example, Noor (2008) took a strong stance on a positivist paradigm and used Yin’s scientific approach to shaping his multi-site case study in Malaysia, whereas Hughes and McDonagh (2017) took a constructivist approach channeling Stake in their research of Irish information technology firms. Both used multi-case sites to enrich their data and strengthen particulars to avoid generalizing (Hughes & McDonagh, 2017; Noor,
2008). Easton (2009) offered a new perspective by applying critical realism as a paradigm, asserting that true reality exists in addition to co-created realities, and thus both should be explored in a case study to avoid generalization from the researcher’s bias.

By the turn of the century, Welch et al. (2011) began redefining the methodology for theorizing in case studies. They posited that four methods, each with a different philosophical orientation, could be deployed as effective case study designs depending on the desired outcome of a study. Theirs was an effort to close the gap on generalization, as well as provide flexibility on choosing a method based on philosophical underpinning, the context of the case, the quantity of data collected, and the causality explored. By combining the best characteristics of Yin, Stake, Merriam, and Eisenhardt, Welch et al. (2011) were able to develop four methods for deriving theory from a case study: inductive theory building, natural experiment, interpretive sense-making, and contextualized explanation. Additionally, they added critical realism as a paradigm for case study much like Easton (2009) before them (Welch et al., 2011).

However, Tsang (2013) refuted Welch et al. because he felt they made assertions regarding case study methods that were not backed by scholarly research. He explained that they based their four methods on the assumption that causal explanations and how they incorporate context are impossible to combine, so a trade-off must be made to reconcile the two. Tsang disagreed that the discrepancy between causal explanation and contextualization existed, arguing that Welch et al. (2009) were confusing causal explanation with generalization (Tsang, 2013). Therefore, Tsang (2013) redefined Welch et al.’s (2009) inductive theory building and natural experiment methods and replaced
them with two new designs, empirical regularity and theory building, and testing to resolve the disparity between cause, context, and generalization.

At the same time, Poulis et al. (2013) published research that also addressed Welsh et al.’s (2009) context gap, and Emmanuella Plakoyiannaki was a writer in both Welch et al. and Poulis et al.’s research (Poulis et al., 2013; Welch et al., 2009). In their study, Poulis et al. (2013) set the context as the focal point of case study design. They asserted that the role of context in case study when studying international business should allow for complexity since environmental uncertainty frequently disrupts the industry and introduces further intricacy to the phenomena under review. Thus, if context and sampling are designed for purposefully, then generalization would not enter into the theorization process.

**Summary**

In summation, case study as an inductive qualitative method for social science research has journeyed through many scholarly designs to strengthen it as a valid methodology by standardizing practices where possible and creating processes to control for generalization (Boblin et al., 2013; Yazan, 2015). Most scholars have been able to align on the boundaries of a phenomenon, the need for contextualizing the case, and the importance of a paradigm and framework. They also agree that rich, varietal data and careful, inductive analysis add to the rigor of the procedure (Easton, 2007; Hughes & McDonagh, 2017; Noor, 2008; Poulis et al., 2013; Tsang, 2013; Welch et al., 2009). However, most researchers diverge on choice of philosophical underpinning and method for arriving at theory or model, which ultimately changes the shape of the research process overall (Easton, 2007; Hughes & McDonagh, 2017; Noor, 2008; Poulis et al.,
2013; Tsang, 2013; Welch et al., 2009). Because case study varies substantially based on site, phenomena, sample, context, and the researcher’s perspective, perfect alignment on the approach is not possible, which supports its qualitative nature and separates it from a quantitative study.

Therefore, the research under review utilized a descriptive case study design. A descriptive case study approach based on Yin (2014) often examines an infrequent phenomenon and describes its events for researchers that cannot locate a similar one to observe. As indicated in prior chapters, research on this thesis’ problem is limited, and thus a descriptive study was appropriate to learn more on the topic for the academic field and suggest further research that can build on its results (Yin, 2014). Moreover, the researcher utilized two of Merriam’s (1985) practices. One, the use thick descriptions for detailed narratives of the participants and their surroundings. Two, data analysis after collecting it, and not at the same time, to reduce potential bias.

**Research Design**

While the paradigm of this study is social constructivism, the descriptive method provided a construct to seek out the details of the problem in its context (Yin, 2014). This study thus examined the shared experiences of the sample and described how they were brought together by circumstance but did not rely solely on a description of their feelings (Yin, 2014). Moreover, Yin (1981) describes a case study as one that is looking at one problem bound in time to one phenomenon. As such, the study presented here coincides with his description of this type of case study since it was one change event happening in the confines of a specific time and place and consisted of only one site (case).
Research Site

The unit of analysis for a case study is the case itself (Creswell, 2013; Easton, 2010; Merriam, 1995). Thus, the single case study unit of analysis for this research is an IT department in a global insurance company, including five individual employees. Over 6,000 members of the IT department went through an agile transformation in 2017, including all levels of individual contributors and leaders. The change incited a senior leader to write a manifesto connecting agile work practices to learning processes. At the same time, the IT training sub-department implemented a knowledge management service in the form of a MOOC platform. Furthermore, by-products of the agile implementation were a series of reorganizations of work structures, leading to hundreds of layoffs and the creation of new positions. Many teams experienced a mixture of new talent joining the organization possessing extensive agile experience, combined with long-tenured employees learning agile methodologies. In some work groups, former managers became individual contributors reporting to their previous direct reports.

Participants and Access

This study recruited five participants, which is considered an ideal sample size for a single site case study (Yin, 2017). Participants were current full-time employees within the Information Technology department at Net One Insurance Company. The sample comprised of five employees selected intentionally by the student researcher across a range of job titles. Employees had experience in the use of a massive open online course platform.

The following inclusion criteria will be used to identify five participants:

- employed full-time by the company for a minimum of six months;
• assigned to work within the Information Technology department;
• participated in the Information Technology agile transformation or work in an agile team;
• agree to participate anonymously in an audio-recorded interview;
• agree to the publication of the data found in the study

The study sought to learn about a specific phenomenon occurring in a single location and to gather thick descriptions and complete data (Merriam, 1085) and therefore purposeful sampling was also appropriate for the research (Creswell, 2015). Specifically, maximum variation sampling allowed the researcher to choose participants based on their common characteristic of being employed within the same department, and then select them intentionally across a range of job titles (Creswell, 2015). In this case study, the sample consisted of five members of a corporate IT department within an insurance company.

The researcher gained access to the site and participants through the senior director to whom the corporate training department reports. The researcher also spent time responding to concerns, including how there would be no interference in day-to-day operations, as well as provided information on how data for all individuals, company materials, and other proprietary details is held in discreet confidentiality and anonymity.

Once the study was made permissible by the company and the Institutional Review Board (IRB) process was complete, the senior director was then asked to be a key informant for the study (Appendix E). She was asked to sign a participant consent form (Appendix C). The senior director researched a pool of 50 top users of the MOOC platform, their job titles and tenure, and then assisted in the recruiting process. A recruitment email (Appendix B) was sent by the key informant to employees meeting
recruitment criteria at the research site. The email explained the purpose and value of the study, participant selection criteria, participant expectations, the voluntary nature of the study, and the student researcher’s contact information. The researcher then sent an interviewee recruitment email (Appendix B). After one week, the key informant sent a reminder email to potential volunteers. Employees who volunteered to participate in the study were asked to set up an interview time and location of their choosing and to discuss the consent form at that time. At the beginning of each interview, the student researcher provided the consent form and discussed it (Appendix C). After all questions were answered, the participants signed the form and the interviews began.

**Data Collection**

For this study, the purposeful sample included five individuals of varying roles in the IT department of a global insurance company. The data collection consisted of individual interviews, each using semi-structured protocols (Appendices C, F). Individual interviews were conducted in-person or virtually via web conferencing for one hour and recorded with a smartphone upon permission of the interviewee. Interviews with each of the participants were scheduled at a time and place of their choice. In addition to recording the interviews, the researcher took handwritten notes, which were typed into Microsoft Word documents directly after the interviews ended. Participants signed consent forms agreeing to the interviews, their recording, and the transcription of the recordings by a professional service (Appendix A).

Additionally, the study consisted of observation of collected documentation associated with the implementation and measurement of the MOOCs and the agile transformation, as well as other relevant materials as suggested by the study participants.
All materials collected for the research obtained an informed consent (Appendix B) and were provided voluntarily by the interviewees. Copies of documents were saved until the study was complete. At that time, the researcher destroyed all records. All documentation was reviewed for totality and application to the research (Creswell, 2015).

Also, an observation of the MOOC platform was conducted to study the components of the system, including:

- learning content;
- system navigation and interface;
- social networking features;
- anonymous employee feedback ratings

A volunteer interviewee guided the system observation with participation guidelines included in the consent form (Appendix B). A meeting was scheduled in the place and time of their choice to examine the MOOC. Data collection consisted of an observation protocol with handwritten notes (Appendix F). All notes were typed into a Word document after data collection was complete.

Furthermore, the researcher also conducted personal analytic memos each day of the data collection process to synthesize reflections and personal connections regarding the data collection process (Miles, Huberman, & Saldana, 2014). Analytic memos add to qualitative research in that they allow the researcher a forum for quick self-assessment of the research process (Miles et al., 2014) and support the constructivist view of the author co-creating meaning with the participants (Crossan, 2013; Merriam, 1998). The memos were both voice recordings using a smartphone and written notes and contained themes.
such as observed connections between the data, the researcher’s concerns for the study, and any assumptions challenging the researcher (Miles et al., 2014; Saldana, 2016).

**Data Storage and Management**

The researcher reviewed all interview recordings and voice memos, along with a confidential transcription service, Rev.com. All email exchanges between Rev.com and the researcher were deleted as soon as file sharing was complete, and all records were password-protected. All interview recordings, as well as digital notes and transcripts, were stored on the researcher’s password-protected personal computer in local hard drive folders. Interviews were audio recorded on the researcher’s smartphone and immediately uploaded to a password protected computer and deleted from the researcher’s smartphone. The researcher stored all study documentation and observation protocols on the same password-protected computer that was kept in a locked home office.

All non-digital data, including consent forms, were saved at the researcher’s locked home office and sealed in a file cabinet so only the researcher could access it. Analytic memos were also uploaded from the smartphone to the computer directly after they were recorded and then deleted from the phone. Upon completion of the doctoral thesis, the physical files and an external hard drive with the saved computer data were locked in a file cabinet to keep for five years. When five years have passed, all data and physical resources from the study will be deleted or destroyed.

**Data Analysis**

Before beginning data analysis, interview recordings were played back daily for three weeks. The researcher recorded analytic memo reflections after reviewing each interview. Data analysis began by transcribing all interviews into Word document
transcripts numbered by each page line and the researcher replaced all confidential names and company data with pseudonyms. All interview and voice memo recordings were transcribed by the professional transcription service, Rev.com. Induction guided the data analysis process. Inductive analysis is the process of using patterns to shape data and build it into broader sets that allow the themes to emerge from the case study (Saldana, 2016).

The descriptive case study consisted of one site and interview, document, and observation data were collected. The analysis process utilized In Vivo coding to gain thick descriptions of the participants’ experiences (Merriam, 1985, 1998). Process coding validated the In Vivo codes (Saldana, 2016) as well as portrayed the interviewees’ stories of how their work and learning processes were different due to an agile transformation. Table 3.1 depicts the case study data and analysis process. The following section describes in-depth the inductive techniques employed.

Table 3.1

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Quantity and/or Description</th>
<th>Analysis Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>5 participants’ transcripts</td>
<td>• In Vivo coding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Process coding</td>
</tr>
<tr>
<td>Documents</td>
<td>• 3 blog posts from company site</td>
<td>• In Vivo coding</td>
</tr>
<tr>
<td></td>
<td>• 4 reports from MOOC system</td>
<td>• Process coding</td>
</tr>
<tr>
<td></td>
<td>• 1 PowerPoint file used for strategy presentation on MOOC enhancements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1 Agile Manifesto, a 6-page report from IT leadership</td>
<td></td>
</tr>
<tr>
<td>MOOC System</td>
<td>• 1 transcript</td>
<td>• In Vivo coding</td>
</tr>
<tr>
<td>Observation</td>
<td>• 1 screen shot</td>
<td>• Process coding</td>
</tr>
</tbody>
</table>
**Inductive analysis.** The case study used two qualitative, inductive techniques. First, *In Vivo* coding captured words and phrases directly from the transcripts (Saldana, 2016). *In Vivo* was selected for three reasons. One, it allows new coders to learn the coding process and the researcher was a beginner coder (Saldana, 2016). Two, it inserts more use of the participants’ voice (Miles et al., 2014). In the case of the interviews analyzed here, the participants used many repetitive words and terms, and using direct words allows for more themes to develop. Finally, it cultivates rich detail to get thick descriptions for reporting (Merriam, 1985, 1998). *In Vivo* was applied to interview transcripts, documentation, observation notes, and analytic memos.

In addition to *In Vivo*, the transcripts, documentation, observation notes, and memos applied Process coding to complement the *In Vivo* coding. Saldana (2016) cautioned that while *In Vivo* and Process coding are useful for most qualitative studies, they should seldom be the only coding technique, thus using them together provides better validity for the codes. Moreover, the goal of adding Process coding is to bring out words and phrases in the transcript that paint a picture of how the participants’ work has changed due to the transformational event.

**Presentation of findings.** After the first round of data coding, emerging patterns and themes were located in the transcripts, memos, documents, and corresponding codes (Miles et al., 2014; Saldana, 2014; Saldana, 2016). Key ideas were color-coded and inserted into each transcript where they appeared. A table was created to display the first and second rounds of coding together for each memo and transcript, with the transcript or memo line item numbers next to the first round codes. Representing the coding for the non-interview and memo data followed a similar process of tabling with color-coding and
themes. Also, tables for second round codes alone were created to bucket the key themes identified in the coding. The columns were given headings and subheadings to align the themes, and then keywords and phrases highlighted for use in Chapter four.

**Positionality**

Studying the role of learning technologies as a potential mechanism to support corporate organizational learning processes presents me with an opportunity to relate my findings with connected personal and professional experiences. Roulston and Shelton (2015) warned that researcher bias could result in inaccuracies within each step of the research process if not adequately minimized. To this end, it is necessary for me to address my positionality and the biases I have about organizational learning, corporate training departments, and learning technologies.

I grew up in central Florida as a member of a white, middle-class family. As a child, I remember my parents being concerned with quality learning for their three children and wanted us in private school. However, we moved around a lot for my father’s government career, and private school was too expensive for all of us. My parents decided to homeschool, and it was in those five years that I formed a passion for lifelong learning. My mother provided us structure, but not lecture. Instead, we studied from a self-paced curriculum. However, my parents reinforced experiential methods to make what we were learning more effective. For example, once my mother took us on a trip to a plantation estate that had been turned into a museum so we could see what life was like for slaves before the Civil War.

Today, I am a white, middle-aged female working in a New England corporate training department and have a sixteen-year career in developing experiential learning for
employees. Since my life experiences are a construct of how I perceive my environment and personal reality, it is necessary that I be able to draw on them to interpret other researchers and draw context to my work (Carlton Parsons, 2008). To avoid the pitfalls of bias and opinion, both self-awareness and careful adherence to scholarly research methods serve to maintain my neutrality of perspective. Reflexive practices, as outlined by Roulston and Shelton (2015), focus on using reflection, subjectivity statements, and analysis of self as tools for researchers. Therefore, I reflected on my biases and recorded them into my analytic memos.

I first began working in the corporate sector over twelve years ago. I have held a variety of training roles such as instructional designer, facilitator, program manager, and leader. Throughout my career, I have seen curriculum design evolve to accommodate changing learning styles and technology. I have also had to learn how to train to a globally dispersed work environment. Four years ago my department went through a lean transformation, and two years ago my newly reorganized department began institutionalizing OL processes. Each of these experiences had a profound effect on how I view learning and also closely connect me to the problem at the research site. I have seen first-hand how team problem solving activities have led to innovative ideas implemented at the institutional level, which ultimately increased company performance. For this reason, I used a member checking process to have interviewees examine my second round themes or final coding, specific to their individual interviews, to ensure my own biases did not misrepresented the data during analysis.

Both my academic and professional careers have also been highlighted by technology. I earned both my master’s degrees through online programs where I was in
the first cohort of students to ever participate in my university’s distance program. The internet was new and learning management systems and eLearning courses had not been implemented. I studied instructional technology and built my first online course in hypertext markup language.

Ultimately, my education led to a five-year career in developing eLearning as technology progressed quickly over the years. Today, I manage multiple teams: one is responsible for administering the learning management system, the other creates learning experiences using progressive technologies. Thus, my constant exposure to knowledge management platforms, industry trends, and my company’s early adoption of MOOCs have predisposed my assumptions on learning technologies. It was critical throughout my data collection process that I not share my opinions or thoughts with my participants or alter their viewpoints in any way.

Briscoe (2005) proposed self-awareness in the context of positioning. She asserts that “the other is even more intimately integrated into our identities—it forms the basis of knowing who one is by contrasting oneself to both those outside and inside one’s group” (p. 29). What Briscoe (2005) implied is the mindful researcher will consider oneself in juxtaposition to her participants. For my case study, my participants are not in my training department but are in a partner training department within the same company. I have worked cross-functionally with them on various projects, including the early implementation stages of their MOOC platform, for over five years. My professional relationship with two of the participants is friendly enough that I must acknowledge the possibility for it to influence my interview process or interpretation of data. I prepared for all interviews with all prior working relationships at the forefront of my mind,
ensuring that my protocols were rigorous, I built trust, and I did not veer on personal
tangents during questioning.

Thus, I continuously examined whether my positionality is influencing my research process. I agree with Jupp and Slattery (2006) that my “positionality provides a backdrop” (p. 201) on which I can begin to search for an answer to my proposed problem of practice. I only drew on my experiences to use them to shape my research process while at the same time practiced thoughtful self-reflection and scholarly discipline.

**Trustworthiness and Verification**

The researcher is an employee of the company where the study took place, which had the potential for hierarchal politics to deter participants from speaking openly during interviews. Thus, the researcher only contacted participants through her key informant and via a student email account to avoid coercion. Also, the researcher was responsible for building trust with participants during the data collection process. Lincoln and Guba (1985) characterized trustworthiness with descriptors such as authenticity and credibility. Accordingly, the researcher employed rigorous methods through member checking, thick descriptions, triangulating data, and addressing researcher bias to build trustworthiness and internal validity into the proposed study (Lincoln & Guba, 1985).

**Member Checking**

The first step to establish trustworthiness through credibility with participants was to have them be involved in member checking (Lincoln & Guba, 1985). Creswell (2015) describes the member checking process as one where interviewees can review many aspects of the research design, data analysis, or other issues of the study to confirm the unbiased construal of the findings. For this research, participants received an emailed
table of first-level themes from the In Vivo and Process codes with definitions. Also emailed to the interviewees were the three super-ordinate themes and definitions. The interviewees were asked to reflect on the themes and provide feedback on what they would add, delete, or change. Three of the five participants delivered member checking feedback. The findings in Chapter 4 incorporated changes offered by two participants. Thus, by having participants involved in the study’s analysis, they were personally involved in determining the credibility of the process.

**Thick Descriptions**

Merriam (1985) contended that thick descriptions were integral for qualitative researchers collecting narrative data to establish validity and subjectivity. Because the interviews for this researcher’s study were recorded and transcribed verbatim, thick descriptions were accomplished in three ways. First, the protocols were developed with open-ended questions to provoke stories of experiences or explanatory responses requiring extensive detail (Creswell, 2015). The researcher asked probing questions as needed to elicit more information from the interviewees. Second, the researchers’ analytic memos provided detailed narratives about the participants, their behaviors and demeanors, the research site, and observations about the change events.

**Data Triangulation**

The third strategy step towards trustworthiness and validity involved data triangulation. The presented study was a case study, and as such, it used multiple data sources. Each record was substantiated by comparing their codified themes for alignment (Creswell, 2015; Yin, 2014). Triangulation provided several data sets within one case’s phenomenon and subsequently strengthened its validity (Yin, 2014).
Researcher Bias

Roulston and Shelton (2015) iterated the importance of reflective practices to control researcher bias. This study used analytic memos recorded by the researcher. The researcher frequently reviewed the memos to listen for potential opinions, biases, or assumptions in the narrative. The researcher also recorded additional memos to reflect on connections she made between her positionality and the case. The goal of each of the reflective steps was to create self-awareness and control for bias during analysis.

Internal Validity

As stated earlier, there was potential for hierarchal politics to impede a trusting relationship between the participants and the researcher. To address this possibility, the researcher reviewed interview recordings to listen for emotional cues in the dialog that may suggest mistrust. Before starting the interviews, the researcher built trust and credibility by explaining all of the research processes, the purpose for the study, and its end use. Moreover, the researcher always presented herself to participants as a student researcher and not as an employee of the company to emphasize that no relationship between the study and company existed.

Protection of Human Subjects

Qualitative case studies examine people in their present surroundings and thus the data concerns humans and not statistics (Yin, 2014). Therefore, before beginning data collection, the researcher ensured ethical consideration for the treatment of participants. First, the researcher worked with an advisor to complete an IRB application with the approval of the doctoral proposal. Next, an IRB application was submitted to Northeastern University for approval. The researcher did not contact any IT employees.
or potential participants regarding the proposed study until IRB approval was secured. Once IRB was approved, the researcher involved the key informant to ensure that the interviewee recruitment process was inclusive of all employees that met participant criteria to ensure fairness. It was also essential to disconnect the case study from any relatedness to employees or their work performance so that there was no fear of retribution among employees that do not wish to participate in the study.

The researcher ensured the privacy of all participants before any research activities. Confidentiality included anonymous participation in interviews at a time and location of participants’ choice, protection of names and personal information, and a written guarantee that all conversations and recordings would not be shared with other employees, their manager, or the company (Appendix B). The researcher also took responsibility for human and company information by protecting anonymity and causing no harm through data representation (Creswell, 2015).

Also, the researcher obtained written consent from participants before the research process (Appendix B). The written consent included the agreement to anonymously participate in an audio-recorded interview, allowance for the professional transcription of the conversations by Rev.com, and approval to work with the researcher in the member checking process (Yin, 2014). At the time of obtaining consent, the researcher set expectations and answered questions about the study’s purpose, procedures, and outcomes.

**Limitations**

This study has several potential limitations. One limitation includes researcher bias. The research took place at the researcher’s place of employment, and while the
researcher does not work in the IT field or the IT training department, she does belong to a corporate training department and has indirectly worked with some of the study participants for five years. Consequently, there was a risk that the findings may be influenced by bias if not controlled for in the research methods. A second limitation to the research was the sample size. Because study only consisted of five people, and the case study was a single company in the insurance sector, the scalability of the results may not apply to other studies. A third limitation is the single study site, which limits generalizability. The findings are from a small sample size in one company and a single industry, which makes it difficult to generalize and transfer results to other corporations.

Summary

In conclusion, the methodological approach selected for this research, a descriptive case study, attempted to solve the problem from its specific context where the sample audience was experiencing a transformational change. Careful consideration was made to address the researcher’s positionality based on her relationship to the site and participants. Ultimately, the goal of the study’s design was to discover rich details about the phenomenon and learn how the findings can add to the limited research on the topic of MOOCs and OL for the field of corporate education.
Chapter 4: Research Findings

The purpose of this case study was to understand how organizational learning is supported through employee participation in massive open online courses (MOOCs) within a global insurance company’s IT department during a period of agile transformation. The data collection and analysis processes were guided by the central research question “How do insurance Information Technology professionals describe corporate massive open online courses as support for knowledge conversion processes while adapting to a new agile workplace?” Also, the analysis processes were guided by four qualitative sub-questions:

- How do MOOCs contribute to the process of intuiting?
- How do MOOCs contribute to the process of internalizing?
- How do MOOCs contribute to the process of integrating?
- How do MOOCs contribute to the process of institutionalization?

This chapter contains a report of the themes and findings that emerged as a result of the data collection and analysis deployed during the case study. It is arranged in three sections: 1) the case background, 2) participant profiles and 3) research findings.

Case Background

Net One Insurance Company (pseudonym) is a global property and casualty insurance firm with offices in 30 countries employing over 50,000 people. They have competed in the industry for more than 100 years, and house headquarters in four major North American cities. Net One divides its lines of business into two strategic business units which are supported by the corporate and Information Technology (IT) departments. Net One’s IT department employs over 6,000 people who develop software
and coding systems that keep pace with modern technology and its constant state of change. At the same time, the IT department is watching industry trends in both insurance and technology to prepare the company for the future.

Net One’s IT employees face continuous change due to technology and globalization. Once a sole U.S. office, they now operate globally, with major centers in North America and Ireland. Technology advances have forced the upgrade of all server-based systems to Amazon Web Services’ (AWS) cloud. To meet the changing needs of the environment, Net One initiated a transformational change to agile work practices for IT in 2016.

Agile is a commonly known set of work practices in IT firms. Before agile came into use, IT companies operated under the waterfall methodology (Gandomani & Nafchi, 2015). Waterfall meant that projects were linear from start to end. Projects were completed before testing and implementation (Gandomani & Nafchi, 2015). Typical waterfall projects would span months or years, and waterfall teams were primarily hierarchical (Gandomani & Nafchi, 2015). By contrast, agile is a cyclical methodology with a set of principles to inform work processes. Agile teams use flexible work practices to complete projects more quickly with the ability to iterate and change with environmental uncertainty (Annosi et al., 2018). Agile teams are cross-functional, and the organizational structure is flat (Annosi et al., 2016). Managers enable agile teams to set goals, solve problems, and make decisions (Annosi et al., 2018).

Net One implemented their agile transformation between 2016 and 2019. As a result, they instituted several reorganization efforts over the three-years. Hundreds of employees were laid off and competed for one-third as many jobs. Some were able to
reskill to agile and obtain positions. Often, new employees brought agile experience. Matrixed agile teams were formed and led by Scrum Masters (project leader of a development team), while hierarchal managers served to maintain human resource processes.

In response to the agile transformation, the IT training department created agile bootcamps to upskill employees. These five-day events were held for three years and required of all IT employees and new hires. In 2015, the IT training group had purchased a corporate MOOC platform called Envision (pseudonym) to bring IT learning practices to modern methods. They chose to focus Envision’s content on agile and use it as required pre- and post-classroom training to increase adoption of the system.

Throughout the agile transformation, the IT training department increased the content and features on Envision, tailoring it to the specific needs of the IT department. The Envision course library is expansive and comprised of videos developed by industry professionals. Videos can be as long as 20 hours and as short as three minutes. Employees can interact on course discussion boards with the video’s instructor and other students, who may or may not be Net One employees. Envision also allows employees to recommend content, rate the instructors, and link to internal Wiki resources.

As the agile transformation came to a close, the Net One IT training department ceased holding agile bootcamps. New employees learn any necessary agile practices on Envision and by working in their teams. Envision is also used to keep employees current on the latest software and IT applications.
Participant Profiles

The five male participants were employed for more than six months as full-time employees in Net One’s IT department, see Table 4.1 for a breakdown of the participants and criteria. Each participant had experience working in agile at Net One, as well as taking Net One agile training. Two of the participants worked in the IT training department as administrators of Envision; one of which chartered the implementation of the MOOC platform. All of the participants used Envision regularly for self-initiated learning.

Table 4.1

<p>|</p>
<table>
<thead>
<tr>
<th>Participant</th>
<th>Time w/Company</th>
<th>Current Role</th>
<th>Years of exp. w/Agile</th>
<th>Prior IT Roles</th>
<th>Envision Admin &amp;/or User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derrick</td>
<td>12 years</td>
<td>Program Manager, IT Training</td>
<td>3 years</td>
<td>10 years</td>
<td>Both</td>
</tr>
<tr>
<td>Joe</td>
<td>1 1/2 years</td>
<td>Software Developer, Risk Technologies</td>
<td>1 1/2 years</td>
<td>11 years</td>
<td>User</td>
</tr>
<tr>
<td>John</td>
<td>4 years</td>
<td>Technologist, Software Development</td>
<td>10 years</td>
<td>30 years</td>
<td>User</td>
</tr>
<tr>
<td>Karl</td>
<td>8 months</td>
<td>Technology Associate, Techies Development Program</td>
<td>2 years</td>
<td>None</td>
<td>User</td>
</tr>
<tr>
<td>Mike</td>
<td>5 years</td>
<td>Learning Analyst, IT Training</td>
<td>5 years</td>
<td>None</td>
<td>Both</td>
</tr>
</tbody>
</table>

Derrick
Derrick has worked at Net One for 12 years, starting as an IT analyst and quickly moving into the IT training department as a training specialist. He is now the Program Manager of Envision. While he mentions that Net One purchased Envision in 2011, he claimed it was not a well-adopted system because of its difficulty to use. Envision upgraded in 2015, at which time Derrick led re-implementation for the IT department in alignment with strategic initiatives. His initial priority was ensuring the system had agile content that aligned with Net One’s agile practices.

Derrick is passionate about bringing learning practices to the IT department that align with today’s technological and geographically dispersed workforce. He wants MOOC platforms like Envision to help the organization gain the skills they need now and for the future. In acquiring the skills needed, Derrick indicated the importance of change in training processes:

We have to help managers in Net One understand how to manage in a self-paced world. That’s something we could do more of. The mindset used to be, a guy stands up in a classroom and talks to you for five days, and you sit there, and he writes on a whiteboard. We’ve gotten past that. We need to get managers to understand, hey, force people to block out an hour per week, and let them do [Envision].

Derrick touted his use of Envision for his development and has had positive outcomes gaining confidence and credibility in his role. He also recognizes the shortcomings of Envision and is researching new add-on features, upgrades, and other MOOC technology platforms to consider for Net One IT.

Joe
Joe has worked in IT for 11 years and at Net One for 1 1/2 years. He is a software developer for systems that help determine the insurance risks for new customers. Joe read about agile before working at Net One but has only worked in an agile environment in the past 1 1/2 years. Despite the intentions of the IT training department, Joe admitted he learned about agile by working daily with his team members and discussing the terms that defined their work:

I haven't taken any agile-specific courses in Envision. Basically, I just kind of was thrown into it. There was kind of a learning curve, it was kind of a tribal learning or a cultural learning once I got here. And they were still trying to implement the agile practices across the board company-wide. So in a sense, even though they had been doing it for about a year and a half or two, I was kind of learning along with the people that I was working with. And so as a team, we talked about various methodologies of doing agile, and we actually still regularly talk about them.

Joe uses Envision frequently for topics other than agile, too. He is particularly interested in courses in new software development tools which are continuously appearing in the market. Often, Joe completes up to 20 hours of Envision pre-work before attending a classroom session.

**John**

John’s IT career spans over 30 years, and the last four have been at Net One. Technology for his team changes almost daily, and so the team cannot possibly have expertise in everything they will need to know to do their jobs. In his role as a technologist, John researches knowledge and skills his team will need and communicates
the information to them at the point in time it is required. John described how his role fits in with his team in the following way:

I'm not a day-to-day coding kind of thing. But I'm trying to support the team who's doing that so that they'll have a ... so if there's something coming up that they don't know about, I need to understand that technology and explain it to them, show them how to use it.

John worked in an agile environment for six years before he joined Net One. But, since he joined Net One a year before they implemented agile, he was part of the transformation and required to attend multiple agile bootcamps. Surprisingly, he also reviewed agile content on Envision, because he finds the courses to have practical examples that he can relate to his work.

In addition, John spends time on Envision for a variety of other IT topics so he can quickly learn and relay information back to his team. He is curious and spends time learning at night or on his commute. But John attested he is a unique case, and others at the company were less dedicated to continuous learning:

I'm probably a little outlier in most of this stuff. I spend a lot of time on Envision for technology stuff, as well as a lot of the other online courses, and I don't think the rest of the team really gets that involved in them. I really want to know.

Karl

Karl is the least tenured of the study’s participants. Net One is his first employer, and he has been there for eight months. Before Net One, Karl was in graduate school learning software development and coding, and he completed an internship with Net One at that time. Karl’s role is Technology Associate in the Techie development program,
which is a six-month preparatory program for a future position in the company. In this program, Karl learns about IT, software development, and coding. Although he recently finished the program, he is not assigned to projects and his duties are to learn as much as possible to be prepared to contribute in the future.

Karl indicated he learned about agile as part of his education:

In school that's like the standard you're taught, that businesses are doing agile, waterfall is really talked in school, but as, “Yeah, people used to do waterfall, but not anymore.”

Karl took one in-person class when arriving at Net One about how agile is done at the company and where it may be different from other IT firms. He has not used Envision to study agile, although he uses it heavily for other IT content. Sometimes, he may spend all 40 hours in Envision training.

**Mike**

Mike studied finance and business in graduate school. He completed two internships with Net One before his full-time employment of five years. During the transformation, Mike worked as an agile coach, leading the adoption and practices of agile in Net One. Once the transformation was complete, the work ended, and he joined the IT training department in early 2019 as their data analyst. Mike’s objective is to determine a way to measure the outcomes of learning programs, including Envision. He described the difficulty of measuring an employee’s learning:

That's the really big challenge that we have ahead of us, and one honestly, I'm kind of driving at. So, figuring out, okay, you took a Skill Up in January and you got a hundred and now it's May and you got a two hundred. Great. That's an
improvement, and it's an improvement of skill, but how does that translate to actual behavior change? How does that change how we're moving quicker, saving time? Very challenging to figure out that connection and it's something we're still trying to think through in our heads and design out.

Mike also uses Envision to learn about IT products and languages. However, he sees variability in its usefulness. In one case, he learned about a topic but then was unable to apply it to work. In another case, he learned about a tool and then was able to use it immediately after.

**Findings**

The analysis processes identified three super-ordinate themes: drivers, methods, and outcomes. The super-ordinate themes included eight subthemes related to the corporate MOOC platform and its interplay with organizational learning processes. This section uses the participants’ words to define the three themes and eight subthemes. See Figure 4.1 for an illustration of the themes.
Drivers

The first theme in this study related to the MOOC platform and organizational learning processes is drivers. From the analysis, drivers are factors that allow or limit learning processes. The causes that allow or limit learning processes according to the participants included workload, adoption, and the environment. All data sources for each type of inductive coding related to drivers were triangulated. See Table 4.2 for a depiction of the data for the super-ordinate theme of drivers.

Table 4.2

<table>
<thead>
<tr>
<th>Super-Ordinate Theme: Drivers</th>
<th>Data Source and Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-Theme (In Vivo Coding)</strong></td>
<td>Interview - 316</td>
</tr>
<tr>
<td>Workload</td>
<td>Document - 54</td>
</tr>
<tr>
<td>Adoption</td>
<td>Observation - 43</td>
</tr>
<tr>
<td>Environment</td>
<td>Memo - 28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sub-Theme (Process Coding)</strong></th>
<th>Data Source and Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workload</td>
<td>Interview - 289</td>
</tr>
<tr>
<td>Adoption</td>
<td>Document - 43</td>
</tr>
<tr>
<td>Environment</td>
<td>Observation - 36</td>
</tr>
<tr>
<td></td>
<td>Memo - 14</td>
</tr>
</tbody>
</table>

In the following section, the data describes the drivers of learning with the MOOC platform at Net One. The workload factors allowing or limiting learning are time, capacity, and productivity. The adoption factors allowing or limiting learning are access, awareness, curiosity, motivation, usage, and accountability. The environment factors allowing or limiting learning are agile, performance management, rewards, and managers. See Figure 4.2 for an illustration of drivers and its subthemes.
**Drivers** - factors allowing or limiting learning processes.

<table>
<thead>
<tr>
<th>Adoption</th>
<th>Workload</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>Time</td>
<td>Agile</td>
</tr>
<tr>
<td>Awareness</td>
<td>Capacity</td>
<td>Performance management</td>
</tr>
<tr>
<td>Curiosity</td>
<td>Productivity</td>
<td>Rewards</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td>Managers</td>
</tr>
<tr>
<td>Usage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accountability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 4.2* Visual depiction of drivers as a super-ordinate theme defined by three subthemes and 13 factors.

**Adoption.** During the study, participants describe adoption as the act of making regular usage habits of the MOOC platform. Adoption also considers how easy the system is to use, as well as a person’s motivations for using the MOOC system. This section explores adoption as a driver to allow or limit learning processes through the following factors: access, awareness, curiosity, motivation, usage, and accountability.

Before an employee can use the MOOC platform for learning, they need access to it. In the analysis, access is the action of admitting users into the MOOC system, and also refers to the ease or constraints of using the platform. Part of Derrick’s role as the program manager of Envision is to provide access to other MOOC users, and he suggested how available the platform was for employees:

Envision’s there right now. It’s on, so you can get that now. It’s always there for you. One of the nice things is the instant on in 24/7 availability, and the [Chief
Information Technology Officer (CITO)] challenged us to do that, to have that available for folks.

The system observation validated Derrick’s opinion, which noted the MOOC platform has a mobile application feature. With this mobile feature, employees could download content and access it from any location with or without an internet connection, such as during a morning commute. John also demonstrated the accessibility of the MOOC for his learning processes, “I do a lot more of it, because it’s there, it’s available. It was free and it was there. I was on the bus, so I watched it.”

Cost appeared as a driver to access as well. Three blog posts referenced how employees could receive free licensees to use the system. John listed price as a major reason for using the platform, “Because [Envision’s] free from a company point of view, I’m more willing to go out and listen to stuff that I ... I wouldn’t pay $40 to go listen to them, but it’s free.”

According to system reports, access to the MOOC platform led to 3,834 employees securing licenses. In 2018, the target was to gain 3,711 users. The MOOC platform showed adoption as a driver of MOOC learning processes due to cost and availability. But Joe mentioned that he struggled with accessibility when using the question and answer (Q&A) feature, “I was trying to interact with the instructor on the Q&A board, and I wasn't able to find where or how to do it. So I just kind of skipped that step and moved on.” Derrick also suggested the Q&A feature had opportunities for better usage, “It’s sort of like an office hours, or a class follow-up, we don’t use it enough, but I know our people do use it to ask questions.” He went on to suggest the MOOC competed with other internal collaboration tools as a reason for the feature’s low use, “Q&A is
great, it’s just people are already doing other things in Teams and Slack [messaging software].”

In addition to initial access, the organization needed to ensure employees were aware of the MOOC system and its corresponding features. Participant’s described awareness as demonstrating a level of knowledge about the MOOC platform and its specific features. Mike outlined how the IT training department partnered in several awareness initiatives to drive MOOC adoption, “I’ve mentioned those marketing campaigns and when people haven’t heard of Envision, that’s a really nice introductory way to get people into the tool.” Derrick followed up to Mike and suggested that formal competitions drove initial adoption and awareness, “Some people… Once they start using it, they use it a lot. So that’s why these learning challenges are great, too. They get people started, and we’ve found it’s kind of a sticky process.”

In 2018-2019, 57 percent of learning activities in the IT organization came from the MOOC platform, as seen in the study’s documentation. Although John and Karl described themselves as heavy users of the platform, both exhibited a deficiency in awareness of the additional features to collaborate and share content with others. John demonstrated his lack of awareness about system options when he mentioned that, “I didn’t even know they had anything outside of the … I knew you could ask questions regarding the class, but I didn’t know anything else about the other features.” At the same time, Karl showed he was unaware of collaborative features when he conveyed that, “I’ve never really tried to use that functionality at all. In fact, I’m not 100% sure if I even knew it existed.”
While access and awareness often brought an initial user to the MOOC platform, general curiosity about the content hosted on it appeared to be a reason for ongoing adoption. In the analysis, curiosity is the desire to learn something new. John mentioned curiosity was often a motive to use the MOOC platform, “I’m just curious, I want to know more. I’m just interested in something, so I’ve gone off and learned it. So if something new comes up that I don’t know about, I go look [at Envision] and see.” Karl also posited curiosity to be a driver to adopt the MOOC platform, “I watched some of them that more peaked my interest, or I really had nothing... no idea about it.” Derrick too listed curiosity as a driver for using the MOOC courses as part of his learning processes:

I would say most of what I know about agile, I’ve learned from Envision, just for some validating courses and curiosity. Over the last two quarters I’ve done a lot of CSS [coding language] courses, I just thought I’d like to know more about that, so I’ve done that.

Finally, Mike suggested curiosity could lead him to use the MOOC platform to learn, “I can say from my own experience, I really enjoyed having something like Envision to just be like ‘I’m wondering about this, I’m trying to be a PO [product owner] and make decisions, how should a PO behave?’”

Besides curiosity, participants described motivation as a driver to adopt the MOOC platform. For example, the MOOC platform motivated Derrick because the content helped him gain credibility with business stakeholders:

Envision has these, they’re called the big picture courses. Big picture’s in the name, it’s an hour or two course and it gives you the big picture on Cloud [server
database], or NoSQL[database], or Java [programming language]. If you just take that before those calls, you can be more of a participant and add more value to those calls. We’re [the IT training team] not developers, we’re almost to the point where we know enough to be dangerous, but at least we can talk the talk, and kind of know when something is wrong, we’re that much more knowledgeable. It [Envision] makes me more of a partner and less of an outsider barrier.

John also described motivation as a driver of adoption when he told a story about gaining self-assurance from his use of the MOOC system:

What's interesting then is I can bring it [Envision content] back to work and go, “You know, agile has these kinds of features, and we’re not doing all that.” And it also gives you a little bit more confidence to go point out, “Okay, we’re not doing this.” “Well, how do you know?” Well, I can pull stuff from the [Envision] class on things like that [being questioned]. So it [Envision] gives you a little more confidence, a little more believability.

Mike listed career development as motivation for using the MOOC platform for learning, “You can go in and see all the things that you’ve learned and then bring it to your manager and show them the dashboard and say, ‘I want to become a Scrum master, here, this is what I’m doing to get there.’” Finally, an agile learning blog posted that using the MOOC would let employees “have a little fun” to aid in motivation to learn on the system.

Once adopters of the MOOC platform, each of the interviewees attested to frequently using the system as part of their normal learning processes. Data collected in documents defined usage as the quantity and frequency an employee uses the MOOC
platform, and 83 percent of the IT organization at Net One are active MOOC users.

Derrick explained that running competitions increased early adoption and usage of the MOOC platform:

We [the IT training team] built out these security role-based channels, and then we set up the six-week learning challenge, and everyone who completed at least eight hours was put into a raffle. There’s only 130-ish people in that [the security] space, they consumed 718 hours of learning in six weeks.

John indicated his level of usage was high because he used it for many different topics, “I use Envision for a lot more than just the agile stuff. I can use it quite a bit.” Karl mentioned that the organization encouraged his frequent use of the MOOC system, “As Techies, you’re given a fair amount of videos to watch, to help you. I’ve used it a fair deal.” As a system administrator, Derrick monitors the MOOC system usage often:

“I’m always amazed when I go look at the usage data by user, and I see the top users are consuming double digit hours per month. Some people are 20, 30, 40 hours a month of Envision consumption. Now that we’ve got Envision here, we’ve all consumed a lot more training.”

A final component of adoption as a driver for MOOC learning processes is accountability, which participants describe as the process of adopting and consistently using the MOOC platform for learning. John attributed the Scrum Master certification option as holding him accountable for his ongoing learning, “So taking the classes to understand the [Scrum Master] certification really helps me. Not because I wanted it, but because I wanted to really ... It forces me to go in and learn it. If I don’t have a goal, I’m not going to get that [accountability].”
In the 2015 agile manifesto set forth by the IT leadership team, the organization called all IT employees to be accountable for continuous learning, by asking for a “[Commitment] to developing and improving skills,” and a “Career-long commitment to learning.” And in a blog inviting IT employees to an Envision learning challenge on agile topics, users were encouraged to “Commit to learn” by adopting the MOOC platform for their ongoing learning.

But Derrick cautioned that accountability takes dedication and planning, “Self-paced happens amongst everything else that’s going on. It doesn’t just happen, you have to make it happen. Like, ‘Okay, I get it now, I'm going to make it part of my schedule.’” Mike hinted that his team could support his answerability to ongoing learning by indicating, “I think we could’ve done a better job of holding each other accountable [for taking an Envision class together].”

In the analysis, participant adoption of the MOOC platform for their learning processes considered the factors of: access, awareness, curiosity, motivation, usage, and accountability. Once a general awareness of access was established, employees’ use of the MOOC platform was high as it provided continuous access to new information for their roles. Some interviewees were motivated to return to the system when they were able to demonstrate their knowledge and gain credibility with others. Although the organization encourages MOOC learning, maintaining accountability in using the system appears to be a potential barrier to learning processes.

**Workload.** The prior section described accountability as a factor of adoption, and Derrick suggested workload could be a driver limiting learning processes. In the analysis, participants’ described workload as an employee’s volume of work and the time
in which they have to complete it and that workload has a direct correlation to employee output. This section will explore the factors of time, capacity, and productivity as they relate to workload as a driver to allow or limit the participants’ learning processes.

For the participants in this study, time is a factor of workload that refers to the percentage of working or non-working hours an employee contributes to learning. John spends an average of, “ten hours a month if you average it all out” using Envision. At the same time, John, whose role as a technologist is to gather new information for his team, spoke to using personal time learning, “All of it is on my own time. There’s never been any company time I’ve spent looking at it.” Derrick, whose role is in the IT training department, manages to afford learning time during the working day, but admits he uses his lunch break to do so, “People will learn over lunch, they’ll block out, like I do, for an hour.”

Conversely, Karl, a newer employee in a development program, put forth that he can spend large amounts of the working week in Envision:

I don’t even know if I could average it, because there’s some weeks where it felt like I was just on Envision, just with being in this new team and kind of getting my feet under me.

Joe’s entire team are developers and often required to learn new coding languages and so scheduled time in their daily work activities to use Envision. He conveyed how they used agile to help plan the Envision training:

We had kind of a lull a couple of weeks ago, and so we put a story in our backlog, meaning in the agile methodology of a backlog of jobs that needed to be done.
All of us put a task in the backlog of React training this week. These are the
times that we're going to do that [Envision training].

Similar to the element of time, participant’s describe capacity to be a factor of
their workload. Capacity is the total volume of working hours an employee has and the
extent to which they utilize those hours at a minimum or maximum. Capacity also refers
to the portfolio of activities that fill maximum working hours.

John hinted to the amount of overall work in his environment, “Everybody’s
running at a different cadence. People are really busy.” He then indicated that the role
one is functioning in effects the capacity of an agile team’s workload:

If you have a team of five people and one of them is on call for that week, you
take their percentage of usability down. So your ability to get so much done gets
a little bit smaller, because you’ve got to take into account, “This person’s not
really here, so don’t even count on them.”

Adding to the idea of workload and capacity, Mike alluded to the busyness of the
workplace and the need to choose between priority work and learning activities which
may not be as important:

If you’re working in the business and you’re working in your job all the time, it’s
really hard to step back and work on something that doesn’t have that immediate
impact or criticality to it. People get sucked into their day-to-day job and for
good reason.

Derick too stated how workload and capacity could take precedence over training, “When
you're sitting at your desk, if you wait for that opportune time in the week to start, it
never comes up, it gets to be Friday afternoon.” Karl, by nature of his role, must learn
technologies as a part of his work process. As a result, he indicated that he often has capacity in his work day to study:

I haven’t been in any super high intense crunch time situation where I couldn’t learn. I haven’t had any experience where I was like, “Man, I needed to learn this on Envision, or look at something, but I also have all these crunching deadlines coming at me.”

In the analysis, workload is defined by the factors of time and capacity, and each directly affect productivity. According to participants, productivity is the quality and quantity of output a worker produces during the working day.

Joe described how work could halt completely when the team is out for training:

In two weeks, we’re all going to start doing this training for Spring Boot [application framework], so there's not going to be any development work done, but we’re all going to be doing this training. And our stakeholders that are expecting things from us know that these two [training] weeks the development work's not going to get done.

John’s team did not have the same flexibility as Joe’s when he explained how his team’s production cannot slow for training, “Your sprint says you’re going to do these 10 things, but the rest of the world keeps coming at you and production has to keep going.” Mike questioned the idea of training and made the point that training may not lead to increased productivity, “Just because you take a course on Envision doesn’t mean you’re driving any business results.”

Workload, as a subtheme of drivers, allows or limits the learning process through factors such as time, capacity, and productivity. The participants described how their
workload was a driver of their ability to spend time on personal development in the MOOC platform. And, each of their various roles and work tasks changed the way they experienced having a workload that supported integrating the MOOC into their learning processes.

**Environment.** In addition to adoption and workload, participants described the environment as a driver for MOOC learning. In the analysis, the environment is the collection of management practices, culture, policies, and processes in an organization that can support or inhibit learning processes with the MOOC platform. This section explores the factors of agile, performance management, rewards, and managers as they relate to the environment as a driver to allow or limit the participants’ learning processes.

To begin, Net One’s IT department implemented agile work principles, policies, and processes that appear in employees’ cultural norms. Net One instituted agile in 2015 with an agile manifesto from IT leaders, where they presented that the organization would, “Adopt agile development,” and it would “Need to re-skill team members” to be successful. The MOOC platform was intended to support agile learning, and as recently as 2018, a blog post promoted learning competitions on agile frameworks.

John demonstrated how strictly agile processes are upheld in the IT environment. He explained he was often forced to miss learning opportunities due to agile activities, “Sprint refers to those as ceremonies, and they are very religious about those things [ceremonies]. You should not miss them. And they collide with a lot of these other training things [Envision].” Joe also confirmed his team’s rigorous adherence to agile, “We have daily meetings, which is a hallmark of the agile methodology.”
Karl, Mike, and Derrick described Net One’s IT sub-groups as using an agile methodology with variability. Karl suggested his Net One agile class differentiated from what he learned about agile in college, “[The instructor] talked about more so agile, but then brought in how Net One might do it [agile] a little differently, or how you might see it [agile] a little differently at Net One.” Derrick also spoke of his team’s approach to agile as different than how other companies may do it, “We do agile practices. I wouldn’t say we are the most orthodox, pure, by-the-book. But I don't know if anyone is.” And Mike, who shares Derrick’s team, observed that their team was indicative of the broader Net One IT organization, “No one actually does script agile. It's all just deviations.”

Despite Net One implementing agile in 2016, system reports demonstrated that agile remains a popular topic for IT. Between 2018-2019, agile MOOC learning was accessed by 221 users for 367 hours, and agile classroom learning was taken by 1,444 users for 36,512 hours.

Another aspect of the environment as a driver of learning processes at Net One is the performance management requirements set forth by senior leadership. In 2015, the leaders who authored the agile manifesto set expectations about learning when stating, “Net One will create a continuous learning environment,” and have “learning options that help teams,” and how employees would have a “career-long commitment to learning.” Mike supported that the MOOC platform was endorsed by leadership because it was a business objective, “[Envision’s] one of our strategic priorities as an organization. I think it’s one of five.”

Karl reinforced the continuous learning attitudes of the agile manifesto when describing his experience with leadership, “Net One as a whole is pretty encouraging
about learning.” Whereas Mike insisted that leaders need to do more to promote learning as critical for job performance:

It’s more like you [leaders] need to be talking about it [Envision] more often, and that goes all the way up the ladder so one of the things we really encourage the directors and all the way up to our [Chief Information Technology Officer], to talk about in town halls, and it’s, “Hey this [Envision] is a priority for us. This is the organization we’re trying to become.”

But according to John, the performance system of goals and compensation does not align with the expectations voiced by leadership about MOOC learning:

It’s [Envision] not on your objectives at the end of the year. The [vice president] will come out and go, “We need more ... You need to educate yourselves,” but it’s never a target that you need to go learn. Envision, some of the stuff will actually give you a certificate of completion. I get them, but nobody ever cares.

Outside of performance management incentives, rewards such as gifts, money, or other prizes have been given with variability to employees for using the MOOC platform. In some cases, specific subgroups of the IT department held competitions called learning challenges in an effort to increase the MOOC platforms users. Blogs promoted an agile learning challenge and Women in IT learning challenge and offered for people to “take courses” and “win prizes.” Derrick explained the IT training department partnered with Envision to host challenges, “I think we ran it for a month and we said, ‘Everyone who completes two courses will be eligible for prizes.’ And Envision provided all the swag.”

Mike corroborated Derrick’s story about the learning challenges, but also clarified competitions and performance were not connected:
We said, “okay within security if you take three of the courses, and you take two Skill Ups, you’ll get a prize.” In terms of performance or anything like that or getting promoted because of the consumption of Envision, we try to stay away from that because it's not- Just because you take a course on Envision doesn't mean you're driving any business results, so you want to make sure those lines are kind of crystal clear.

While targeted competitions offered prizes for some groups, John, Karl, and Joe indicated they had never received any rewards for using the MOOC platform. John suggested that while MOOC learning is encouraged, he also is not compensated for training, “The company’s very motivated at the top to get people engaged in learning more stuff. It just doesn't trickle down to, ‘What’s my incentive to do this?’” Karl also described the absence of direct rewards for using the MOOC system, “Rewarded for using Envision... Not directly for like, ‘You took this Envision course, here’s this award.’” Finally, Joe declined seeing himself or his team members recognized or paid for MOOC training, “Not [rewarded] that I know of, apart from just an increase in the number of skills that you have.”

Participants also designated managers also as a factor in the environment, whether encouraging learning, removing barriers preventing learning, or creating the capacity to learn on the MOOC platform at work. According to both Karl and Joe, managers generally encourage learning but are not specifically promoting the use of the MOOC platform to do so. Karl mentioned that his manager is, “not necessarily prompting me to use Envision, but… Managers that I've had so far… People want you to take some time to learn something.” Joe’s manager also does not advocate for using the MOOC system
to learn but is open to her team learning on the platform, “My manager doesn’t [prompt me to use Envision]. She leaves my own career and personal development up to me. She’s definitely supportive of it.”

Derrick’s experiences with his manager are opposite of Karl and Joe’s stories in that he is often encouraged to use the MOOC platform for development:

She does a good job of that, because we’re [the IT training team] constantly talking about it [Envision]. She wants us to learn. When we have a Envision course up and she walks behind us, we don’t feel like we have to close it. She really wants us to do that, and we look at our own metrics to see that we’re in there [Envision] learning.

At the same time, Derrick admitted that his manager may be an outlier compared to others in the organization. He suggested managers could promote the MOOC platform for learning, “Some managers are all in on Envision, they encourage their teams. Some managers are good at that already, but I would say, still the balance is, we’ve [the IT training team] got to help them figure that out.”

In summary, the factors of agile, performance management, rewards, and managers relate to the environment subtheme as drivers that allow or limit participants’ learning processes. The analysis demonstrated that agile methods could prompt learning in the MOOC platform to aid in agile education. But data also suggested that agile practices were priorities over learning activities. The interviewees described inconsistency in the environment, where leaders encouraged using the MOOC platform, but objectives and rewards were not framed around learning processes. Managers encouraged learning but did not promote the MOOC platform specifically.
Overall, drivers either support or become barriers to learning processes and the MOOC platform. This section presented how adoption, workload, and the environment are subthemes of drivers. MOOC adoption mostly supported learning processes through the following factors: access, awareness, curiosity, motivation, usage, and accountability. Workload was more of a barrier to MOOC learning processes due to the factors of time, capacity, and productivity. The environment both allowed and limited learning processes and the MOOC platform through the factors of agile, performance management, rewards, and managers.

Methods

The second theme of this study related to the MOOC platform and organizational learning processes was methods. From the analysis, methods describe the various modes by which employees learn new information and make it a part of their work or team processes. Methods also explain the mechanisms for exchanging knowledge between individuals, teams, or the organization. The three subthemes of methods are formal learning, information learning, and institutional knowledge. All data sources for each type of inductive coding related to methods were triangulated. See Table 4.3 for a depiction of the data for the super-ordinate theme of methods.

Table 4.3

Data Triangulation: Methods

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<thead>
<tr>
<th>Super-Ordinate Theme: Methods</th>
<th>Data Source and Frequency</th>
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<tbody>
<tr>
<td>Sub-Theme (In Vivo Coding)</td>
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<tr>
<td>Formal learning</td>
<td>Interview - 292</td>
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<tr>
<td>Informal learning</td>
<td>Document - 29</td>
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<tr>
<td>Institutional knowledge</td>
<td>Observation - 48</td>
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<td>Memo - 31</td>
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<tr>
<th>Sub-Theme (Process Coding)</th>
<th>Data Source and Frequency</th>
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<tbody>
<tr>
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<td>Interview - 503</td>
</tr>
<tr>
<td>Informal learning</td>
<td>Document - 30</td>
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In the following section, the data describes the methods of learning at Net One. The formal learning factors by which employees learn are pre- or post-requisites, self-paced MOOC, assessments, and classroom training. The informal learning factors by which employees learn are on-the-job training and communication constructs. The institutional knowledge factor by which employees learn includes a shared vocabulary. See Figure 4.3 for an illustration of methods and its subthemes.

**Methods** - the various modes by which employees learn and incorporate knowledge as part of their work or team processes.

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<tr>
<th>Formal learning</th>
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<th>Institutional knowledge</th>
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<tr>
<td>• Pre- or post-requisite</td>
<td>• On-the-job training</td>
<td>• Shared vocabulary</td>
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<tr>
<td>• Self-paced MOOC</td>
<td>• Communication constructs</td>
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<td>• Assessment</td>
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<td>• Classroom training</td>
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*Figure 4.3* Visual depiction of methods as a super-ordinate theme defined by three subthemes and 7 factors.

**Formal learning.** During the study, participants described formal learning as training methods designed by the company for learning skills required to do their jobs. From the analysis, formal learning took place either on the MOOC platform or in a classroom. This section illustrates the factors that relate to formal learning methods: pre- or post-requisites, self-paced MOOC, assessments, and classroom training.
**MOOC platform.** Joe described using the MOOC platform to learn new information as a pre-requisite, or primer, for attending multiple classroom events to be more prepared with baseline knowledge of the topics:

Once we were signed up for the training, the organizer of that training sent out an email and said, “Okay, you are required to take 20 hours’ worth of pre-requisite training on Envision.” I'm sure having taken those pre-requisites I won’t go into that React training, and that Spring Boot training, and be completely lost.

Derrick also mentioned the intentional use of the MOOC system for pre-work to increase knowledge of a class topic, “We built something called the agile self-paced curriculum.. It was a little bit of pre-work to the instructor-led training.”

The system observation revealed how using the MOOC platform as pre-work could benefit new hires by matching them to the correct starting point of their learning path. During the system observation, data revealed that the Techies development program is a six-month assignment to train college graduates on four technologies and agile. It assumes the new employees bring a level of knowledge into the program from college. The IT department pre-tests new Techies with Envision assessments and courses to see how advanced they are and where to begin their classroom instruction. If they are experts, they begin more technical classes. If they are beginners, they are prepared for classes with the Techies Envision channel. Karl was a recent graduate of the Techie program. He explained how the MOOC platform was used also as a post-requisite after a class to deepen the topic, “Envision was kind of to reinforce the class, it was after.”

In addition to using the MOOC platform as pre- or post-requisite training, the participants described using the MOOC platform as a standalone activity for learning.
Each of the interviewees referred to using the MOOC platform as an individual, self-paced learning experience. The researcher’s observation revealed that Envision is a platform that was purchased and installed with IT and agile content pre-loaded. It has over 8000 courses, which are organized into paths so that users can navigate the content easily. Courses and paths are stock content from the vendor. Courses and paths can be customized into channels. Channels are more interactive and can be sourced to contain group-specific content or shared from one group to others in the Net One organization. Courses are videos recorded by an industry expert and contain discussion boards that are monitored by the facilitator. Derrick described the interactions as “pretty lively.” Envision users can link their channels to team and company Wiki pages to share content or discuss it. Employees can also rate courses with the feedback feature. Finally, the Envision platform is set up to direct link to the company Learning Management System (LMS), as well as other IT-related web sites. System reports collected for the study showed how self-paced training makes up 57 percent of all total training time spent in the company.

Karl assessed the MOOC platform as helpful since individuals control the speed of learning, “Envision’s a great tool if you’re interested in the information and you can pace the way you want.” Meanwhile, John felt that the system had several benefits, as he indicated, “The nice thing about Envision is it’s people that are working. It isn’t your 80-year-old professor who hasn’t seen a computer in 20 years who’s teaching you code.” He went on to describe, “Envision got me up over the learning curve really fast, the learning curve would have been a lot longer, the learning time would have been a lot longer.” Finally, John suggested that the MOOC platform offered more practical concepts than
traditional classroom training: “[The courses] are all real-world kind of things. They’re not a lot of theory. They’re not super in-depth, but they’re not really, really shallow either.”

Similar to John’s view of the MOOC’s realistic examples, Joe also saw job applicability from the MOOC platform, “I was able to complete the entire course, learn a lot about some of these programming frameworks, and do the examples on my computer.” And Mike offered how intentional the IT training department was in providing the MOOC platform as a faster method for learning with immediate application, “You can kind of see that story of how we’ve really pushed for more individual go and learn what you need and get out and go do it, and that’s been a real shift in how we facilitate learning.”

One aspect of the self-paced MOOC platform that appeared in the study was the assessment feature, or test of an employee’s ability to demonstrate knowledge learned. During the system observation, data indicated Envision also offers an assessment feature called Skill Ups (pseudonym). Users can take a Skill Up, and the score will determine their current level of knowledge, so they know how to advance or where to begin in a course. The Skill Up feature has been used to run learning competitions and to show development readiness for an employee’s next role. The MOOC platform also allows Skill Ups to be combined into a Role Ups (pseudonym), or capability profiles for various job families.

Derrick described Skill Ups as, “An adaptive assessment, so it gets harder or easier depending on how you’re answering it. It [your score] can also be shared on [social media]. So your score becomes sort of a little bit of your resume. So if you score
a 15 on the path, it’s [Envision] going to say, ‘Start at the beginning.’ But if you score a 215, it might say, ‘Hey, you’re already a pretty advanced practitioner. You should at the advanced level of the path and skip the early stuff.’” Joe corroborated Derrick’s suggested use of the MOOC’s assessment tool as a way to determine where to begin in a course series: “I think the test in the beginning for JavaScript and for Java, for those two courses, were kind of helpful. [The test] showed what I needed and didn’t need to take as pre-requisites for those [courses].”

While Derrick and Joe considered the assessment feature as a way to place employees on the correct learning path on the MOOC platform, Mike saw potential in the MOOC’s assessment feature as a tool to build a career profile: “Skill Up could be a real resume builder. If you could bring to the table to an employer and say this is the industry standard and I’m here on the scale with these skills, and that’s the role you’re trying to fill, that is an easy sell, right?” But Mike admitted the Skill Up and Role Up features are still new and underutilized. He considered them “aspirational” and emphasized his goal to improve reporting on the MOOC system: “We can see that they spent three hours in the course but did it actually help them with their job, we don’t know that yet.”

Another facet of the self-paced MOOC platform was its collaborative learning options, which allowed two or more people to experience new knowledge together with the system. For example, Mike posited that people sourcing content for channels resulted in sharing customized information:

The hottest features that we use within Envision, channels, it can be collaborative in the sense that you can really curate all of the content that’s there. So using
channels to curate some of that content has been very successful. I think we have over seventy channels at this point that Net One curated.

While Mike considered the sharable aspect of channels as collaborative, company blogs demonstrated the creation of group-specific channels to foster cooperation. For instance, the Women in Technology channel was designed for its members and linked to various discussion boards and company Wiki pages for employees to engage one another.

Just as the documentation revealed channels housed discussion boards, John advocated for the collaborative nature of the discussion boards within the MOOC’s courses: “They [Envision courses] all have the ability to ask questions online. So you can post questions to their bulletin board. So that’s great. I follow this one woman... If you post a question she’ll usually get back to you herself on it.” But John also suggested he had other collaborative resources outside of the MOOC platform with more value, “If you go to some of the other ones like [competing web resource], that’s a bulletin board, and you’ll get a lot of answers from other people, which is even more useful.”

A further aspect of the self-paced MOOC platform that appeared in the data was the debate on whether the content translated to work behaviors, so that new knowledge could be taken back to teams and incorporated in work processes. For Mike, applying MOOC content was a deliberate personal effort:

Where I found the most use of Envision, specifically with agile, is I’m thinking about how I was working while I was taking the course, kind of in tandem, and just try to apply as much as I could in the moment. Envision, you pause the course and you’re saying, “okay now I want to use a Kanban board [task
organization tool] for all my work,” and you go and do that. And then you pick up [in the course] where you left off whenever you’re ready.

But although Mike was proactive and applied the MOOC content in his work, he cautioned that the MOOC platform does not provide actionable follow-up for users:

I think what I’ve learned is you can’t just read a book or take a course and say, “okay that was great.” There has to be some sort of actionable step to it or outcome, and I struggled with that. I think everybody struggles with that. Oh, I took a twelve-hour course and then you finish it and you’re like, “great I completed it, now what?” And there needs to be some applicability to that [course].

Both Joe and John shared stories of instances where they applied their MOOC learning in their work. John indicated the examples in the MOOC training were ones that he could relate to his work:

Envision gives you a little more of the agile practicality. You’ve got a sprint and it says you’re going to do this much work. Well, how do you manage interruptions? How do you manage the day-to-day operations? How do you adjust your utilization for that? So Envision offers a lot of things on how people have done that.

While John utilized MOOC content to manage team resourcing, Joe explained he employed something he learned in a MOOC course to a work process, “I got on Envision to learn… and they gave some concrete examples on how to do things. Actually, I learned several things… it actually showed me how to do a few nifty tricks that I was able to incorporate into something that I just wrote that nobody else knew.”
In summary, the analysis showed the MOOC platform could be used to learn and prepare for a class or to continue learning after an event. The data presented how the MOOC platform had features such as assessments, as well as collaborative channels and discussion boards for acquiring knowledge. The participants explained how, although the MOOC did not direct taking action on new learning, they experienced situations where they acted on MOOC content in their work.

Classroom training. In contrast to self-paced MOOC learning, participants defined in-person training as a live classroom event for employees to learn new IT skills. Study documentation displayed classroom data for the IT training department from 2012-2019, with agile listed among the most frequently attended topics. Reports also showed that classroom training makes up 62 percent of all learning activities, which was five percent more than MOOC usage.

Derrick agreed with the system reports that classroom training still held precedence over the MOOC platform, but it also came with a set of barriers related to time:

Instructor-led training is still sort of the centerpiece, but that takes time. You have to schedule it, there’s lead times. We’ve seen the demand for instructor-led training go down a little bit. If you’re dependent on instructor-led training, I don’t want to say it’s bottlenecks, but there’s limitations, there’s the lead time, there’s budget, there’s how many classes they have, there’s getting people away from their desks for three, four, five, or 10 days.

Similar to Derrick’s assessment of the length of classroom events, Joe too described the time commitment of five-day learning events and the frequency he attended
them: “[React training’s] going to be a week-long, on-site, all day long event,” as was another training he was planning to attend. As mentioned previously, work halts when Joe and his team schedule training.

While Derrick and Joe considered the longevity of classroom training, John was disappointed in the lack of substantial content offered in classes: “It is pretty cookbook kind of stuff. We’ve had maybe four or five agile courses, and they’re all pretty much the same. We get a lot of the agile theory. Everybody got, you know, maybe 10 people, 20 people in a class, and it was usually a one or two-day thing. And they were almost exactly the same.” Mike corroborated John’s experience with agile classroom learning when he explained agile transformation events may not be adding valuable skills or even be geared to the correct audience:

So an entire team will go into Scrum Master Essentials and sit in a classroom for four days and come out of that now we label them as transformed, right? Which is complete garbage but it’s kind of the easy way to look at it. I wonder whether everybody in that classroom had to go through the same experience together or if the timing was even appropriate given where the team was in their own technically agile preservations.

A recent college graduate, Karl’s perception of classroom training was different from the more tenured Derrick, Joe, John, or Mike. Karl made the point that he preferred an in-class experience to the MOOC platform, “In-person is always going to be better, because if you have a knowledgeable instructor, when you’re hung up on something right there in that moment, he could help you. It’s just the personal interaction.”
Overall, the formal learning methods of the IT department consist of self-paced training on the MOOC platform or classroom training as methods designed by the company for learning skills required for IT jobs. From the analysis, the factors that relate to formal learning methods are: pre- or post-requisites, self-paced MOOC, assessments, and classroom training. System data shows classroom training is more prevalent than the MOOC platform, but that events are declining while self-paced activities grow in popularity. The interviewees described experiences with MOOC content where they learned and then made new knowledge part of their work processes. The interviewees also illustrated how information was shared to teams and the organization on the MOOC platform. However, the analysis did not indicate if classroom training was helpful in applying new skills or sharing information.

**Informal learning.** In addition to formal learning, participants defined informal learning as knowledge or skills gained outside of the formal offerings of a corporate learning group, usually through an action or interaction. This section illustrates the factors of on-the-job training and communication constructs as they relate to informal learning methods.

From the analysis, on-the-job training is the process of learning a skill by doing the work tasks associated with it, sometimes with another person or team. Mike described his team’s efforts to learn a similar topic by combining the MOOC platform with on-the-job team training, “We’re going to go through these two or three [Envision courses] this week and then follow-up and have a meeting.”

According to Derrick, sometimes the IT training team designs onboarding programs to have on-the-job training follow MOOC content, “We’ll have them [new
hires] do the [agile] self-paced curriculum, and then they’ll go to their team and their team will handle the rest of the training.” But Joe countered the intentions of Derrick from the IT training department and described his onboarding experiences as inclusive of on-the-job learning with his team and without the use of the MOOC platform:

I just kind of was thrown into it [agile]. There was kind of a learning curve, it was kind of a tribal learning or a cultural learning once I got here. I was kind of learning along with the people that I was working with. And so as a team, we talked about various methodologies of doing agile, and we actually still regularly talk about them.

And when Joe did try to use the MOOC system as a precursor to learning on-the-job, he described a poor outcome, “The Struts training that I took... I think none of us really found it all that helpful. It was a lot more helpful for us to just dive into this huge program and start coding on it or experimenting with it.”

While on-the-job training takes place close to work activities, other informal learning happens within the communication constructs of the workplace. From the analysis, communication constructs consist of the various methods that employees can exchange knowledge with each other, such as meetings, Skype, email, conversations, forums, the MOOC platform, or discussion boards. For example, three of the documents collected for this study consisted of blog posts from the company’s internal social media platform, educating readers on the MOOC platform. In addition, the Net One strategy document obtained was used as a communication vehicle for leadership to learn about a plan for new Envision content.
For Joe, most communication occurs in team meetings, “Basically had some discussions on things like how often we should meet to discuss the work… We have daily meetings.” Similar to Joe’s team, Karl’s team also uses meetings as a knowledge sharing process, “We would have meetups where we would have an hour meeting, and it might not take that whole hour, but we kind of just discuss what we learned and what we see.” And where Joe and Karl have had success in using meetings as a way to share knowledge, John described formal meetings as a means to share learnings but lamented he could not attend, “There is a quality forum that goes on once a month, but it’s rarely attended. They’re really strict about agile ceremonies, and so a lot of the forums and stuff that I’d like to go to collide with the ceremonies, and ceremonies win across the board.”

To summarize, the informal learning methods described by members of the IT department consist of on-the-job training and communication constructs. For some participants, on-the-job training enabled learning and making new knowledge a part of their work processes. Communication constructs in the data showed the sharing of learnings between individuals and teams.

**Institutional knowledge.** Akin to informal learning, participants defined institutional knowledge as learning that is passed down from organizational processes and practices and continues beyond the people with whom it originates until it becomes the fabric of a unique organizational system. In addition, shared vocabulary is one factor related to institutional knowledge as a learning method. This section examines institutional knowledge and shared vocabularies as methods by which employees learn and share knowledge and make it part of their work processes.
John presented how institutional knowledge is a current challenge for the company because of how many new people are coming into the organization, “Net One has sort a dilemma: A lot of the folks have been here for a while, pretty entrenched, so you have a lot of new people coming right out of college and they’re fired up and ready to do stuff.” Joe added to John’s assessment of Net One’s problem by describing the length of time and complexity of learning institutional knowledge at the company:

Net One is trying to get away from having so much travel knowledge where if they hire somebody that was working at a different company, that person would have to come in and learn a ton of very specialized things in order to be able to be productive here. That’s still kind of the way it works now, so there’s this huge application… we’re working on, and a lot of the knowledge that you’ll have gained somewhere else will be applicable, but there’s still a great deal of knowledge about the way it’s configured, how it runs, when it runs, the process for making changes, who needs to sign off, that kind of thing that still is very, very specific to our organization. So it’s a pretty daunting and complicated onboarding process for obtaining this travel knowledge.

Karl’s role in the Techie development program is a testament to John and Joe’s description of institutional knowledge. Karl is eight months into his employment and still learning how to become productive in the Net One IT operating system. Karl explained his job was to study Net One’s institutional knowledge so he can eventually do work: “Right now, with the role I’m in, she’s focusing on me learning. Try to digest information. Being able to contribute to the team.”
Derrick and Mike acknowledged the amount of institutional knowledge employees need learn at Net One, and how the IT training department was using the MOOC platform as a process to solve the problem. Derrick explained that some teams use the channel feature to house institutional knowledge for new members: “Teams will kind of capture their learning culture in a channel.” Derrick suggested channels helped with onboarding processes, “When someone comes into their team, they’ll just turn them loose on that channel, and in that channel will be this course, this course and this course, and these are the things that you really need to get up to speed to become productive within our team.”

But while Derrick seemed to think channels were helpful in learning institutional knowledge, Mike admitted his IT training team has more work to make the MOOC platform successful in speeding up the process of learning institutional knowledge: “Okay, that Java course was great but is it helpful within the context of the work that we do? We’re trying to figure out ways to get that information out of the website and tailor it specifically to Net One.” Overall, Derrick contended that the team was seeing benefits for using the MOOC platform to solve navigating institutional knowledge: “Even if you’re an experienced software developer and you come onto a new team, there’s always this learning curve of ‘how we do things.’ [Using an Envision channel] takes away that randomness of learning when someone joins a new team.”

Despite the efforts of Derrick and Mike in the IT training department, Joe indicated how newcomers must learn institutional knowledge from mentors and not the MOOC platform, regardless of the level of expertise new hires may bring to a new role: “Even if you’re an expert in Java, you’re still going to need help from somebody who
knows and has experience with how this thing [Java] is set up [at Net One] in order to be able to do anything with it.”

An additional factor of institutional knowledge seen at Net One is the IT department’s shared vocabulary. The participants defined a shared vocabulary as a universal language with shared meanings belonging to a working group or connected organization. In this case study, the individuals working in agile have a set of terms to define work processes. Also, the organization often speaks in acronyms specific to IT, insurance, or the company. Joe illustrated how his team defined their vocabulary for him when he was new:

They call ceremonies, where every so often, based on how we want to, we have to define what work needs to be done, and that’s called refinement. And then they have another thing called retro, which is kind of a retro perspective of how they last however long... Like I said we define, they call it a sprint which is how long your work period is. So those things were already set up and I just had to learn those definitions.

Derrick suggested an agile curriculum was developed on the MOOC platform to help new employees like Joe learn the shared vocabulary more quickly:

In order for someone to come in and not think they’re speaking a different language, we do the [Envision] self-paced curriculum when they get to the team. They can speak the language a lot more quickly, and then understand their specific ceremonies and all that.

But as previously mentioned, Joe was not aware of the agile curriculum and thus never had the opportunity to test whether it would have helped his onboarding.
In summary, institutional knowledge is a method of learning and making new knowledge a part of their work or team practices. Shared vocabularies are a factor that relates to institutional knowledge. All of the interviewees described their experiences with institutional knowledge with a common theme of it being problematic for the company and new hires. Derrick and Mike illustrated how the IT training team was using the MOOC platform to help solve the problem of institutional knowledge, but neither Joe, John, nor Karl could corroborate the efforts of the training team.

Overall, the theme of methods related to the MOOC platform and organizational learning processes. Methods describe the various modes by which employees learn and make knowledge a part of their work or team practices. Methods also explain the mechanisms for exchanging knowledge between individuals, teams, or the organization. Formal learning, informal learning, and institutional knowledge are subthemes to describe the methods illustrated in this study. Formal learning included the MOOC platform and various ways the participants utilized it with their work processes. Informal learning sometimes appeared to contain conversations about learnings from the MOOC platform. Finally, the IT training team is attempting to solve institutional knowledge with the MOOC platform, but most people are not yet aware of their efforts.

Outcomes

The third theme from this case study related to the MOOC platform and organizational learning processes is outcomes. From the analysis, outcomes are the business results of learning on the MOOC platform. The subtheme of knowledge sharing contributes to outcomes. All data sources for each type of inductive coding related to
outcomes were triangulated. See Table 4.4 for a depiction of the data for the superordinate theme of outcomes.

Table 4.4

Data Triangulation: Outcomes

<table>
<thead>
<tr>
<th>Super-Ordinate Theme: Outcomes</th>
<th>Data Source and Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge sharing</td>
<td>Interview - 99</td>
</tr>
<tr>
<td></td>
<td>Document - 5</td>
</tr>
<tr>
<td></td>
<td>Observation - 1</td>
</tr>
<tr>
<td></td>
<td>Memo - 9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-Theme (Process Coding)</th>
<th>Data Source and Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge sharing</td>
<td>Interview - 127</td>
</tr>
<tr>
<td></td>
<td>Document - 3</td>
</tr>
<tr>
<td></td>
<td>Observation - 13</td>
</tr>
<tr>
<td></td>
<td>Memo - 7</td>
</tr>
</tbody>
</table>

In the following section, the data describes the outcomes of learning on the MOOC platform. See Figure 4.4 for an illustration of outcomes and its subtheme.

Figure 4.4 Visual depiction of outcomes as a super-ordinate theme defined by one subtheme.

Interviewees explained that knowledge sharing is the utilization of communication constructs to share learnings from the MOOC platform across teams or the organization. Joe suggested that sharing new skills from the MOOC does not happen beyond his immediate team, “There hasn’t been much in a very technical sense that ever gets shared across outside of the team.” But he indicated his team regularly shares new skills they practice together, “Primarily just we sit down and discuss what has worked and what hasn’t worked. Or what we think will work better.”
While Joe’s team does not share MOOC content outside of their immediate group, the system observation revealed how customized channels within the MOOC platform have become a tool to share content sourced by a singular team with the broader IT organization. A continuous learning blog post encouraged employees to use channels for content sharing, “Channels…save, organize and share content.” Derrick also illustrated how the IT training team was deliberately supporting channel sharing for the IT department:

We have a portal where we put in learning for all of our portfolios, and we’ll take those small little isolated team channels…. See what’s common around them, something that we’re not even aware of that’s a hot topic at Net One. So, we as a [IT learning] group, will mine that and pull that up into our enterprise channels.

Although Derrick was optimistic that MOOC channels were helping knowledge sharing across teams and the organization, Mike suggested that there was no reporting to show the MOOC platform was adding value to knowledge sharing when he explained, “When somebody takes a course in Envision, was it helpful or not, we have no idea. We just know that they took it.”

In two instances, participants were able to describe that they were able to share learnings from the MOOC platform that resulted in business outcomes. John took training on the MOOC platform and applied his learnings to implement an important process his team had not been doing. As a result he empowered his team to be successful with the new procedure:

[After Envision agile training] I was able to go in and say, “Look, this is part of the agile sprint. This testing is part of that. It isn’t done until you’ve tested it.”
We didn’t have a testing process, so I went out on my own and set it up. I said, “Okay, here’s the framework for testing. I’m not going to write all the tests for you, but here’s how we do it.” So last week, somebody actually did it [testing], they actually went out and they said ... Part of their test was to write this code, make these changes and write the test for it, and they did.

John saw the success of testing within his own team and then prepared to introduce the practice to the broader organization, “There’s a couple of things, and the testing is one of them, we’ve got a really robust test platform we think, and so we’re going to share it with others… so that everybody’s not reinventing the wheel on their own.” But John admitted concerns about barriers in the organization that may delay his efforts, “There’s a lot of siloed kind of stuff going on.”

John took a MOOC training and used it to institute a new business practice, and Karl and Derrick had a similar experience where MOOC learnings were used to redesign an onboarding program. Karl and Derrick told the same story from different perspectives to illustrate how one team’s learning from the MOOC platform translated to a new organizational practice. Karl described how his Techie team was trying to decide between technologies to use, and how they collaborated and used the MOOC content to make their decision:

It was something that happened when we were deciding between continuing the project we were given that was Vue.js framework or going to React. We all sat down and looked at things through Envision… and looked at the advantages of React.js verses the … advantages of Angular, support within the company and what kind of technical resources we could get. From there, we had a group thing
where we all discussed what we all had been finding and we all came to the conclusion that we would want to rework the project in React.js.

At the same time that Karl’s team was finalizing their choice of technology, Derrick indicated that the decision that Karl’s team made was the reason for the current construct of the Techie program:

It happened in Techies… And we were trying to decide between Angular and React, for example, on the JavaScript side, and a lot of the Techies started taking React courses from Envision. And they sort of ... some self-determination, they picked React as the tool that they wanted to use, and that would bake that into the whole program. So we don’t even train on Angular anymore.

In summary, the participants depicted that their teams appeared to have some success in utilizing communication constructs to share new knowledge learned from the MOOC platform across teams or the organization. Sometimes new MOOC knowledge was shared in teams to support daily work. In other instances, MOOC channels were used to share ideas across many teams. In two cases, MOOC learnings that were shared to the organization resulted in business outcomes. However, no system data supports or discredits whether the MOOC platform supports organizational outcomes.

Summary

Chapter 4 presented summarized the case setting, participant profiles, and findings of this case study’s data. The three key themes from the analysis were drivers, methods, and outcomes, which are discussed in Chapter 5.
Chapter 5: Discussion and Implications

It is unknown how MOOCs, as a type of informal learning, support organizational learning within a global insurance company’s Information Technology (IT) department. The purpose of this research study was to understand how organizational learning (OL) is supported through employee participation in massive open online courses (MOOCs) within a global insurance company’s IT department during a period of agile transformation.

Chapter 4 presented the research findings. In the following sections, Crossan, Lane, and White’s (1999) 4I Model of OL frames a discussion of the results and their implications for theory and practice. The chapter continues with recommendations for future research, the study’s limitations, and closes with a final reflection.

Implications for Theory and Practice

In the study, OL is defined as the strategic utilization of knowledge contained within a company’s dynamic social systems and across organizational levels to increase performance, adjust to change, and drive innovation (Crossan et al., 1999). Crossan et al.’s (1999) 4I Model of OL stated that learning occurs at three levels of an institution: individual, group, and organization, and the levels are interconnected by four processes: intuiting, interpreting, integrating, and institutionalizing (4Is).

In order to answer the central research question: “How do insurance Information Technology (IT) professionals describe corporate massive open online courses (MOOCs) as support for knowledge conversion processes while adapting to a new agile workplace?” a descriptive case study was conducted. The research took place at an IT department within a global insurance company who had implemented a MOOC platform.
and recently gone through an agile work transformation. Also, four qualitative sub-questions constructed with Crossan et al.’s (1999) 4I sub-processes guided the analysis:

- How do MOOCs contribute to the process of intuiting?
- How do MOOCs contribute to the process of interpreting?
- How do MOOCs contribute to the process of integrating?
- How do MOOCs contribute to the process of institutionalization?

Three super-ordinate themes emerged in the qualitative analysis, along with seven sub-themes, and align with Crossan et al.’s (1999) 4I Model of OL (Table 5.1). First, drivers are the enablers or barriers of learning processes, and thus support or limit employees’ ability to *intuit* (take in and process) or *integrate* (construct a shared meaning with others) learning. Second, methods are modes for learning and provide the means for *intuiting* and *interpreting* (constructing meaning for self) ideas. Third, outcomes are the results of sharing learning in an organization and contribute to *integrating* and *institutionalizing* (developing organizational norms) knowledge.

Table 5.1

*Connecting Themes to Theory*

<table>
<thead>
<tr>
<th>Sub-Themes</th>
<th>Super-Ordinate Themes</th>
<th>Link to 4I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoption</td>
<td>Drivers - factors that allow or limit learning processes.</td>
<td>• Intuiting</td>
</tr>
<tr>
<td>Workload</td>
<td></td>
<td>• Integrating</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method - modes for learning.</td>
<td>• Intuiting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Interpreting</td>
</tr>
<tr>
<td>Formal learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge sharing</td>
<td>Outcomes - results of learning.</td>
<td>• Integrating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Institutionalizing</td>
</tr>
</tbody>
</table>
Eight conclusions emerged from the study participants’ accounts with MOOC’s as a support for learning processes. The findings, as responses to the research questions, are represented in Table 5.2. The following sections discuss each conclusion and its implications for theory and practice.

**Table 5.2**

*Research Questions, Conclusions, and Implications*

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Themes</th>
<th>Conclusions</th>
<th>Implications for Theory &amp; Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do MOOCs contribute to the process of intuiting?</td>
<td>Methods</td>
<td>• The MOOC platform supports intuiting for both exploration of new learning and exploitation of institutional knowledge.</td>
<td>• The MOOC platform supports both exploration and exploitation but not necessarily strategic renewal.</td>
</tr>
<tr>
<td></td>
<td>Drivers, Methods</td>
<td>• MOOCs provide easy, on-demand access to learning when needed for work.</td>
<td>• The MOOC platform is not an exclusive method for intuiting.</td>
</tr>
<tr>
<td></td>
<td>Drivers</td>
<td>• Job function indicates the extent to which an employee uses the MOOC platform for intuiting.</td>
<td>• Personal accountability is necessary for consistent MOOC intuiting.</td>
</tr>
<tr>
<td>How do MOOCs contribute to the process of interpreting?</td>
<td>Methods</td>
<td>• MOOCs provide practical examples that are interpreted when applied to real work.</td>
<td>• The MOOC’s overuse of video is a potential barrier to interpreting.</td>
</tr>
<tr>
<td></td>
<td>Methods</td>
<td>• A learner’s ability to demonstrate MOOC knowledge to others supports interpreting.</td>
<td>• Communication constructs are needed to progress from interpreting to integrating.</td>
</tr>
<tr>
<td>How do MOOCs contribute to the process of integrating?</td>
<td>Drivers</td>
<td>• The work environment both supports and limits MOOC integration.</td>
<td>• Employee workload can be a barrier to integrating MOOC learning.</td>
</tr>
</tbody>
</table>
Methods, Outcomes
• Acting on new knowledge supports MOOC integration.

• Metrics are needed to tie MOOC content integration to performance.

How do MOOCs contribute to the process of institutionalizing?

Outcomes
• When a MOOC learning is made actionable and demonstrates work value, it may become institutionalized.

• Structures are potential barriers to institutionalizing.

### Intuiting

Crossan et al. (1999) described *intuiting* as an individual process, where a new idea is received and compared to past experiences to understand its meaning. Crossan et al. (1999) posited that intuiting espouses both exploration of new concepts and exploitation of institutional knowledge. Prior theorists also outlined how gaining knowledge is an individual activity and may consist of new ideas or existing organizational data (Huber, 1991; March, 1991). Several studies in corporations found companies are deliberate about how MOOCs provide training on new concepts when they use a learning technology platform. Also, strategic programming of the learnings can feedback historical knowledge and organizational goals to employees (Egloffstein & Ifenthaler, 2017; Joo, So, & Kim, 2018; Milligan & Littlejohn, 2014).

**The MOOC platform supports intuiting for both exploration of new learning and exploitation of institutional knowledge.** The data from this study demonstrated that the participants used the MOOC platform as a mechanism for learning new concepts, specifically agile or IT content. The interviewees also unanimously spoke of institutional knowledge, and the vast amount of data new hires were required to learn. Three employees felt that institutional knowledge was gained from their team or mentor, while two accredited the MOOC as a place for exploitation of legacy knowledge. Crossan et al.
(1999) explained that OL is a means to achieve strategic renewal, or the equalization of the variability between stability and change. Tension between feedback (exploitation) and feedforward (exploration) must be equally managed to achieve renewal.

At Net One, the MOOC had thousands of courses for employees to learn. Still, the participants described the use of the MOOC platform as a more modern practice for storing institutional knowledge. In the study, the MOOC platform provided learning to support both exploration and exploitation, but there was insufficient evidence to observe strategic renewal. Crossan et al. (1999) admitted that while their theory illustrates the need to manage the tension between exploration and exploitation, it does not provide a framework for companies to do so. Also, because the MOOC platform was only one mechanism for OL within the company, it is possible the MOOC was insufficient as a sole tool for detecting strategic renewal. The implication of this finding is that examining processes across all learning tools and practices may better aid in gaining a holistic picture of OL and strategic renewal.

**MOOCs provide easy, on-demand access to learning when needed for work.** Research suggests that people are motivated to use a MOOC platform for a variety of reasons, such as free and easy access to content, exposure to a variety of concepts, and learning at their own pace when they need it most (Jung & Lee, 2018; Milligan & Littlejohn, 2014; Nkuyubwatsi, 2014). The participants in the study at Net One also mention motives such as curiosity, ease of use, no cost, and viewing content at their preferred speed. The IT Training team interviewees outlined that employees no longer sought out training to gain completions, but rather to find the content they need in a course and bypass what was irrelevant. Jung and Lee (2018) also contended that
exposure to subjects was more important to learners in MOOC platforms than fully completing programs.

Despite the high adoption rates of the MOOC platform in the study, it was also clear from participant accounts that the MOOC platform is not an exclusive method for intuiting. All of the interviewees confirmed that they also attended classroom training and used the MOOC as a precursor or follow up to classroom training. Several used alternate websites and discussion boards to learn IT content in addition to the MOOC platform. While the MOOC platform was a tool to support intuiting and the participants had a discernable appreciation for the content, it did not appear to be of any more or less value than other modes for learning. Thus, corporate training operations who plan to implement a MOOC platform should be prepared to continue other formal and informal learning methods.

**Job function indicates the extent to which an employee uses the MOOC platform for intuiting.** Milligan and Littlejohn’s (2014) research showed that corporate MOOCs not only provide the benefit of real-time learning, they also posited how important MOOC platforms could be in providing skills needed for specific roles in continually changing environments. Net One IT participants explained how technology continuously introduced programs, codes, and applications for employees to learn, and how the MOOC platform was helpful for quickly acquainting them with new IT skills. Each participant had specific job roles that required them to learn new content continually, often to contribute to their teams. However, each participant discussed the challenges and distractions that kept them from forming habits around using the MOOC platform. This study’s data suggested that personal accountability is necessary for
consistent MOOC intuiting in companies. Therefore, companies who intend to use corporate MOOCs should consider how to encourage employees to be accountable for continuous learning habits.

**Implications for practice.** Recommendations for practice were discussed above, and can be summarized as the following:

- Examining processes across all learning tools and practices may better aid in gaining a holistic picture of OL and strategic renewal.
- Corporate training operations who plan to implement a MOOC platform should be prepared to continue other formal and informal learning methods.
- Companies who intend to use corporate MOOCs should consider how to encourage employees to be accountable for continuous learning habits.

**Interpreting**

Crossan et al. (1999) defined *interpreting* as an individual process by which one assigns meaning to a new topic using available mental maps and internal vocabulary. The interpreting process eventually emerges into spoken words that are shared with others. When a person is interpreting learnings received from a feedback or feedforward loop, they are internalizing and organizing an understanding to convert into taking action.

**MOOCs provide practical examples that are interpreted when applied to real work.** Interpreting is the learning process that immediately precedes the actionable process of integrating, where new knowledge becomes a skilled behavior (Crossan et al., 1999). A MOOC platform provides the space to interpret directly after intuiting course material. Egloffstein and Ifenthaler (2017) described successful corporate MOOCs as
having content and exercises that are relevant to employees’ work tasks and environment and present opportunities to practice new skills with less risk.

Each study participant described the real-world examples offered in the MOOC platform and shared stories of how they were able to immediately put the knowledge they learned on the MOOC into practice. John repeatedly mentioned how applicable the MOOC courses were to his work, and how the content was relatable and not too theory driven.

Prior research has suggested that MOOC platforms may suffer from an overuse of video, which can lead to low usage (Klemke, Eradze, & Antonaci, 2018; Margaryan et al., 2015). The overuse of video in the MOOC platform at Net One was a potential barrier to interpreting. The participants discussed how the MOOC would draw them to view content out of curiosity. Still, since the topic may not have been something they needed to do their work, they did not internalize the subject for future recall and use.

In addition, most of the participants considered the MOOC platform to be an individual activity and rarely used its collaboration features. Hassani and Ghanouchi (2016) contended that MOOC platform learning outcomes might be deficient without enough collaboration with others to help interpret data. The participants in this study interpreted on an individual level but did not use the MOOC to interpret at the group level, presenting a potential barrier to OL. Based on prior research and this study’s findings, it may be necessary to advance the collaboration features of a MOOC platform to promote more significant interpreting, and at the same time, reduce the overuse of video.
A learner’s ability to demonstrate MOOC knowledge to others supports interpreting. Crossan et al. (1999) explained that it can be difficult to determine when one 4I learning process ends or another begins. Participants from this study confirmed Crossan et al.’s (1999) explanation of the blur between processes when they spoke about how teaching others what they learned on the MOOC platform helped them interpret new ideas more quickly. As they used language to explain learnings to team members, they were not only interpreting for themselves, but for those who were listening. As such, they were in the individual process of interpreting, and at the same time, in the actionable group process of integrating.

Crossan and colleagues (1999) illustrated how critical it is to use words and frameworks to represent ideas to others to make the leap from interpreting to integrating. Thus, communication constructs are needed to progress from interpreting to integrating a MOOC platform’s content. The participants of this study each mentioned their teams’ internal communication methods to exchange learnings. The interviewees considered meetings, email, and Skype as ways to exchange conversation with each other. At the same time, the individuals from the study did not have formal mechanisms for sharing knowledge with others, nor did they have forums for being able to share interpreted learnings outside of their team to other members in the organization. In addition to limited communication constructs, all group interpreting observed in this study happened outside of the MOOC platform, not within the MOOC collaboration features, further reiterating the opportunity to advance the MOOC’s collaboration features.

Implications for practice. In summary of the discussion above, the implications for practice include the following:
• Advance the collaboration features of a MOOC platform to promote more significant interpreting, and at the same time, reduce the overuse of video.

• Communication constructs are needed to progress from interpreting to integrating a MOOC platform’s content and are recommended to include the collaboration features of the MOOC system.

**Integrating**

Crossan et al. (1999) posited that *integrating* is the process of moving from individual learning to group learning. Integrating happens when a team of members collectively creates shared meaning on an idea and then takes action. Conversation and group shared behavior are required for integration to take place.

**The work environment both supports and limits MOOC integration.** Yazdi and Haddadi (2018) discussed the various environmental factors that made knowledge management systems, such as MOOCs, successful in the Iranian insurance industry. They listed managers’ perception of the value of the technology, along with the ongoing support of managers at all levels as drivers for the system to be successful. In the study at hand, managers did not appear to promote the MOOC as a development tool consistently. While they did not seem opposed to the participants using the system for learning, the managers also did not remove barriers that impeded the interviewees’ ability to use the MOOC regularly and share back knowledge with the team.

Researchers also outlined how human resource factors are necessary to support a knowledge management platform’s success (Crossan et al., 1999; Yazdi & Haddadi, 2018). At Net One, participants described how leaders did not implement performance processes such as objectives and rewards as a means to further encourage MOOC usage
individually or within teams. With the absence of managers or the human resource performance system promoting learning in groups or the culture, there were fewer incentives for the participants to interpret or integrate knowledge as part of their work activities.

Finally, Radford et al. (2014) noted the counterproductive challenges organizations are faced with if they permit employees to use MOOC systems because of possible distraction from productivity. Net One’s work environment was a barrier to MOOC learning processes. Employee workload and time to use the MOOC platform were found to impede the participants’ ability to intuit, interpret, or integrate. Two participants were able to schedule MOOC learning time into their workday, but one acknowledged work stopped during training time, and stakeholders were informed. The remaining participants admitted to using the MOOC only on their off-work time due to the amount of work required to complete on a given day. Without the time needed to learn new concepts, interpret the meaning, and share the knowledge with a team, the MOOC appeared to be at risk for supporting integration.

The case study suggested that a work environment that supports rather than restricts the use of a MOOC platform could potentially create a positive integration of knowledge. Managers who remove workload barriers and promote the consistent use of a MOOC platform could help drive adoption, as well as remove the stress of employees feeling the need to use their personal time to study. Managers also should encourage the use of the MOOC collaboration features for teams to discuss new learnings to integrate knowledge into work activities. In addition to managerial sponsorship, companies who implement a human performance system that recognizes continuous learning at a team
level are better positioned for higher success in integrating MOOC learnings. As Yazdi and Haddadi (2018) contended, factors such as performance objectives or recognition could play a significant role in motivating employees to not only learn but share the knowledge with others on their team or in their department.

**Acting on new knowledge supports MOOC integration.** Hassani and Ghanouchi (2016) emphasized the importance of social collaboration within or surrounding a MOOC environment to achieve learning processes. While they did not use an OL framework in their study, Hassani and Ghanouchi (2016) determined that taking action on knowledge between teams of people increased the ability to transfer knowledge to behavior. At Net One, the participants found the discussion boards useful when trying to solve coding problems. In addition to the ability to interact personally with course instructors, the interviewees each recalled how sharing learnings from the MOOC with their team was a regular practice, whether to solve a problem, make a decision, or work on a new technology application similarly. So while they were not necessarily integrating knowledge within the MOOC platform, they were able to take interpreted MOOC content and integrate learnings within the work environment.

Crossan et al. (1999) iterated the importance of making learning actionable as integral for moving to integrating knowledge. Marchiori and Cantoni (2018) suggested the importance of collaboration with MOOC content to support learning processes actionable, and that participants should experience MOOCs cooperatively and not competitively for the most positive learning outcomes. In the study at Net One, employees participated in several learning challenges as a means to introduce the MOOC system and drive adoption, which conflicts with Marchiori and Cantoni’s (2018)
implication that success factors may have been higher with a cooperative effort. The learning competitions at Net One became individual efforts and thus did not necessarily lend to integrating knowledge with a team or group.

Several researchers agreed that to determine if MOOC knowledge is transferring to work behavior it should be measurable, but current studies were not able to provide metrics on integration as an output of MOOC learning processes (Egloffstein & Ifenthaler, 2017; Hassani & Ghanouchi, 2016; Milligan & Littlejohn, 2014). In the Net One study, the IT Training team hired an individual tasked to locate data that tied performance improvement to MOOC learning. Still, as of the time of the study, he was not far enough into the analysis to demonstrate learning outcomes. Prior research agreed with the findings of the current study that to prove or disprove a MOOC platform as a tool to support OL processes, concrete measures of success were needed (Egloffstein & Ifenthaler, 2017; Hassani & Ghanouchi, 2016; Milligan & Littlejohn, 2014).

While Crossan et al. (1999) described the importance of the connection between insight and action, their framework does not specify the various tools that may support learning processes or the importance of measuring the value of such mechanisms. To observe the OL value of a MOOC platform, it appears necessary for firms to create measures that tie MOOC learning to performance outcomes.

**Implications for practice.** Recommendations for practice were included in the discussion, and are summed up as the following:

- Managers who remove workload barriers and promote the consistent use of a MOOC platform could help drive adoption, as well as remove the stress of employees feeling the need to use their personal time to study.
• Managers should encourage the use of the MOOC collaboration features for teams to discuss new learnings to integrate knowledge into work activities.

• Companies who implement a human performance system that recognizes continuous learning at a team level are better positioned for higher success in integrating MOOC learnings.

• To observe the OL value of a MOOC platform, firms should create measures that tie MOOC learning to actionable performance outcomes.

Institutionalizing

Crossan et al. (1999) explained that institutionalizing is the process by which an organization moves knowledge from a team or group and expands it into the entire company for talent to utilize. Experiences then become part of policies, processes, or other cultural norms. When a firm transitions to institutionalize shared learnings, they begin to strategically harness the workforce’s collective knowledge to drive business results (Crossan et al., 1999; Schulze et al., 2013).

When a MOOC learning is made actionable and demonstrates work value, it may become institutionalized. Current literature suggested that MOOC platforms can be a catalyst for workers to learn, interpret, and transfer knowledge to team members (Egloffstein & Ifenthaler, 2017; Milligan & Littlejohn, 2014; Radford et al., 2014). However, with the limited amount of research on MOOC platforms as support for OL processes, and the lack of measurable data to validate learning outcomes from MOOC usage, it is difficult to say whether MOOCs support institutionalizing.
In this case study, one participant had success in intuiting, interpreting, and integrating MOOC learning into a new method of working in his team. The participant was in the process of sharing the practice with the rest of the IT organization but had not been able to due to silos and inadequate cross-functional communication mechanisms. Thus, organizational structures may be a potential barrier to institutionalizing, and to overcome the restriction, an institution may try to improve communication mechanisms to promote cross-team knowledge sharing and increase institutionalizing.

In the Net One study, two other interviewees shared a similar story from two perspectives on how one team had collectively learned a new program on the MOOC platform, made a group decision on the data, and converted the knowledge into work practice. As a result, the IT training group changed its onboarding content to mirror the decision and work practice the team had implemented. The change the IT training team made did not necessarily institutionalize knowledge for the entire organization. Still, it did alter new employee training, which could have systemic reach over time as newly hired workers disperse into the organization.

Crossan et al. (1999) stated that OL does not occur if it does not move beyond the individual or group levels, and frequent discussion on knowledge needs to take place for it to be integrated fully into the organizational system for institutionalizing. It may be possible that other evidence exists at Net One to demonstrate institutionalized MOOC learning into policy and practice for the broader organization. Still, this study was limited in size and thus did not have sufficient evidence to prove that institutionalizing was taking place.
Implication for practice. In summary, the implication for practice discussed above included:

- An institution may try to improve communication mechanisms to promote cross-team knowledge sharing and increase institutionalizing.

Recommendations for Future Research

The data resulting from this study can be used to inform researchers about how MOOCs support OL processes in a corporate setting as knowledge in intuited, interpreted, integrated, and institutionalized across its members. This study revealed specific data on a sample and case site situated within a unique change phenomenon. Further studies could expand on this research or examine the topic in more detail, and the following recommendations outline potential areas for future research.

Recommendation 1: Examine Learning Processes

This study examined MOOCs as a potential support to OL processes. Future research could look more holistically at all of the mechanisms supporting OL to see a fuller picture of how successfully the organization is harnessing its workforce for OL. In this study, participants described formal learning in classes and other online resources, as well as informal learning with team members. Future research might study each of the modes of learning when evaluating its role in OL. In looking more broadly at all contributors to OL processes, research may be more successful in understanding strategic renewal.

Recommendation 2: Examine Collaboration Features

The findings of this study revealed that the collaboration features of the MOOC platform had the potential to improve the learning experience for employees. Also,
literature supported the research outcomes in that less video content and more human interaction in a MOOC system could be beneficial in integrating knowledge. Future research could examine a corporate MOOC that has widely-adopted collaboration features to determine if there is a connection to higher integration of knowledge.

**Recommendation 3: Include Managers**

In this study, data showed that managers could support the success of a MOOC platform for OL processes in two ways. First, they could sponsor performance processes and development plans to help drive adoption and frequent usage. Second, managers can remove the environmental barriers in employee workload that inhibit learning. Future research could include managers as study participants to determine the value of leaders’ roles in OL processes with MOOC platforms.

**Recommendation 4: Vary Data Collection Period**

This study took place when the agile transformation at Net One was ending. Agile was a theme in participants’ stories, but the interviewees’ had accepted the change and adopted it into their everyday work. Future research could collect data throughout the stages of a transformational change to see how much the phenomenon correlated to MOOC adoption, or usage, or acceptance of the change.

**Recommendation 5: Consider Site Relationship**

The scholar-practitioner conducted this study in her place of employment. Future practitioners seeking to study a problem within their workplace should make the following considerations for rigorous research processes. First, consider the role of a gatekeeper to gain access to the organization as an unaffiliated person conducting research. Second, utilize a key informant to plan a recruitment strategy to support
trustworthiness and verification in the research methodology. The key informant can obtain samples and make introductions to the researcher to separate her from the research site. Finally, in the corporate sector, employees have busy schedules. A challenge of this study was to obtain participants who were willing to take the time and contribute. Future researchers may consider offering an incentive to increase participation.

**Limitations**

Each section of this study was designed to uphold validity in the research. The treatment of participants, the role of the researcher, and execution of the data collection and analysis processes sought to preserve integrity for the outcomes. However, the following limitations are recognized.

**Limitation 1: Generalizability**

This study had both a small sample size and a single case situated within one department of a larger company. The demographics of the participants lacked gender diversity, and although they had different job functions, none held a leadership role. As a result of the limited case size, generalization of the findings with other sites or institutions is limited. Corporate MOOCs in IT departments may be supporting OL processes in other firms, but the size limitation of this study prohibits concluding without further research.

**Limitation 2: Limited Data Collection Period**

This study took place within a three months of one calendar year when the agile transformation change phenomenon was drawing to a close. While the research considered past events about the installation of agile and the MOOC platform, there were many new advances to the MOOC platform underway that a more extended study would
have had the opportunity to observe. Organizational goals suggested plans to use the MOOC platform to strategically close skill gaps, but the research would have needed to cover several years to see any results.

**Limitation 3: Methodological Approach.**

This study utilized a qualitative research method but might have considered developing the research methodology using a mixed-method approach. A wider population of employees could be proctored a survey with both Likert scale and open-ended questions, increasing the breadth of data results of the initial five interviewees. Quantitative data add measures to the thick descriptions of the participants and could result in more in-depth findings.

**Summary and Reflection**

Companies are working to stay ahead of environmental uncertainty, globalization, and technological changes to remain competitive in the industry. OL is a potential strategy for utilizing the talent of the workforce to drive innovation. One tool corporate training groups are pursuing to support OL processes is MOOC systems. This case study’s goal was to describe how insurance IT professionals experience MOOCs as support for knowledge conversion processes while adapting to a new agile workplace.

For the organization studied, evidence appeared to demonstrate that the 4I learning processes put forth by Crossan et al. (1999): intuiting, interpreting, integrating, and institutionalizing may be supported by a corporate MOOC platform. However, the findings affirm that the MOOC’s support of the 4I processes alone was not sufficient to prove that OL was present in the company. Most importantly, the only data offered by the IT training group about the MOOC platform was on the system’s usage and adoption
and did not provide measures on whether knowledge becomes a behavior. Hopefully, future researchers will continue to examine MOOC’s in the context of the processes of intuiting, interpreting, integrating, and institutionalizing to find evidence of OL and strategic renewal.
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Appendix A

Transcription Confidentiality Agreement

Research Project: Organizational learning and the role of massive open online courses: A case study. (Northeastern University)

I, _______________________, (job title) ____________________, a representative of Rev.com, have been employed by Adina Nichols (Researcher), to

__________________________________________________________________________.

I consent to protect data files (i.e., transcripts, zip files). I will maintain data files given to me as confidential and will not duplicate the content into additional formats or review the content with anyone except the Researcher. I agree to provide original and transcribed data files to the Researcher once the transcription is complete. I will eliminate all data concerning this project upon request of the Researcher.

___________________________   __________________________   _______________
(Name)                      (Signature)     (Date)

Researcher:

___________________________   __________________________   _______________
(Name)                      (Signature)     (Date)
Appendix B

Interviewee Recruitment Emails

Email from Key Informant to Potential Participants

Recruitment Email from Key Informant to Potential Participants (cc: Nichols.a@husky.neu.edu)
Attachment: Adina Nichols Recruitment email
Bcc: 50 potential participants meeting criteria

Hello,
I would like to introduce you to a student researcher, Adina Nichols, from Northeastern University. She is conducting a study to learn about our experiences with Envision, and I thought you would be a good fit as a person for her to interview. Her research will be valuable for us to learn about Envision from an organizational perspective yet with an outside lens. In turn, it will also add value to other IT organizations interested in using Envision.

Please note: participation in Adina’s study is completely voluntary and confidential. No one at Net One will ever know whether you participated or not. You have the option to choose the date, time, and location (in-person or virtual) of your interview and she will work with your availability. The interview will last about an hour, and she may follow up with some additional emails in the weeks after, so your time commitment is low for work that could bring valuable learnings.

Please take some time to seriously consider participating in an interview with Adina. I have attached a copy of the email she will be sending you and copied her here so that you know the email address and do not block it. She will email you soon. Please respond to her email in a timely manner if you are willing to participate. I will follow up with a friendly reminder in a week or so.

Although I will not know if you participate, I sincerely thank everyone who does so.

Thank you,

Email from Student Researcher to Potential Participants

Recruitment Email from Adina Nichols to Potential Participants

Hello (potential interviewee name), my name is Adina Nichols, and I am a student researcher at Northeastern University.

I am conducting research for my dissertation and have been granted access to study Net One’s Information Technology department. I am particularly interested in learning about agile teams and individuals who have interacted with the open online massive course
platform, Envision. You were recommended to me as someone who may fit my criteria as an interviewee. As the student researcher, I intend to learn from your experiences with Envision so that other IT companies can benefit from its implementation into their learning processes. This study is solely for my doctoral studies.

If you volunteer to participate in the study, you would participate in one or two interviews, which will be conducted either face-to-face or via a web conferencing tool of your choice. The interview(s) will be recorded and transcribed. You will be able to review a copy of the transcription to ensure accurate representation of your work. Also, you will be asked to review other data presented by the student researcher to validate findings. You may be asked for a second interview for further conversation or a system demonstration. Additionally, you will be asked to recommend documentation, web files, reports, and any other materials you deem relevant to the study. Interviews will last approximately an hour at a time and location of your selection. Interview(s) will also not take place during work hours to provide confidentiality for you. Please do not feel pressured to volunteer. No administrators at Net One Insurance will ever know whether or not you volunteer for this study.

Please email me at nichols.a@husky.neu.edu if you have any questions or you would like to volunteer for this study. Per Northeastern University ethics, emails to any other email address or phone calls to me at my Net One Insurance contact number must be deleted with no response.

Thank you for your time today.
Informed Consent to Participate in a Research Study

You are invited to participate in a research project. The following consent form explains the research in detail. You will also receive a verbal explanation from the student researcher, who will provide you with answers to questions about the project. Participation is your decision, and once you are ready, you may inform the student researcher on your choice to take part or not. If you choose to be a part of the study, the student researcher will have you read and sign this form, as well as provide you a copy for your records.

Purpose of the Study

You have been asked to participate in this research project because you are a member of the corporate Information Technology department who has been identified as having experience using a massive open online course platform (Envision) and working on an agile team. This case study centers on the involvement of Information Technology professionals with massive open online courses during an agile transformation. As the student researcher, my intent is to learn from your experiences with Envision so that
other IT companies can benefit from its implementation into their learning processes.

**Role and Commitment of the Participant**

If you choose to participate in the study, you are requested to participate in one or two interviews, which will be conducted either face-to-face or via web conferencing. The interview(s) will be recorded and transcribed. You will be able to review a copy of the transcription to ensure accurate representation of your work. Also, you will be asked to review other data presented by the student researcher to validate findings. You may be asked for a second interview for further conversation or a system demonstration. Additionally, you will be asked to recommend documentation, web files, reports, and any other materials you deem relevant to the study.

**Time Commitment and Location of the Study**

Interview(s) will take place as a virtual call or in a physical location of your choice, and outside of work hours, with a time of your choosing. The interview(s) will take approximately one hour. The student researcher will record the interview and take notes. You may be asked to answer questions regarding supporting documentation in a follow-up email. One to two weeks after your interview, you will be provided a copy of your interview transcript, which may take 30 minutes to review. You may also be asked to spend 15-30 minutes reviewing the student researcher’s findings.

**Participant Risks**

It is important to note that you will not be harmed or placed into risk by participating in
this study. It has no bearing on your performance, work, or future role in the company. Your interview will never be shared with your manager.

**Benefits of Participation**

You will not directly benefit by participating in this research project. However, the outcomes of the study could help IT departments in other agile organizations make informed decisions about Envision or other open online massive course platforms.

**Confidentiality**

Your participation in this study is confidential. Only the researchers conducting this research will see information about you. No information about you will be identifiable or used in any publications for this study. All files will be locked and password protected to guarantee confidentiality. Recordings will utilize pseudonyms instead of your name. A professional transcription service will transcribe all interview recordings. A Transcript Confidentiality Statement will be required of the professional transcription service to safeguard your confidentiality. Transcripts will be saved, use pseudonyms, and only be accessible by the researcher. Physical copies of the consent form will be stored in a locked file cabinet and office available to the student researcher. When the doctoral thesis is completed, all data will be moved to an external hard drive and stored in a locked file cabinet for five years. At that time, the data and documentation will be permanently destroyed. Your participation in the study is voluntary. You may refuse to answer any of the questions. If you begin the
project, you can still stop at any point in time. If you do not participate or if you decide to quit, it is not consequential in any way to the terms of your employment. No documents will be stored in any physical location for Net One Insurance, nor can it be accessed digitally on any computer owned by Net One Insurance.

If you have any questions about this study, please feel free to contact Adina Nichols, Nichols.A@husky.neu.edu or 617-763-7775, the person mainly responsible for this research. You can also contact Dr. Tova Sanders, the Principal Investigator, at T.Sanders@notheastern.com or 857-271-8471.

If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, Mail Stop: 560-177, 360 Huntington Avenue, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: n.regina@neu.edu. You may call anonymously if you wish.

**Participant Agreement to the Study**

__________________________________         _____________________________
Signature of consent (Participant)         Date
Appendix D

Interview Protocol Form

Institution: Net One Insurance Company

Interviewee: ______________________

Interviewer: Adina Nichols

Research Question

Central question: How do insurance Information Technology professionals describe corporate massive open online courses as support for knowledge conversion processes while adapting to a new agile workplace?

Qualitative sub-questions:

RQ2: How do MOOCs contribute to the process of intuiting?

RQ3: How do MOOCs contribute to the process of interpreting?

RQ4: How do MOOCs contribute to the process of integrating?

RQ5: How do MOOCs contribute to the process of institutionalization?

Introductory Session

Objectives and introductory protocol.

You have been selected to speak with me today because you have been identified as someone who has a great deal to share about your company’s IT department and training methods. My research project focuses on the experiences of education professionals facing modern industry trends and changes. Through this study, I hope to learn how corporate training functions are transforming when their company experiences a cultural shift to learning technologies that promote collaboration across global and organizational levels. In turn, I would like to learn how the technological changes in
training methods effect the employee learning experience. Hopefully this study will allow me to identify ways in which learning departments and technology can better support learning processes across the company.

Because your responses are important and I want to make sure to capture everything you say, I would like to record our conversation today. Do I have your permission to do so? I can assure you that all responses will be confidential and only a pseudonym for your name and company will be used when quoting from the transcripts. I will be the only one with access to the digital file which will be eventually deleted after they are transcribed. To meet our human subject requirements at the university, you must sign the form I have with me. Essentially, this document states that: (1) all information will be held confidential, (2) your participation is voluntary and you may stop at any time if you feel uncomfortable, and (3) I do not intend to inflict any harm. Do you have any questions about the interview process or how your data will be used?

This interview should last about 60 minutes. During this time, I have several questions that I would like to cover. Do you have any questions before we begin? I am starting the recording now.

Interviewee Background

1. Please describe your background and role in the company and the type of work you do.
2. How long have you been in your current role?
3. How long have you worked in an IT department throughout your career?
4. What level in the organization is your role situated and are you a manager?
5. How long have you been working in an agile environment?

Interview Questions Overview Protocol
Of particular interest to me as I begin my research is to uncover the evolving ways in which learning and development is being approached in the workplace as the pace of change and advances in technology are considered. I would like to hear your experiences of your department and company’s approach to learning initiatives and how they are perceived. To do this, I am going to ask you some questions that may require some reflection or illustration through personal stories. If you mention other people, please use do not mention names, or if you do, I will be sure to change them in my transcripts.

**Organizational Learning Questions:**

6. Please describe how the massive open online course platform (Envision) has helped you learn about agile?
   
   a. How has the platform helped your team learn about agile?
   
   b. How has the IT organization embraced the platform?

7. Please describe specific benefits or outcomes you have observed the IT organization experience by implementing Envision.

8. Describe how you learned about workplace changes, such as agile, before Envision was implemented. How has your learning experience changed with Envision in place?

9. To what extent is your manager prompting you to use the Envision system?

10. To what extent have you, your team, or others in IT been rewarded for using Envision?

11. Please describe a situation where you experienced Envision collaboratively with your team, rather than as an individual activity?
a. If you have used the platform collaboratively, can you describe an instance where you were able to utilize the mentor features?

i. If you have not used the mentor features, can you tell me to what extent you perceive their usefulness to you or your team?

b. If you have not had a team interaction with Envision, what do you think would be the outcome if you had experienced one?

Do you have any further comments or questions for me on anything we discussed today?

Thank you for taking the time to do this interview with me, it is most appreciated.
Appendix E

Key Informant Letter

Hello,

As you know, I am a student researcher at Northeastern University, and I am conducting research for my dissertation and have been granted access to study Net One’s Information Technology department. I am particularly interested in learning about agile teams and individuals who have interacted with the open online massive course platform, Envision. I appreciate that you previously consented to support my work. As the student researcher, I intend to learn from your experiences with Envision so that other IT companies can benefit from its implementation into their learning processes. This study is solely for my doctoral studies.

If you volunteer to participate in the study, you would assist me in locating volunteers to be interviewed. Additionally, you may be asked to recommend documentation, web files, reports, and any other materials you deem relevant to the study. Please do not feel pressured to volunteer. No administrators at Liberty Mutual Insurance will ever know whether or not you participate in this study.

Please email me at nichols.a@husky.neu.edu if you have any questions or you would like to volunteer for this study. Per Northeastern University ethics, emails to any other email address or phone calls to me at my Net One Insurance contact number must be deleted with no response. If you choose to participate, please propose a date and time you can meet for 45 minutes and select a location of your choice (physical or virtual).
Thank you for your time.

Sincerely,

Adina Nichols
Appendix F

Observation Protocol Form

Date: ________________

Observer: Adina Nichols

Location: ____________________________

Meeting: ____________________________

Observations of MOOC platform content:

Observations of MOOC platform interface and functionality:
Observations of MOOC platform social networking:

Observations of MOOC platform feedback features: