An Inquiry into Organizational Learning in an Information and Communications Technology Organization: An Action Research Study in a Central Eastern Europe and Nordic Video Department

Thesis submitted in accordance to the requirements of the University of Liverpool for the degree of Doctor of Business Administration

By

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Abstract

Title: An inquiry into organizational learning in an information and communications technology organization: An action research study in a Central Eastern Europe and Nordic video department.

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The research draws on organizational learning as an exploratory study to understand learning at a local level in the video department of an information and communications technology organization in the Central Eastern Europe and Nordic region. The underlying premise was to understand how the video department of Company ABC improved its financial performance through organizational learning, specifically by enabling the Regional Solution Sales Team to take appropriate action through the application of double-loop learning.

The method adopted was action research, in particular Argyris' action research approach. This adopted the qualitative method for data collection and analysis, with data collected by means of interviewing, observing participants and the collaboration of team members in a learning set. The research was guided by Argyris' action learning model (1976b) in the steps of discover-produce-invent-generalize used throughout the research. A secondary action model was deployed, design-produce-invent-evaluate which offered a reflective view of the overall research process.

The research findings revealed that, first, the members of the Regional Solution Sales Team learned about their own actions regarding their performance and the improvement steps required, and, second, that between the leaders in headquarters and the Regional Solution Sales Team in the Central Eastern Europe and Nordic region there was a disparity in performance. Thus, the research findings indicated that organizational learning in the Central Eastern Europe and Nordic regional setting was effective since the individual's, team's and group's learning actions changed. Changing the team's actions

produced actionable outcomes that with continual effort from the Regional Solution Sales Team, with full support from the regional leaders, would be embedded in organizational memory after the thesis period. The key limitation of the research suggested that conducting a study in such a dynamic environment, an environment that has highest uncertainty where change is ever present, made the results and findings necessarily broad in nature.

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Declaration of Originality

I, Hans Raj, declare that the material contained in this thesis has not been previously submitted for any other academic award or qualification. I confirm that this body of work acknowledges the ideas, opinions and contributions drawn upon from other authors, and has been referenced in accordance with the University of Liverpool's referencing standards. The names and all other identifying details of participants have been anonymized. Ethics approval to conduct this research was sought and granted by the University of Liverpool's DBA Research Committee on 11th May, 2020.

Signature:

Date: June 2022

Dedication

I have dedicated this Doctorate to my loving, inspiring and encouraging wife Anna and my charismatic kids Anthony and Mia. Without their support, this research would not have been made possible.

Acknowledgement

Throughout the writing of this thesis I have received a great deal of support and assistance.

A special thanks to my primary supervisor Dr Ron Fisher for the continual support and for subjecting my work to robust scrutiny. I would also like to acknowledge my secondary supervisor Dr Jill Shepherd for thoroughly reviewing my work.

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Finally, I owe a special debt of gratitude to the Regional Solution Sales Team in the Central Eastern Europe and Nordic region whose *lived experience* in Company ABC offered invaluable insight which made the research all that more relevant.

Glossary

BOSS	Business and operations support system
CDN	Content delivery network
CEE&N	Central Eastern Europe and Nordic
DIPE	Design-Invent-Produce-Evaluate
DIPG	Discover-Invent-Produce-Generalize
DLL	Double-loop learning
DTH	Direct-to-the-home
DVB-S	Digital video broadcast – Satellite
HBO	Home Box Office
HQ	Headquarters
ICT	Information and Communications Technology
IPTV	Internet protocol television
IT	Information Technology
OL	Organizational learning
OTT	Over-the-top
P&L	Profit and loss
Pay-TV	Pay television
PAYU	Pay-as-you-use
R&D	Research and Development
SLL	Single-loop learning
STB	Set-top-box

DVB-T	Digital video broadcast – Terrestrial
TSPO	Telecommunication, Service Providers and Operators
VOD	Video-on-demand

Chapter 1 – Introduction

1.1 Introduction

This chapter provides the background to the research, the management problem, aim and research questions, and an overview of the literature relating to organizational learning (OL) and the methodology and methods. It highlights the significance of the research and ends with an outline structure for the remaining chapters of the thesis.

1.2 Background to the Research

The aggressive and competitive world of telecommunication technology is now at a point where technology suppliers are entering into a battle for leadership and ultimately survival. More important than being the first to adopt the latest standards is the imperative to drive technology and be a leader, a position that the organization under study is striving towards (Jacques, 2021). This is the video department in the Central Eastern Europe and Nordic region (CEE&N) of Company ABC, a leading telecommunications infrastructure supplier and global information and communications technology (ICT) organization. It should be noted that I recognize that implementing actionable outcomes at an organizational level is beyond my remit. Therefore, the target of this study is the team in the video department at a local level in the CEE&N region, which I lead. As team leader, I can oversee and implement actionable outcomes at a local level. The research has the backing of senior management in Company ABC.

Company ABC is at the forefront of the evolving telecommunication technologies which are adopted by the Telecommunication, Service Providers and Operators (TSPOs). To these TSPOs, Company ABC sells a wide portfolio of products from cloud-computing infrastructure, handheld technologies such as smartphones and tablets and laptops and develops core chipsets that contribute to the self-developed technological functions of its products, resulting in Company ABC’s position as a leading innovative and global supplier.

In addition, the company has evolved in targeting many vertical activities, for instance in government, education, utilities, healthcare and automobiles, which are where many of the latest nascent technologies have been a driving factor for expansion.

Globally, ICT activities contribute to economic growth, improve the dissemination of information in a timely fashion, raise the productivity of organizations and increase innovative capacity and competitiveness (Sarangi and Pradhan, 2021). Strong growth in the industry has also improved the quality of life through increased employment, with variations in growth depending on the nature of a country's wealth, economy and political status (Isaac and Song, 2021). Technology is ubiquitous and affects the daily lives of individuals all over the world. Ferneding (2004) argued that the use of ICT technology in education, for example, is a necessary development reflecting society's trust in technology. Its perceived usefulness and ease-of-use have been fundamental determinants of the acceptance of technology (Lee, 2016).

This research investigates how Company ABC's video department can offer profitable hybrid video services (Internet Protocol TV (IPTV) and over-the-top (OTT)) effectively and efficiently. These services have grown and evolved exponentially in the past 20 years, with current industry numbers reaching 300 million subscribers in the CEE&N region in Q4 2019, a steady increase of 5-8% year-on-year. Hybrid video is a complex product when viewed from an end-to-end perspective because the ecosystem for developing a solution for TSPOs involves multiple third-party technology suppliers in developing an integrated system platform. This complexity is further increased when technologies evolve to keep pace with the latest devices and standards demanded by the industry, increasing the scope of these different technologies to integrate. The hybrid video product line has been a key strategic business for Company ABC's research and development (R&D) for many years. The reasoning behind this requires an understanding of future services over "big-pipe" infrastructure such as fiber-to-the-home (FTTH) and the latest 5th Generation (5G) networks. It is the belief of Company ABC that having a core offering will enhance its advantages as long as the product continues to evolve through R&D investment. The

industry has seen a plethora of competitors invest and then divest or even sell-off such businesses when faced with falling sales. However, Company ABC is resilient and aims to make itself the leading provider of video infrastructure worldwide through profitable operations. However, in order to achieve the position of a leading provider and with its external environment determined in part by the actions of competitors, the department will need to ensure that the actions of the team change to accommodate a different way of working, one that is focused on providing cutting-edge technology in a profitably and promptly fashion.

Over the past decade, Pay-TV has constantly been fluctuating between different technologies. As noted above, the focus of the study is hybrid video and the organization of Company ABC which sells the technology to TSPOs for Pay-TV. Within the Pay-TV domain, video is the fastest growing entertainment and media technology ever introduced. It has been fiercely driven by the introduction of high-speed broadband and fiber technology in which TV services like live TV and video-on-demand (VOD) are streamed. IPTV is only one technology in the Pay-TV industry, along with terrestrial (DVB-T), satellite (DTH / DVB-S) and cable TV (DVB-C), and now including the disruptive technology from OTT vendors. See the graph in Figure 1.

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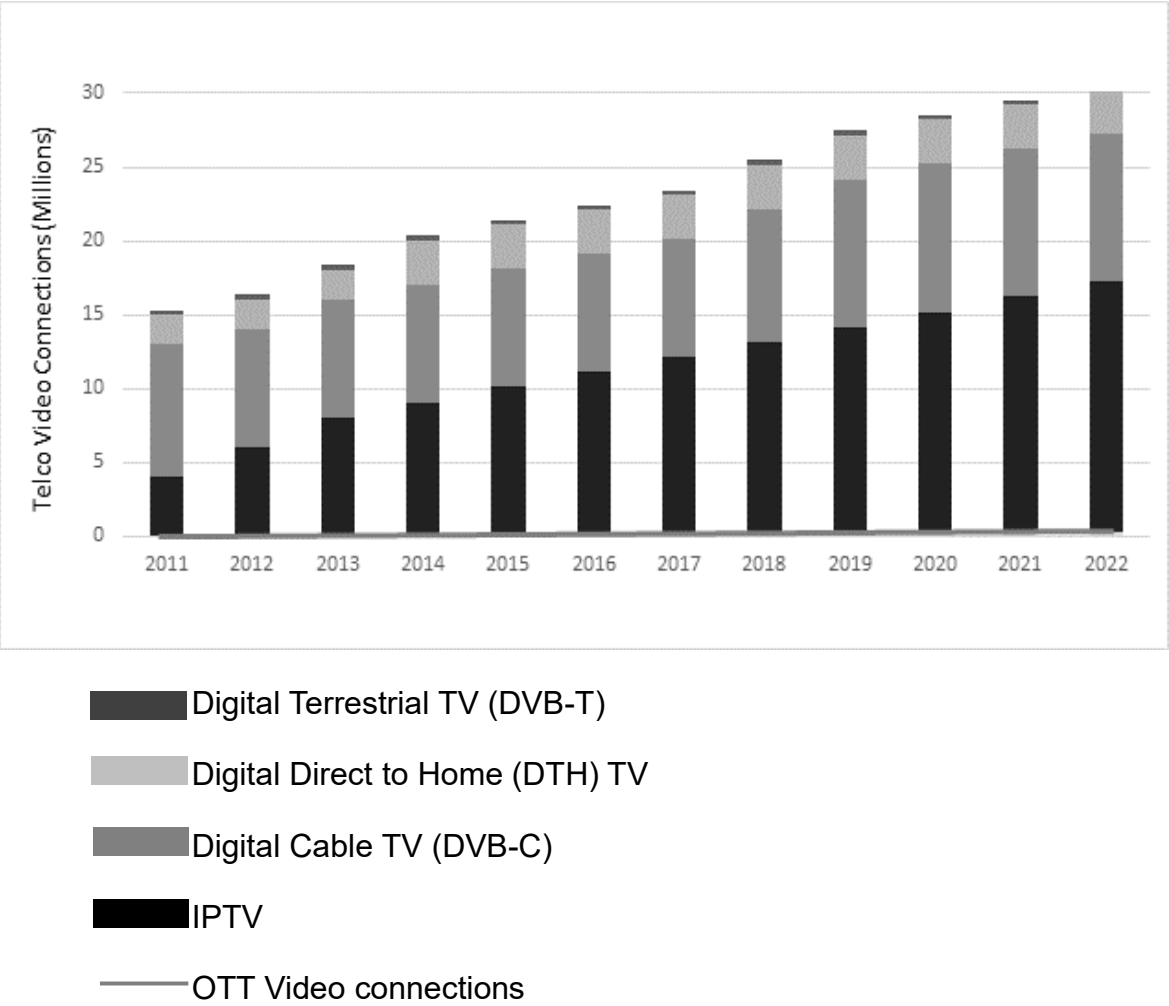

Figure 1 – Global Pay-TV Categorized by Technology

Source: Adapted from Doran (2018)

1.3 Role of the Researcher

I developed an interest in the topic of transforming the current video department over many years as a professional and through different roles undertaken in different organizations in many different countries. In retrospect, each organization attempted to understand the driving force of video technology, which is still a niche industry. However, the complexity and variability of the video business militated against understanding what drives this segment of the industry. Eventually, I established myself in Company ABC which has a very individual strategy for addressing survival where others have failed.

Company ABC can swiftly redirect resources, much faster than its rivals can, as soon as the organization shows signs of concern or decline. Hence it is my vision to harness these resources to drive the video solution sales through successful change in their actions at the departmental level using Action Research (AR). The result of successful change will be improved financial outcomes in the department.

As an Information Technology (IT) professional I have more than 25 years in the technology domain (20 years of which have been dedicated to the video industry), and, having worked in many organizations as a consultant, I have managed large-scale projects in the telecommunication area. My career has allowed me to develop and apply relevant experience which has further allowed me to contribute towards generating actionable knowledge. The video business unit strives towards developing all core elements for improving video business success, which gives me the first-hand knowledge to take the topic forward. Having already discussed this topic with departmental colleagues and other senior managers, such as product line owners, I have support from key organizational stakeholders for the project. The strength in this research was to establish a learning environment by changing employee actions in the team and thereby to offer a richer contribution to the department.

1.4 The Management Problem

The background of the project was provided in Chapter 1.2, which offered insight into the ICT industry and Company ABC. The research study took place in the CEE&N region, specifically the country where the regional HQ is situated. Between 2010 and 2016, the CEE&N region had been performing well in video solution sales but has since seen a rapid decline in sales and revenue. The multiple underlying causes for this include economic and political pressure, increased competition and changes to Company ABC's video strategy. Issues also underlie the department's sub-optimal performance. These include actions aligned with employees self-defining outcomes rather than a clear mission, an emphasis on winning rather than on win-win outcomes, falsely emphasizing positive

feelings rather than acknowledging negative emotions when they arise and an emphasis on rationality to the exclusion of any other options. These are actions that Argyris (1976a; 1976b, 1976c, 1987; 1986; 1993; 1995) and Argyris and Schön (1974) refers to as model I modes of action that lead to sub-optimal performance at the departmental level.

As a result of the issues outlined above, the CEE&N regional management realized that the video department at the center of this research had challenges in surviving in the current environment. The consequences of failing to take action were: a) the short-term reduction of the Regional Solution Sales Team (RSST); b) the medium-term dissolution of the whole video department in the CEE&N region; and c) the long-term relinquishing of the product line. Reviewing some of the major competitors in the industry, many companies have in the past sold their video business units to private equity firms so as to focus on other core revenue generating products (Ericsson.com, 2018), resulting in an extensive turnover of staff and reduced opportunities for the remaining staff. These newly formed businesses, whose sole purpose were to focus on their video technology by realizing such strategic changes, are likely to be stronger global competitors due to concentrating on a limited set of products (Decker and Mellewigt, 2012). As noted above, the strength of competitors, the need for corrective action in the department and the consequences of failing to take that action provide justification for the present study.

In order to understand the management problem with greater clarity, I looked through the lens of an insider closely interacting with and keeping in contact with individual team members. Company ABC has a centralized leadership structure which has had a positive role in terms of innovation sustainability (Xue and Bai, 2019, p. 1). Similarly, most public and private enterprises from the same nation have the same values and employee action at all levels is consistent. However, a negative at Company ABC is that national employees are associated closely with HQ and their actions tend to accept information without any degree of inquiry or questioning. The RSST behave in a certain way that reflects model I actions. First, most of the team are programmed with theories-in-use that do not teach people to reflect accurately in our action and its impact, especially while we are interacting

with others, and, second, the team are also programmed not to tell others when they experience others behaving incongruently with what they espouse (Argyris, 1976b, p. 639). The RSST tend to follow what is asked of them, which prevents them from thinking out-of-the-box, an omission which is enhanced by their lack of ability to challenge management direction. Thus, the department has a similar style of working to that of model I action, typified by single-loop learning (SLL) (Argyris, 1976b). In order for the department to achieve profitable outcomes from providing hybrid video services, a radical organizational change was needed. One way of achieving such change is to move towards becoming an organization reflecting model II action, where members exhibit double-loop learning (DLL) actions which will have a positive impact on business and financial performance (Lopez, Peón, and Ordás, 2005). The management problem can be summarized as:

How can team actions be modified towards model II to improve the financial performance of the video department in the CEE&N region of Company ABC?

Making improvements from the current status required action to implement reform. An AR approach would support the video department in commencing the transition from moving the business which is currently operating in a model I mode towards model II. Such a move would enhance the learning capabilities of the organizational members, further contribute to the video department's enhanced knowledge and maintain its position as a major provider of holistic video services thus avoiding the pitfalls of its competitors. The action could then be replicated across the CEE&N region as potentially a sustainable proposition to support further growth in the video business.

1.5 Key Literature

The following list provides definitions that will inform the reader of the key concepts in the thesis.

Double-loop learning	Errors are detected and corrected in ways that involve the modification of organization's underlying norms, policies and objectives.
Model I	The theory of unilateral control of the environment and task, and unilateral protection of self and others. The underlying strategy is control over others. Such control inhibits communication and can produce defensiveness producing single-loop learning.
Model II	The theory of joint control and inquiry. The underlying strategy is to combine advocacy and inquiry, to make reasoning explicit and confrontable, and encourage others to do the same. The consequences are an increasing capacity not only for learning to improve strategies for achieving existing goals producing double-loop learning.
Learning Organization	This enhances the ability of individuals through their interaction with each other and through education and experience reinforced by a supportive learning environment, concrete learning processes, and leadership that reinforces learning.
Organization Learning	Organization learning allows an organization to contribute individual knowledge to the pool of organizational knowledge and solve problems on behalf of an organization which has experienced mismatches between desired and expected results, resulting in action.
Single-loop learning	When goals, values, frameworks and to a significant extent, strategies are taken for granted.

Turbulent environment	An environment that is most dynamic and highest uncertainty. Change is ever present and elements in the environment are ever interrelated. By shifting together, the elements in the environment create compounded change effect on the organization. Since change is dramatic and cannot be predicted, management effort to anticipate it through planning will have little positive value.

The performance of an organization to effectively use the learning capabilities of its staff promotes organizational effectiveness through the inspiring vision of learning to meet its vision (Serrat, 2017). It is the discrepancies between the actual and the desired levels of performance that signal a need for change, under the assumption that those discrepancies are recognized through the attentiveness of managers (Hayes, 2018). It is therefore increasingly important for individuals to help others in problem-solving in order to improve the organizational performance overall in individuals and groups (Hayes, 2018, p. 328). Therefore, this literature research focuses on the journey towards improving the learning capabilities of the video team.

Organizations that have a tendency to deal with a single issue while ignoring the underlying causes, exhibit a single-loop approach to problem solving and decision making (Blackman and Ritchie, 2008). SLL has been likened to a thermostat that can detect a change in temperature but is unable to question why this occurred or how it could operate differently (Argyris, 1976b). As noted above, SLL is grounded in meeting a self-imposed purpose, is focused on winning, suppresses negative feelings and is based on rationality (Argyris, 1976a). Examining underlying values and assumptions while exploring alternatives involves DLL, which is fundamental to changing the status quo (Argyris, 1976b). Making people aware of the need for DLL, where underlying policies and reasons are investigated, is challenging, since many people cannot make the change and this inability is often not recognized (Argyris, 1976b, p. 638).

Awareness of the difficulties in embracing DLL is the first step, but this can lead to further inhibition and militate against the desired changes. Argyris and Schön (1974) suggested that people have in their heads theories of action that guide decision making. However, the theories that people espouse are largely different to those that underlie their actions. Argyris (1976b) suggested that people usually fail to realize they are not acting in the way they espouse due to: (a) a lack of reflection; (b) SLL; and (c) problem-solving that is ineffective in challenging the status quo. Argyris designated organizations that follow these actions as model I.

Model I organizations are typified by their engagement with organizational defensive routines and are typified by an ability to make only programmed decisions. Argyris further argued that model I theories-in-use are practiced by 95% of people Argyris (1976b, p. 639). In order for the video department to move towards changing employee actions it was necessary to unfreeze model I actions, move to model II and refreeze, as advocated by Lewin (1947) and Wang (2008). Model II organizations are able to make effective unprogrammed decisions on the basis of: (a) understanding the complexity of real life; (b) involving stakeholders (including employees) to maintain their interest; (c) being open with stakeholders; (d) supporting decision makers with appropriate actions, including recognizing that mistakes may be made; (e) internal commitment; (f) moving beyond initial reservations to achieve outcomes; and (g) recognition that societal gains may not result from actions (Argyris, 1976a, 1976b, 1995).

Practicing model II actions is the foundation for OL. It involves being aware of espoused theories, recognizing theories-in-use and dealing with inconsistencies between them. Additionally, and very importantly it is necessary to realize that model II outcomes cannot be achieved with model I competencies (Argyris, 1976b). Argyris and Schön (1974) proposed a way to assist the transition to model II based on an action learning model. The steps of the model are: (a) Discover – discovering a problem or situation; (b) Invent – proposing a solution including developing a conceptual map; (c) Produce - producing the intervention in terms of performing actual action; and (d) Generalize – applying learnings

to other settings (Argyris, 1976b, p. 642). In order to move to model II learning it is necessary at each stage of the action learning model to re-learn how to learn, which is achieved by cycling through the steps of the model at each stage.

1.6 Aim of the research

The aim of the present research is to investigate how the video department in the CEE&N region of Company ABC can improve its financial performance through OL, specifically by moving the department towards model II actions through the application of DLL. The objectives in achieving the aim are to research the extant literature available on DLL and change the working collaboration with departmental colleagues using an AR approach. The objectives will be phrased as follows;

- Present a comprehensive understanding of DLL and OL.
- Work collaboratively with the regional organization to determine the actions required to improve the financial performance of the department.
- Determine how to implement and complete model II action within the boundaries of the change.

1.7 Research Questions

In response to the management problem and in line with the aim and objectives of the research, the following research questions in accordance to Agee (2009) are proposed:

Research Question 1: What changes are required to move members of the video department towards a model II team?

Research Question 2: How can the required changes to move towards a model II team be implemented?

Research Question 3: How can the changes implemented in moving towards model II be embedded in organizational memory?

In addressing the research questions, I investigated what actions are needed to move the video department from its current situation as a model I organization towards model II and how these can be implemented. When the issues had been identified, I spent time on ensuring that AR was adopted, with the aim of providing sustainable action learning outcomes at the departmental and individual (i.e. research) levels.

1.8 Research Design and Methodology

When considering the research questions I was drawn to Argyris 'AR approach as outlined in his original work on OL (Argyris, 1976b; 1986; 1995). AR employs qualitative methods of data collection and analysis, which this research follows, with data collected by means of interview and observation. The research is guided by Argyris' (1976a; 1976b) AR model, with steps of Discover-Invent-Produce-Generalize (DIPG). The data were analyzed following the DIPG action model.

In deciding to follow an AR methodology I concluded that a qualitative approach was the only option because it took account of the global view, interpretations and surroundings in order to make sense of the environment. Thus it adopted the focus of the study, whereas quantitative findings are merely comparative hypotheses (Creswell, 2013). This inductive approach enabled me to collect data from the field as a scientific methodology assuming a view of human action as fluid and dynamic with a social, contextual and personal content. The nature of observation is to study action in a natural environment and in the context in which the action occurs. Through this approach, I was able to collect data from interviewing experts within this subject domain. The participants who agreed to be part of

this research were supportive to the cause.

1.9 Thesis Structure

The thesis is divided into seven sections, as follows:

1. Chapter 1 – Introduction

   The first chapter provides my background, position as researcher, the management problem, key definitions, the aim of the study and how the study contributes to finding a solution to an organization problem, and the research questions. It includes an overview of the methodology.

2. Chapter 2 - Literature Review

   This studies the scholarly avenues of the current literature about the main topic and problem statement; it probes deeper into how the study will contribute to the larger body of knowledge.

3. Chapter 3 – Research Design and Methodology

   The method collects the data necessary to address the research aim. The chapter explains the decisions about using this particular design, how the participants were recruited for data collection and the research considerations for validating the data.

4. Chapter 4 – Research Findings

   This chapter details the method used to reveal the key themes from the data collected. The themes are also interpreted and address each of the objectives of the research.

5. Chapter 5 – Discussion

   Here the chapter answers each of the research questions through the interpretation of the results. The follow-up steps determine the actionable outcomes through which the limitations, implications, recommendations for future research and contribution of the study are formulated.

6. Chapter 6 – Reflection

   The chapter provides personal thoughts about the journey undertaken in the research and how the outcomes contribute to the outside world.

7. Chapter 7 – Conclusion

   This reflects on what has been discovered in the research results. The chapter describes how these results are linked to the theoretical framework from the literature review. It also shows how the outcomes fit into the current body of literature and finally how the aim of the study was fulfilled.

1.10 Summary

This chapter has set the scene for the thesis by providing background information, identifying the management problem and setting out how it was addressed. The aim of the study, along with the research questions, provides a guide for the critical review of the relevant literature in the next chapter.

Chapter 2 – Literature Review

2.1 Introduction

This research focuses on a video department within an ICT organization in the CEE&N region. The study examines how the video department will move towards model II action in response to new external environmental changes and how positively a change will impact at the regional and individual levels. Given the management problem and research questions set out in the previous chapter, the following topics in the literature will be reviewed: (a) frameworks for model I and model II and DLL through the work of Argyris (1974; 1976a; 1976b; 1976c; 1977); (b) the concept of OL; (c) organizational change; and (d) transitioning towards model II. This chapter concludes by proposing a theoretical framework based on the literature which guides the remainder of the research.

2.2 Research Scope

The advanced technology innovation sustainability (Xue and Bai, 2019) of video in Company ABC was a three-decade long endeavor of research and development (R&D) which made aspect of the company very successful in the CEE&N region. As business began to spike during the late 2000s, the organization attempted to defensively transform its strategies in response to the huge influx of newly developed competitive options from many leading communication equipment and OTT technology suppliers. Examining the learning aspect and considering technology to further act upon the organizations ' competitive nature at the time, the study looks at the change strategy of the video business unit in the CEE&N region and the impact of the change in organizational action. Developing an understanding of the rich eco-system involved was thought to clarify the management problem.

2.2.1 Research Background

TV and the media are ubiquitous and becoming a form of communication of all kinds, from

sharing content information with friends to watching content on the go. There is now a plethora of options for watching video content on mobile devices anywhere, thanks to the availability of higher bandwidth on wireless networks and the prevalence of high-speed WIFI, which is changing consumer habits, just as the introduction, availability and affordability of smartphones did. Watching TV on mobile handsets is gaining popularity much faster than home viewing and smartphones are essential devices for future innovation, including 360º video, virtual reality and artificial intelligence, especially in the gaming arena (Xue and Bai, 2019). With the introduction of OTT technology, OTT has shifted from the realms of simple availability as a service to a sharper focus on content. A service is as good as the content it seeks to present to end-users; once OTT technology suppliers introduced flexible business models on subscription terms, it was relatively simple to switch service providers due to the low switching costs (Lee, 2016). However, video was not such a pivotal technology as to tempt TSPOs to invest heavily, yet there were good reasons – for example, subscriber stickiness – for TSPOs to offer such services.

The video solution is a highly dynamic and complex technology offered by Company ABC, more successfully deployed in the CEE&N region than any other region globally. No other TSPOs were in business with Company ABC with so many subscribers, and this is still the case. Company ABC was also more successful than its competitors to the extent that the video solution offering was a true end-to-end and feature-full solution, providing a rich user experience. It blended the best-of-breed of technology partners which helped its highly-secured and optimized solution to be delivered over delivery networks of all types. However, in recent years, the solution on offer had ceased to evolve so rapidly, to the extent that other video solutions on the market began to catch up. Even so, it had some differentiating features Company ABC could deliver a bespoke solution within fast time-to-market at a competitive price. This was typically where Company ABC had some leverage over the competition.

The emergence of stronger global competition among TSPOs created a stronger market orientation (Isaac and Song, 2021), impacting growth and revenues year-on-year. The video business was initially a niche solution offering which has become mainstream in

today's society, and for TSPOs, is a necessity and a service which introduces the stickiness that enables TSPOs to retain and grow their end-user base. TSPOs had been expected to become more autonomous in their management, organization and financial arrangement and more accountable for their output and use of allocated resources (Enders and Jongbloed, 2007). Technological advancements in the telecommunication industry, however, became the driving force of globalization (Lam and Shiu, 2010), and the swift pace of innovation and exogenous pressures clouded the TSPOs 'decision-making'.

The inevitable shift in strategy towards an all-cloud solution was what technology Company ABC expected every TSPO to embrace. This eventually entailed a cessation of any type of implementation at the TSPO datacenters, despite the needs or desires of TSPOs. There were multiple advantages for TSPOs in embracing this new technology, namely, quicker time-to-market, reduced operating costs, the introduction of elastic resource provisioning and flexible pay-as-you-use (PAYU) business models, to name a few (Dong, Wen, Xu, Yang, 2019). However, since most of the CEE&N region's TSPOs were state-owned, these organizations were not eager to introduce such embryonic technologies until the mindset of senior management could be changed. But such people did not trust cloud technology, there was no regulatory authority and most importantly they did not want to introduce them (Sharma, Al-Badi, Govindaluri, and Al-Kharusib, 2016). Any adoption of new technology required knowledge, attitude and perceived behavioral control (Ho, Booth and Ocasio-Velázquez, 2017), but the acquisition of this knowledge would have improved decision-making, a reformed attitude would have promoted the adoption of technology and perceived behavioral control was related to the IT department's intention to trust and adopt IT systems. The argument against such people's action was that these developing countries in the CEE&N region continued to lag behind the technological advancements of developed countries, whereas, as suggested, such technologies could deliver improved economic development.

The success and investment in video technology for Company ABC was dependent on the demand for and adoption of new technology by the TSPOs and the evolving viewing

behavior of end-users. Behavior and tastes were changing, for the following reasons; (a) an attraction towards an OTT-only service where more users are watching multimedia on-the-go rather than the traditional home-viewing experience; (b) consumers moving away from the idea of having to be tied to a TSPO subscription contracts for a minimum of one to two years, preventing consumers from switching to other services due to the high switching costs; and (c) the new norm of more purchasing of on-demand content, anytime and anywhere, which was rarely offered by the TSPOs, and (d) the piracy market that offer reasonable quality video services free-of-charge. The success of video was also dependent on the strategy Company ABC wanted to pursue, since video technology contributed to no more than three percent of total annual revenues. Since more technology companies were pursuing growth through their core technologies, and reducing R&D spending in other domains, it was pertinent to ask whether Company ABC should pursue the same strategy as their competitors and *kill-off* the video business altogether. It was therefore imperative to show how relevant was the business offered to TSPOs and how this action could change the mindset of the team members in the video department.

The industry over the past few decades started with standard broadcasting of terrestrial (free-to-air) television. Once satellite and cable operators began to offer video services and introduced paid services, there was a boom in the industry. So, on one side of the spectrum were pure video service providers (satellite and cable operators) and on the other side were pure telecom operators, offering only communication services such as home telephony and mobile services. Nowadays, all operators offer similar services through the merging of technologies, resulting in increased competition which is becoming more affordable for end-users. Most TSPOs in the industry began to offer, what is known as “triple-play” or “Quad-play” services, which generally consisted of broadband/fiber (internet access), home telephony, Multimedia (video services) and mobile (now even home security). The TSPO’s strategy was naturally to retain and grow their user base by offering competitive services in their particular markets (Khatibi, Ismail and Thyagarajan, 2002; Sarangi and Pradhan, 2021). In order to maintain a low turnover rate, loyalty was not necessarily related to service satisfaction, but factors such as customer support service response times and other quality services-related as indicators of the rate of

retention of users (Khatibi, Ismail and Thyagarajan, 2002, p. 42). From a user's perspective, it was not unusual to expect tailored products and better services at a lower cost (Junxiang, 2002), and the fact that lower switching costs were emerging, i.e. shorter user commitment, began to concern TSPOs further.

Focusing again on the services offered through triple-/quad-play, offering video services seemed to be a necessary evil for TSPOs. Video solutions are generally very complex requiring a great deal of integration of disparate components such as TSPO's Business and Operation Support Systems (BOSS), which are cumbersome and produce lengthy impact on time-to-market. To have an end-to-end system, the video platform and software components were often extremely costly for the smaller TSPOs, but the biggest cost has been the studio content, for example HBO, which can lead to a financial burden for the TSPO. Having to introduce heavy software projects could challenge them financially, since they would probably make a financial loss, and this made it more difficult to convince TSPO Board members to allocate budget to it. Once a video service was operational, there was a tendency for TSPOs not to focus on enhancing it and not add further funding, given the likelihood is that the average lifetime of a video solution from any particular technology supplier was approximately five years. Thereafter, TSPOs tended to rethink their video strategy and in some cases the video solution was replaced for the following reasons: (a) technology advances could not be met by the incumbent technology supplier; (b) the supplier had not met the expectations of the TSPO; (c) external factors had affected the capabilities of the technology supplier; and (d) TSPOs had strategically shifted in directing video offerings to their end-users.

In summary, the success of the video phenomenon was susceptible to the cyclical shifts in economic volatility. The video phenomenon allowed TSPOs to continually exist in fighting for supremacy under the dubious assumption that TSPOs would actually gain a financially viable revenue stream through this service. TSPOs wanted to pursue the Holy Grail of monetizing the service, but it seemed that video was not their savior. Many of the video services offered by TSPOs across the various markets were on a par with each other in terms of content offering and quality, but it gave the opportunity for subscribers to choose a particular TSPO through the power of price and customer service. The

emergence of OTT service providers had disrupted the industry, to a point where traditional TSPOs were concerned that the operating environment was not favorable. The TSPOs were also trying to determine whether it would be better to join the OTT service providers rather than compete, which entailed integrating the OTT service into their own, so as to coexist and introduce a revenue-sharing scheme.

2.2.2 Research Overview

In light of the research background, Figure 2 holistically illustrates the search elements that constructed the literature review. A literature review seeks to understand how the topic has developed over time and what remains to be investigated (Easterby-Smith, Thorpe, and Jackson, 2012). At first in the search for relevant literature, it was important to identify the key themes for organizing concepts (Rowley and Slack, 2004). The key themes identified were organizational advances through DLL. These were the most relevant to the research provided for addressing the management problem.

In order to construct the literature through sources, the academic and professional literature was best suited to providing relevant information in this study through the treatment of concepts and models (Rowley and Slack, 2004, p. 32; Bharti, Agrawal, and Sharma, 2015; Snyder, 2019). Therefore, the strategy was to use several sources through internet search, academic databases, books and internal company material. The complete source references are shown in Figure 3. Irrespective of the source, it was fundamental that all the sources used were peer-reviewed articles and books that were academically recognized. In addition, the bibliography or references in any of the sources used in the literature review allowed a deeper analysis of the topic. It was essential to keep in mind that there was a limit to the amount of relevant literature that could be used for the research and still comply with the overall DBA requirements.

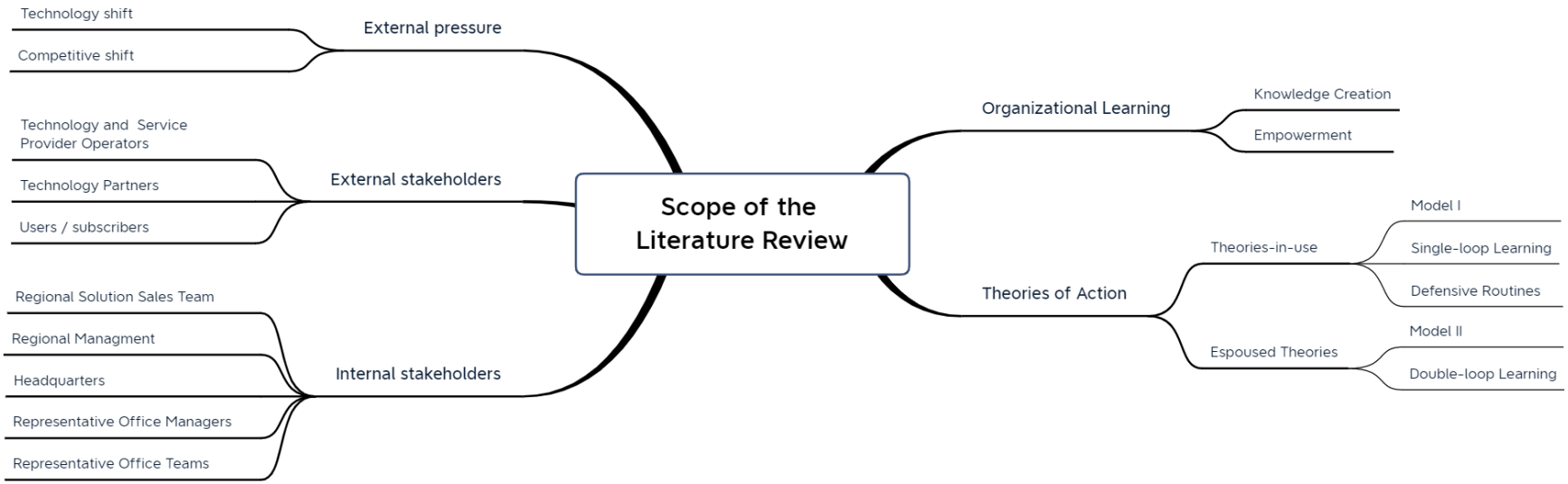

Figure 2 – Scope of the literature review

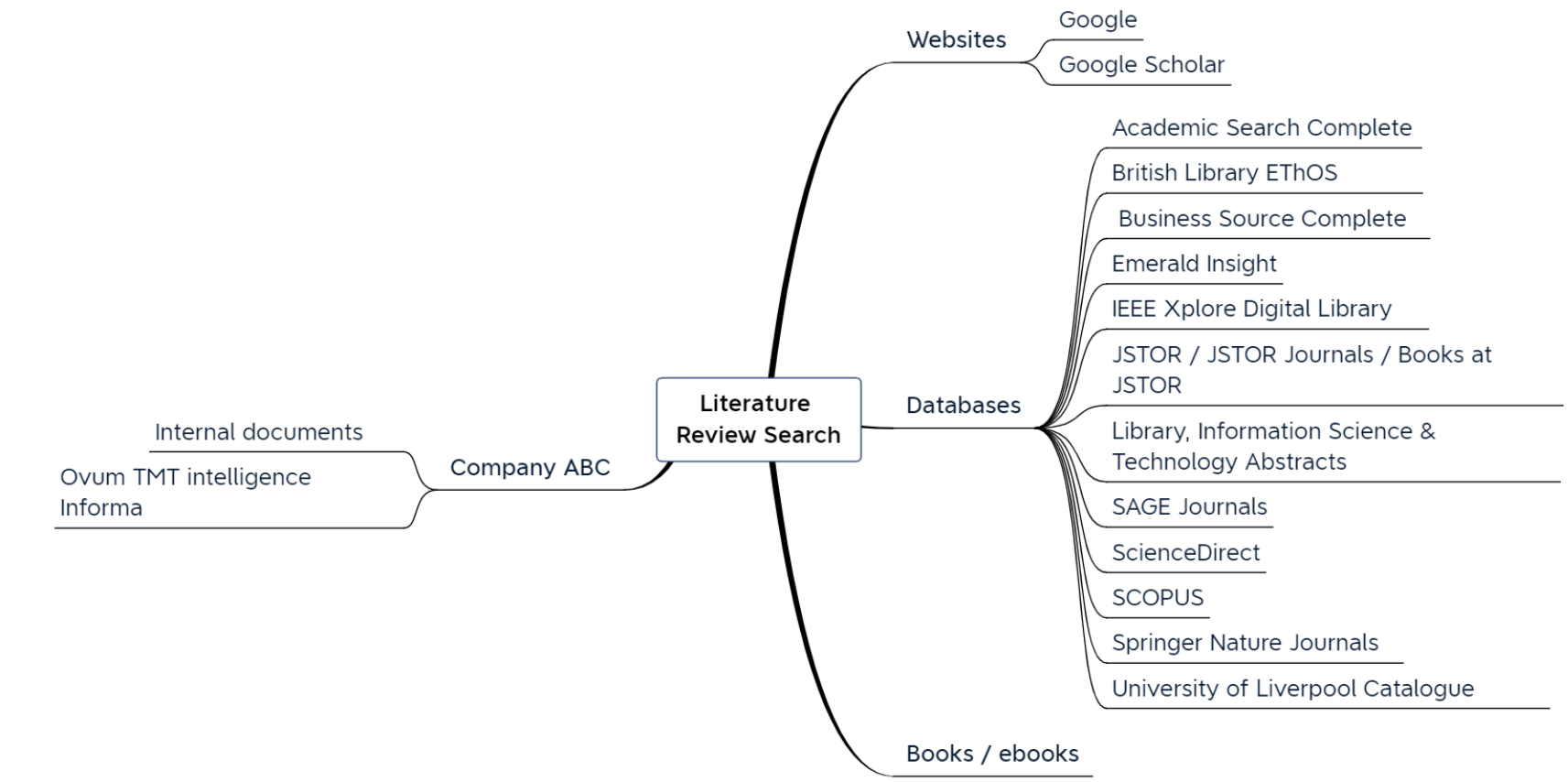

Figure 3 – Literature Research Sources

2.3 Introducing Double-Loop Learning

Addressing the management problem revealed how learning drove innovation by elucidating the concept and understanding of how different organizations were aligned with business ideas. Domains such as the sharing, creation, approach, use and protection of knowledge are a few areas which created the genetic make-up of knowledge management triggering innovation (Jyoti, Gupta, and Kotwal, 2011). These areas would provide supplementary propositions to help address the research questions (Strauss, 1990; Agee, 2009).

The literature researched related to OL; the transition of the RSST towards model II through the application of DLL was researched through literature predominantly written by Argyris in numerous articles and books and articulated throughout this thesis. It was argued that any organization wishing to excel in a dynamic environment should continuously improve (Deng and Tsacle, 2006). The authors, in a way which I believed was in agreement with this view, also argued that as the knowledge agents interacted with each other and with the external environment, performance improvement became evident (Deng and Tsacle 2006, p. 603; Serrat, 2017; Hong et al, 2019). Multiple factors affected the capacity to learn, whether as an individual, group or organization, for example, conflict and the avoidance of uncertainty, to name but two (Argyris, 1976a).

The tendency in many organizations is to deal just with the issue arising, while ignoring the underlying causes. These actions focus on what is occurring without questioning the response further, indicate a single-loop learning approach (Blackman & Ritchie, 2008; Ghaderi et al., 2014). Single-loop learning has been likened to a thermostat that can detect a change in temperature but is unable to question why this occurred or how it could operate differently (Argyris, 1976b). Single-loop learning is grounded in meeting a self-imposed purpose, a focus on winning not losing, of suppressing negative feelings and based on rationality (Argyris, 1976a).

Examining underlying values and assumptions while exploring alternatives involves double-loop learning, which is fundamental to changing the status quo (Argyris, 1976b). Double-loop learning entails not just understanding what has occurred but why it is

happening. Making people aware of the need for double-loop learning is challenging, as many people are unable to make the change and this inability often is not recognized (Argyris, 1976b, p. 638). Awareness is the first step, but this can lead to further inhibition and militate against the desired changes. Argyris and Schön (1974) suggested that people have in their heads theories of action that guide decision making. However, theories that people espouse are mainly different to theories that they use in action. Argyris (1976b) suggested that people usually don't realize they are not acting in the way they espouse due to: (a) a lack of reflection; (b) single-loop learning; and (c) ineffective problem-solving to challenge the status quo.

While Argyris' example of the thermostat provides an understanding of single loop learning the implications of it can also be found in organizations. Single loop learning in organizations is grounded in the actions of people undertaking work activities without considering how their actions impact on the organization, colleagues or customers or why the activities are being done. Performing a work activity uncritically is ultimately not in the interests of stakeholders. Questioning policies and procedures and understanding why actions are taken is a step towards double-loop learning and improved performance.

2.3.1 Theories of Action

Theories of action are governed through a set of values that carve out frameworks for the action strategies chosen by individuals (Argyris, 1995). The assumptions made by individuals to control their designs in their daily activities in order for them to achieve their intentions and produce action consistently should be aligned with their values. These designs or mental models continue to be used by individuals when confronted with new situations. However, having to choose specific mental models from a large selection could motivate individuals to act slowly in their daily activities; thus, the choice of particular models should be based on what has been previously used (Stacy, 2000). One could say that this is normal behavior and an efficient way of functioning; why change this habit or strategy in thinking? Often departmental managers and top management think in a similar fashion and raise issues at any given moment as situations change, thus causing errors

and incompetence to prevail (Stacy, 2000, p. 108).

Argyris and Schön (1974) observed actions through two different theories; (a) theories-in-use, and (b) espoused theories. Theories-in-use possess four governing values (Argyris, 1995, p. 18):

1. Achieve the intended purpose.
2. Maximize winning and minimize losing.
3. Suppress negative feelings.
4. Behave according to what the theorist considers rational.

Action, given these values elevates the position of the individual and keeps the situation under control by satisfying the incumbent values. In organizations, this causes defensive routines which protect individuals from embarrassment or threat as a result of their actions. In this way, model I is an example of SLL, which inhibits a possible shift towards model II and the application of DLL. Model II theories when practiced follow the principle of stepping back to determine the larger frame of an organizational problem in order to change the context and allow OL and change to occur (Greenwood and Levin, 2007).

These theories of action are complex concepts since they tap into unconscious models of thought which are not easy to absorb without relevant training (Argyris, 1976c).In general, moreover, society is programmed with theories-in-use that prevent us from reflecting accurately on our actions and their impact, and even if people behave according to their espoused theories, on-lookers tend not share the fact with others (Argyris, 1976b).

2.3.2 Defining Model I and Model II

To understand individuals ’effectiveness and learning capabilities in an organization, the explanation can be separated in the two well-defined theories involving model I and model II. Table 1 provides an overview of model I through a list of its governing variables which

are the goals that the actors strive to satisfice; in these are four variables. These variables can be understood on the basis of:

1. Action strategies
2. Consequences for the behavioral world
3. Impact on learning
4. Effectiveness
5. Reflection (in this case) on the video department

Governing variables	Action strategies	Consequences for the behavioral world	Impact on learning	Reflection on the video department
Define goals and try to achieve them	Define and manage the environment unilaterally (be persuasive, appeal to larger goals).	Actor seen as defensive, inconsistent, incongruent, competitive, controlling, fearful of being venerable, manipulative, withholding of feelings, overly concerned about self and others or under concerned about others	Self-sealing	Information dissemination of particular strategy and not considering the regional requirements. Underlying direction is to push particular product selling as a "one fit all" strategy mindset.
Maximize winning and minimize losing	Own and control the task (claim ownership of the task, be guardian of the definition and executions of task)	Defensive interpersonal and group relationship (dependence upon actor, little additivity, little of helping others)	Single-loop learning	As a directive from headquarters, the CEE&N region must win one video sale with any TSPO. The RSST need to prove their value
Minimize generating or expressing negative feelings	Unilaterally protect yourself (speak with inferred categories accompanied by little or no directly observable behavior, be blind to impact on others and to the incongruity between rhetoric and behavior, reduce incongruity by defensive actions such as blaming, stereotyping, suppressing feelings, intellectualizing)	Defensive norms (mistrust, lack of risk-taking, conformity, external commitment, emphasis on diplomacy, power-centered competition and rivalry)	Little testing of theories publically. Much testing of theories privately.	Lacking ownership and responsibility and often ineffective sales strategy to embrace a conducive working environment. No negativity from RSST nor productive discussions.
Be rational	Unilaterally protect others from being hurt (withhold information, create rules to censor information and behavior, hold private meetings)	Low freedom of choice, internal commitment and risk-taking.	N/A	Information flow is poor and decision-making is difficult at the regional level. Technical and sales mistakes are made from potential TSPO engagements.

Table 1 - Model I Organization with decreased efficiency characteristics

Source: Adapted from Argyris and Schön (1974, pp. 68-69)

The governing variables formulate the framework to allow this model to be conceptualized.

- The first variable, define goals and try to achieve them entails taking control of the situation and adopting a single objective only, which can lead to a failure to understand the holistic picture and overall goal.

- Maximizing winning and minimize losing; In the department, for any new sales opportunity to which it is willing to respond, the objective is that all those involved will have a common goal to aim at, from which no-one should deviate; for example, there should be only one outcome, for fear of showing weakness and poor team work.

- Minimize generating or expressing negative feelings; being part of a team is creating an environment conducive to effective action, which essentially means being friendly, unaggressive and inoffensive and taking a positive attitude to the effort and to individuals.

- Finally, be rational; information is shared only when questions are asked or on a need-to-know basis. This leaves gaps in team members' knowledge and is particularly damaging to customer relations if it exposes a lack of expertise. This also destroys any possibility of competent or rational decision-making.

Model II has a similar table with goals that actors strive to satisfice with three governing variables, with the overview in Table 2.

Governing variables	Action strategies	Consequences for the behavioral world	Consequences on learning	Consequences on quality of life	Potential effect on department
Valid information	Design situations or environments where participants can be origins and experience high personal causation (psychological success, confirmation and essentiality)	Actors experienced as minimally defensive (facilitator, collaborator, choice creator)	Disconfirmable processes.	Quality of life will be more positive than negative (high-authenticity and high freedom of choice).	Prepared to be proactive in keep all team members aligned with current information
Free and informed choice	Task is controlled jointly	Minimally defensive interpersonal relations and group dynamics.	Double-loop learning		Work as a team, share risks and jointly work on issues.
Internal commitment to the choice and constant monitoring of its implementation	Protection of self is a joint exercise and oriented towards growth (speak in directly observable categories, seek to reduce blindness about own inconsistency and incongruity. Bilateral protection of others.	Learning-oriented norms (trust, individuality, open confrontation on difficult issues).	Public testing of theories	Effectiveness of problem solving and decision-making will be great, especially for difficult problems.	Improvement on decision-making through transparency and openness.

Table 2 - Model II Organization with increased effectiveness characteristics

Source: Adapted from Argyris and Schön (1974, p. 87)

From Table 2 for Model II, the descriptions of the governing variables are as follows:

- Valid information; unsurprisingly, groups need information dissemination, based on data which are made freely available, to make informed decisions. It is often seen in the department in this case study that information sharing is rather less than ideal, inducing a great deal of irritation and negativity among individuals. To benefit from this model of learning, valid information must be maximized.

- Free and informed choice; Individuals should have the capacity to understand the decisions which need to be made based on the variable of the individual who must make them. This will allow individuals to make correct informed choices based on the individual objectives set, the method for achieving such objectives and objectives which can be met within the individuals' capabilities. It is therefore necessary to maximize free and informed choices.

- Internal commitment to the choice and constant monitoring of its implementation; The key to understanding this variable is to compare the purpose of making the correct informed decision by suggesting that making the decision in this way gives greater satisfaction than that from making an effective decision based on rewards or penalties. The department can create a threatening environment to combat failure, or can be seen as a negative motivator. As with the previous two variables, the organization should maximize internal commitment to decisions made to satisfy model II learning.

Having a good relationship strategy would lead to a more transparent working environment, with the objectives of completing tasks and resolving problems in a cohesive and structured manner (Colgate and Danaher, 2000). The effects of observation from a supplier-client perspective could be regarded as different because of the internal organizational effects of models I and II. The overarching objective was that although stemming from the management problem-at-hand, persuading the RSST team to transition towards model II is theoretically possible, since groups must adapt to change,

as is clear from the example given in the model I scenario.

Across the organization, defensive routines were in play among such functional departments as HR, R&D etc. According to Argyris (1986), this shows a typical human reaction to threats which essentially results in anti-learning. In the 21st century where organizations are streamlining and cultivating talent, it is not uncommon to have to demonstrate to senior management one's worth, value and credibility. It was also not uncommon in Company ABC that performance appraisals were becoming increasingly a more powerful tool with the intention of weeding out even a suspicion of weak performance. Company ABC was a very result-oriented organization, and it was a feature of its senior management to expect a positive result irrespective of how it was achieved, and to disregard the reasons why it was not achieved.

The criteria for assessing credibility, according to Argyris (1986), is first through how well resources can meet their objectives; second, the link between their achievements and the financial viability of the organizations and, finally, the preconceived idea of reducing activities at times of financial shortage. From my experience in the industry, I can add a possible fourth dimension which is the ability in the absence of major disruption, to change seamlessly as strategic and technological change and direction become the increasingly insistent mantra. An example of credibility can be found by seeing things through the eyes of the IT department of many organizations. Even though IT is an extremely important function, IT specialists tend to believe that their credibility is low, especially among those who take business decisions (Bashein and Markus, 1997). Essentially, IT teams tend to believe that they are not consulted about IT change requirements, while business people believe that changes are necessary and IT specialists are often unappreciative and unwilling to adapt to such changes, leading to business misalignment and a good example of defensive routines.

Defensive routines also stem from reactions to trust from others (Bashein and Markus, 1997, p. 36), with criteria such as likeability, similarity, interaction and consistent behavior. Obviously, work performance is higher when trustworthiness among teams is high; hence, individual shields are less likely to be raised in the defense or challenge of a position

(Serrat, 2017). It is very common in Company ABC to report others to their managers, instead of addressing the individual or his/her team, if it is believed that individuals are not performing according to expectations. The reason for not keeping the problem within the team is perhaps cultural, touching on individualism (Hofstede, 2011), in order to protect oneself. It is not atypical that the Chinese staff follow these principles, which give them an advantage over non-Chinese staff, due to the closer family relationship with management. What is also visible is that non-Chinese staff can be more confrontational and open to addressing problems head-on than their Chinese counterparts. Concluding the topic of defensive routines, it is important to grasp how individuals' action and the other traits noted above work to develop an appropriate strategy for departmental transformation. This avoids imposed structural changes and seamlessly introduces a beneficial strategy that will improve not only the business aspect but the degree of personal satisfaction, resulting in an overall learning and propitious environment.

Furthermore, Argyris and Schön (1974) argue that addressing these defensive routines and letting individuals evolve towards model II require self-awareness, belief and dynamism with team interaction. There are four areas to consider during this transition;

- Individual awareness and growth, leading to new competences.
- The need to be involved and understand the individual's relationship with his/her instructors.
- An exploration of group dynamics of learning.
- Observing the group dynamics of learning and its application to both the individual participants and the instructor.

Argyris and Schön (1974) state that there are key areas in which that the instructor (or researcher) needs the skills to maintain such a transition: (a) to prepare a conducive environment to inform the intervention and relationship with their instructor, and (b) to have a solid knowledge of how individuals behave and act towards themselves and others or groups (Argyris and Schön, 1974, p. 96). I would argue that this level of detail in understanding the dynamics of the process is confusing and unconventional, as the

following chapter indicates. The transition from model I towards model II is more explicitly described in Chapter 5.

The shift towards model II requires making unprogrammed decisions on the basis of (a) understanding the complexity of real life: (b) involving stakeholders (including employees) to maintain their interest; (c) openness with stakeholders; (d) supporting decision makers with appropriate actions; (e) internal commitment; (f) moving beyond initial reservations to achieve desirable outcomes; and (g) recognition that societal gains may not result from actions (Fisher, Francis, and Haven-Tang, 2021). These are the actionable outcomes that were expected through this research, which mirror the progress of the shift towards model II. It is not expected, however, to fully complete these actions within the time limit of study, due to the difficulties of moving to model II. Moingeon and Lehmann-Ortega (2010, p. 279) state that moving towards model II and DLL consists of modifying strategies within an existing frame of reference, where this type of learning forces the organization to transform its fundamental codes of reference in order to adopt new ones. The process of moving to model II will be a gradual progression by the RSST, although each action indicated is a significant change in any department of an organization.

2.3.3 Double-loop Learning in Action

The aim of the research is to investigate how the video department in the CEE&N region of Company ABC can improve its financial performance through OL, specifically by moving the department towards model II actions through the application of DLL. The attempt to correct errors by following policies and objects is referred to as SLL (model I). Instead, DLL is achieved by questioning the underlying policies and objectives (see Figure 4).

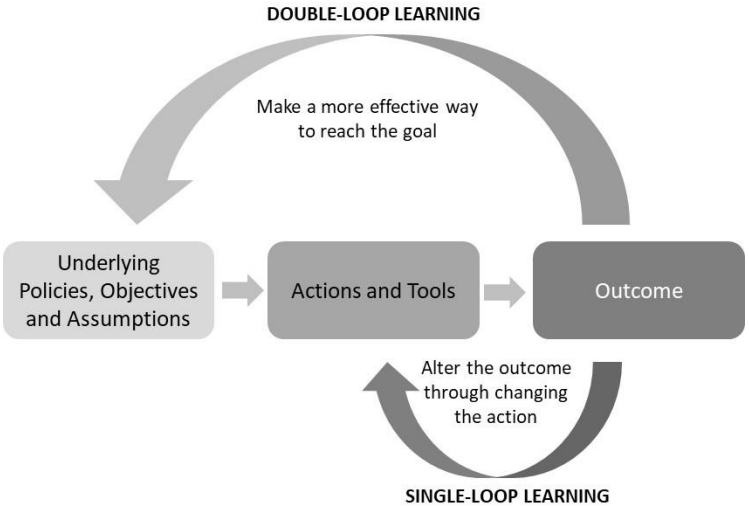

Figure 4 – Illustration of SLL and DLL

Source: Adapted from Argyris and Schön (1974).

To give a holistic view and direction to the research, it may be helpful at this point to go through the findings from the extant literature on DLL in order to understand the work performed and the results of implementing it. Most of the studies undertaken do not directly relate to my research but do provide a firsthand overview of the effects of DLL in a wider context. Hwang and Wang (2016) reported a case study performed to understand how different strategies were used to learn a language through two test items for gaming. It proved that using a Cloze guiding strategy (a method that allows students to be familiar with the objective of the exercise) engaged the students to use SLL and also DLL through selected learning materials. Those using the multiple-choice strategy seldom used any learning material which exposed a SLL approach, even after performing the tests again. Those who were interviewed suggested that the multiple-choice questions were answered by making choices until the task was completed, leaving little room for learning. Through the Cloze guiding strategy, the students were looking through the material and familiarizing themselves more with words to enhance their memory of new words and demonstrated higher cognitive load. Further insight suggests that DLL in contrast to SLL greatly augments the amount learned. Kantamara and Ractham (2014) argued that SLL

brings about surface change, whereas deeper change is made through DLL. Although SLL solves problems by examining the environment and comparing data, the eventual outcome is to fix the problem by correcting the errors, whilst the organizations keep the same policies and goals. The authors describe DLL, in contrast, as the process of comparing the situation with the norm which by questioning the norm produces an appropriate and justifiable means of proceeding. The outcome is that initiating change and adapting to a chaotic environment links to the kind of organizational change whereby knowledge and innovation are produced (Kantamara and Ractham, 2014, p. 56). In a study by Matthies and Coners (2008), project learning was demonstrated through environment-based implementation using various methods in the execution of projects. The underlying methodology used Latent Semantic Analysis (LSA) and the Analytic Network Process (ANP). LSA used semi-automated extraction of lessons-learned while ANP used systematic modeling which extracted the lessons learned through projects. The projects were integrated into the evaluation of project concepts and current project management routines (Matthies and Coners, 2008, p. 230). Applying the lessons learned from the repository of previous projects demonstrated that DLL was in play, since the process addressed problem areas informing a cross-project learning process. Van Dooren (2011) described how performance management systems are implemented (SLL) compared to what the performance management system should be able to achieve (DLL). The best possible scenarios in addressing problems are based on contrasting methods to justify their value. Jaaron and Backhouse (2017) emphasized that generating knowledge internally at a speedier rate generated competitive advantage and promoted growth and organizational survival. The following were evident from the case study approached in a service-oriented environment of frontline workers that produced several output dimensions; (a) continuous learning, (b) embedded systems, (c) dialogue and enquiry, (d) team learning, (e) empowerment, (f) strategic leadership and (g) system connections. Williams and Brown (2018) focused on adapted management through ‘learning-by-doing ’and adapting, based on what had been learned and improved through decision-making by reducing uncertainty, as a key outcome of DLL.

Operating under the premise of DLL was considered a major departure from existing

routine by organizations; it was an alternative way of deriving a more appropriate solution to ever-changing problems (Simonin, 2017, p. 205). This author stated that better collaboration by individuals promoted more and better routines for improving collaboration. Similarly, Lauer and Wilkesmann (2017) investigated the changes in action of teachers at a university that had made minor changes in teaching methods from being teacher-focused to more student-focused, which shifted the OL process from single-loop to DLL. The striking results showed a decline in the drop-out rates of students through this change in the governance model. García-Morales, Verdú-Jover and Lloréns (2009) maintained that encouraging personal development and other people was essential for both single-loop and DLL. The study also showed how single-loop and DLL were in play in creating a stable and ambiguous organizational environment. It was stated that in a stable environment, action was constant and change was a static building on past successes, with little proactivity or pressure from the competitive environment. Thus, a more complex and ambiguous environment called for DLL in order to tackle the turbulence and continuous changes, for example, in the case of Company ABC. Continuous changes are inherent in this company, a commonplace when managing crises. Organizational change reflected a DLL process in which managers relied on past experiences of organizational change to evaluate competencies in different organizational scenarios (Mano, 2010, p. 105; Stacy, 2000). The author stated that the study was seeking a certain learning path in order to enable the organization to sustain its growth and prevent or control future issues.

One case study by Ikin and McClenaghan (2015) showed the principal effects of DLL in the development of student review cycles in strengthening the development and support offered by educational establishments. Two groups were formed of the study: (1) a group that was directly involved in the design of cyclical review criteria and processes, hosting reviews, and leading reviews; and (2) a group that served only as team members in other principals' reviews. The results showed that both groups performed the reviews differently and each group changed its action in order to improve the process. In principle, group one applied and improved the criteria used in the evaluation, design evaluation strategies and techniques, and later reflected critically on the quality of evaluation practices and capacities in order to improve the values and assumptions influencing their own practices

(Ikin and McClenaghan 2015, p. 22). Group two made ad hoc change and minor shifts in its techniques in order to solve problems when outcomes fell short of their objectives. This demonstrated a great contrast between DLL and SLL.

Another influence on how employees learn is taken from the empirical work of Sitar and Škerlavaj (2018); it seems to depend on whether the organizational structure is mechanistic or organic. Mechanistic organizations are centralized and reinforce past actons, which limits the type of learning that promote internal, independent and DLL. Organic organizations are decentralized, which allows changes in belief and actions which encourage OL through DLL. Company ABC has the characteristics of a mechanistic structure and, from an employee's perspective, I recognize the authors 'analysis' of employee learning behavior, although the effect on limiting innovation seems dubious. Similar to the notion of organizational structure, empirical data according to Chaston, Badger and Sadler-Smith (2000) reveals that learning style has an important role to play in the type of learning that organizations exhibit. A relationship marketing style (based on building closer and long-term customer relationships) tends to adopt DLL whereas a transactional marketing style (focusing on a single point-of-sale) tends to come from a single-loop organization. Company ABC's main core value is to stay customer-centric to guarantee its value, grounded upon creating value for customers where its success depends on its customers' success. This shifts the organization more towards a relationship marketing style. Viio and Nordin (2015) describe the relationship marketing style as value-based selling that incorporates double-loop adaptation selling, which satisfies demand and co-creates value rather than stimulating demand (Viio and Nordin, 2015, p. 123). In this study, the single-loop sales adaptation focuses on selling action and double-loop sales adaptation on a sales mindset which determines the goals, attitudes and managerial values. Essentially, the selling of action or the capacity to adapt the actionable level has two meanings (1) from a hard perspective: product, processes, delivery and quality, and (2) from a soft perspective: interacting with customers. This does present a wide spectrum of topics in any organization, including the video department in the present case, although it began with the idea of creating value by focusing more on its products and less on its customers. This action ultimately led to short-term gains

because meeting targets was central to the objectives of the RSST and it gave less attention to creating value for the TSPOs. In the long term this created a SLL environment (Argyris, 1974). Moving this form of action to DLL demands an open minded, sincere approach of full integrity, allowing more adaptation and bespoke solutions and conceptualizing, developing and building the power to adapt in order to connect to the mindset and values of the organization. Furthermore, the adaptation of the mindset can develop a more customer-centric attitude and gives a long-term perspective on the business requiring openness and willingness to learn which creates value for the customer and employee alike.

To summarize, it is clear that DLL can be applied across a range of industries such as education, manufacturing, technology and retail, as stated above. This demonstrates that DLL is flexible to implement despite the lack of empirical data to suggest its wider use. This can be interpreted from the studies showing that people are unwilling to confront and violate organizational norms, giving rise to a reluctance to share information and address issues upwards (Argyris, 1977). Most of the research in this chapter was conducted under the interpretivist/ constructivist paradigm using qualitative research to gather empirical evidence through interviews and observation. A few cases used a positivist and quantitative approach to research the effectiveness of DLL through testing hypotheses to determine outcomes for effective decision making, which suggested the need for further and longer term analysis (Matthies and Coners, 2018). Common themes in the literature were the positive effect that DLL had on OL that consequently brought about change (Kantamara and Ractham, 2014; Matthies and Coners, 2018); that addressing problems is effective (Van Dooren, 2011); and that this learning generates the knowledge for maintaining competitiveness and organizational survival (Jaaron and Backhouse, 2017).

2.4 Effects of Double-Loop Learning

There is a profusion of literature on organization learning and learning organizations, and the literature suggested that these concepts are different. The following sub-chapters discuss the key elements of OL which report the outcomes of applying DLL.

2.4.1 Definition of Organizational Learning

It would be difficult to dispute that in the 21st century any organization had no learning mechanism, however ineffective. Organization learning (OL) allows an organization to contribute individual knowledge to the pool of organizational knowledge (Haamann and Basten, 2018) and solve problems on behalf of an organization which has experienced mismatches between desired and expected results, resulting in action (Argyris and Schön, 1978; Hayes, 2018). Cook and Yanow (1993) argued that OL could be achieved at an organizational level and was neither conceptually nor empirically the same at an individual level, which seemed contradictory to other authors on the subject. In addition, although learning was linked to individual changes, some changes could occur through little or no discernible alterations (Cook and Yanow, 1993). Shrivastava (1983) complemented this by arguing that learning is an organizational rather than an individual process, although it could take place at many organizational levels. Similarly, OL included the experience, knowledge, beliefs and assumptions of individuals and the creation of knowledge and information. OL is the fundamental source of competitive advantage and that in volatile environments as with in Company ABC, the capacity to learn faster that the competition is vital for sustainable competitiveness (Lopez, Peón, and Ordás, 2005). Later in Chapter 5.4, it will describe the causal relationship between OL and innovation and competitiveness and also improvement in financial performance.

A learning organization, however, enhances the ability of individuals through their interaction with each other and through education and experience (Wang and Ahmed, 2003). Although most of the literature discovered during this research did not differ in terms of definitions or assumptions, it was clear that having this learning concept in organizations did increase knowledge, improve performance and eventually competitive advantage (De Geus, 1998; Hong et al, 2019). There are three building blocks to a learning organization: (a) a supportive learning environment; (b) concrete learning processes, and (c) leadership that reinforces learning (Garvin, Edmondson, and Gino, 2008). I would argue that, even when such a framework for learning is lacking, an organization still can be regarded as a learning environment, but the next granular level

of the building blocks are components: for example, a supportive learning environment includes differing opinions, openness to ideas and time for reflection.

In the case of Company ABC, the regional managers sought the opinions of the RSST and thus were generally open to ideas, but only at a higher level. Furthermore, the RSST had an opportunity every year for reflection by analyzing the progress from the previous year and developing a strategy for the next. The management problem arose through its lack of awareness of how any of these ideas could materialize; this was why it needed local autonomy and decision-making. The second building block determines how information can be used, what new products can be introduced and what competitive action and market landscape can be seen in the external environment. This was an area where the RSST was active but its lack of skills and resources prevented such activities from being of any value to the department. Finally, the third building block looks at leadership and how well management listens to its employees. Typically, the strategy of introducing an all-cloud video solution to Company ABC became arduous: the video department asked the RSST initially to sell the solution to a TSPO before a solution could be implemented in the region, which proved difficult and went against the judgement of the RSST. Interestingly, Senge (2014) suggested that a learning organization has five disciplines: (a) personal mastery, (b) mental models, (c) shared visions, (d) team learning, and (e) system learning. Learning in organizations means the continuous testing of experience, and the transformation of this experience into knowledge – accessible to the whole organization and relevant to its core purpose (Senge, 2014, p. 49). These disciplines rely on understanding the current capacity of individuals and creating an environment of learning, reflecting on the bigger picture, sharing and collaborating with teams, and understanding the dynamics of change. It was simple to determine the similarities with the three building blocks model, although Senge (2014) makes additional use of multiple cycles for deeper learning.

2.4.2 Comparing Organizational Learning Models

The premise of transitioning towards the model II learning model is fundamental to this

research. But the strength of this model requires some justification and thus I examined another OL model to provide a comparison. Further literature searches provided the following models;

1. Organizational knowledge creation theory (Nonaka and Konno, 1998) and knowledge creation is a fundamental component of OL (Cheng, Niu and Niu, 2014).

   There are four dimensions to consider under this model: socialization, externalization, combination and internalization. (a) Socialization refers to the sharing of tacit knowledge among colleagues; (b) externalization is the interpretation of tacit knowledge and "requires the expression of tacit knowledge and its translation into comprehensible forms that can be understood by others", (c) combination converts knowledge to a form of meaning, and (d) internalization is newly created knowledge which is converted to tacit knowledge. Individuals gather explicit knowledge that they identify as relevant to their domain to extend their tacit knowledge (e.g., by studying process documentation). They extend and reframe their tacit knowledge because documented and verbalized experiences facilitate the internalization of knowledge.

2. Romme and Dillen (1997, p. 70-71) also present four theories to OL, as follows:

   - Contingency theory – This theory uses adaptation of organizations as a tool for learning. The underlying premise is to adapt in crisis situations through a sequence of direct and local adaptation. In this scenario, Company ABC had swiftly redirected resources in the event that certain product functionality exposed critical failures that required immediate attention. The OL aspect showed though adaptation.

   - Psychology theory – The basic assumption is that organizations translate their internal and external environment in terms of their own frames of reference. For example, Company ABC had political pressure affecting business continuity, through which this theory showed action through common language.

- Information theory – The two previous approaches do not indicate how learning processes operate and where, for example, frames of reference come from. This approach for the video department would assist in the acquisition, distribution, interpretation and storage of information. The knowledge gained would benefit OL.

- System dynamics – This approach uses principles and concepts from system dynamics to understand learning processes as positive and negative feedback, which shows that social reality consists of circles of causation. Consequently, OL must first be understood as a cohesive, holistic process before more detailed theorizing can begin.

Thus it is necessary for understanding why it should be combined with the model of OL by Argyris and Schön (1974).

2.4.3 Value of Organizational Learning

There is no doubt that organizational models are theoretically valuable for improving learning, productivity, and competitive advantage. However, it is not obvious how effectively these model support practitioners in using this knowledge and implementing it in their organizations. This section tries to assess better the scope of the discussion.

Smith (2012, p. 8) suggested the need to adopt DLL for triple-bottom line sustainability, due to the evolving processes, learning and mindset of individuals. Generally, OL is defined by the detection and correction of errors (Argyris and Schön, 1974; Cook and Yanow, 1993, p 387), but this does not take into account many known antecedents (Van Grinsven and Visser, 2011). Two key antecedents are empowerment, referring to the decentralizating nature of decision-making, and knowledge conversion, the way in which knowledge is tacitly and explicitly disseminated throughout organizations (Van Grinsven and Visser, 2011, p. 379). Major effort is required to empower staff in an organization like Company ABC (Forrester, 2000), where centralization is much longer established. All the antecedents could be understood through further study of the literature and the

practicalities of a working model could effectively be achieved.

Organizational change is likely to be hindered by the rigidity of management's control systems (such as accounting) and stifled by its passive reaction to environmental changes (Kloot, 1997). It is the acknowledging of organizational change in response to environment changes that creates learning (Argyris, 1977). Although their findings were very specific to the functional area of an organization, Schilling and Kluge (2009) bring together four dimensions of barriers to OL: (a) the biases and deficiencies of employees in their function as sensors of the organization; (b) fear of the loss of ownership and control of knowledge (c) fear of disadvantages for the team, and (d) the perceived irrelevance of the innovation for future purposes. In theory, Argyris (1986) shows similar features when he covers learning though defensive routines, bringing together further taxonomy of the topic.

2.4.4 Learning at Organizational Levels

There had been a shift in economics, where the thought that the application of physical assets, labor and capital was the foundation of many industries was being replaced by knowledge as the key means of production (Kessels, 2001). Alternatively, Rosińska-Bukowska (2019) suggested as more valid the wider application of Intellectual capital, namely, knowledge, skills, creativity, the experience of human assets. However, the actual possession of knowledge is of no use if it is underused and not absorbed nor disseminated throughout an organization to make it a practical asset. With this in mind, changes in organization action have changed the way that knowledge is propagated to bring out its meaning.

The complexity of leadership in the video department is changing the mindset of leaders in Company ABC towards leadership in practice (Raelin, 2005) and should be seen as a possibility rather than a myth, in order to motivate and maintain a hungry workforce. However, changing the mindset would mean that leaders had the ability to trust individuals and be concurrent, collective, collaborative, and compassionate; observation does not

suggest any such thing. Leadership in the department follows a very strict regime which resonates positively throughout the organization. The organization's construct, culture, mindset, attitudes and style must be understood in order to induce a corrective action plan for re-organizing its management.

The regional HQ of CEE&N region had sales responsibilities for 28 countries. The nine members of the team were highly skilled and in the past decade had been responsible for 15 video sales accounts. They had contributed to approximately €200M of business to date, which had made this region the most successful in the world for the Company. The team was a mixture of cultures, predominantly Chinese and European team members, a self-motivated group who mingled their own characteristics of experience, style and entrepreneurial flair. This RSST was also seen as disparate and virtual, rarely being physically together and with a working mode that forbade any internal bonding. Between the two cultural divides, the RSST believed in organization learning at both individual and group levels, despite the way in which information was disseminated from the global HQ down to the regional level. Still, such cultures have supported internal integration and external adaptation (Kim and Toh, 2019). At the same time, what separated these individuals was their failure to understand each other's motivation, ethics, stress management skills and productivity levels. It was evident that motivation and productivity had a linear relationship with the responsibilities allocated to individuals, where progress, or the lack of it, could affect one's interests and might ultimately lead to failure. Locke and Gary (1984) argued that these were common goals and objectives for the individual team members, but the organization accepted only positive final results and failure was not an option.

There was a major shift towards a cloud solution, which perhaps was inevitable. It was possible that most TSPOs in the region would not accept a cloud as a service solution. One might ask why this would possibly be an issue; it could only be described as an intrusion into traditional ways of working. Changing the mindset of TSPOs is a formidable task, which introduced a different dimension in the region's sales strategy. One measure of the effectiveness of Company ABC was its ability to read the environment well and counter any impact to the organization before an event actually occurred. The other key

strength was to allocate resources effectively in the shortest possible time to counter an unpredictable change. Such maneuvering of resources can have sustainable competitive advantages in the marketplace (Dyer and Shafer, 2003), although it is questionable whether it was the organization's ability to shift appropriate resources, or the resources themselves that contributed to the firm's competitiveness. However, creating such boundaryless organizations (Ashkenas, 2000), was not to everyone's taste, especially to those who had been accustomed to a safe and traditional structure. Looking at the environment holistically, transformation for tomorrow was happening today, and the flip side of the coin suggested that many individuals of the RSST were concerned about dealing with the learning aspect in a period of constant change. Any type of change that could have triggered an impending crisis (Balogun, Hailey and Gustafsson, 2015) was worth considering although this author did not explore voluntary changes. Effective leadership and effective learning must be inter-connected (Argyris, 1976a), but managing this across all the different functional groups in Company ABC would be very demanding indeed. What was clear was that staff, to prevent embarrassment, would avoid any action that propelled a move forward (Argyris, 1995), so the idea was to ensure forward thinking and willingness to make change.

An example of learning that affected the entire organization and had shaken up the industry, affecting the TSPOs' business continuity, was the poor relationship between Company ABC and some US companies. The trade war between the United States and China (Hur, 2018), once thought to be a trade policy dispute between the two governments, had resulted in the cessation of any business possibilities for certain Chinese organizations on grounds of US national security. Generally, when public organizations interact with private organizations, problems following technological disasters intensify and to address such problems requires an increase in information flow, communication and co-ordination to halt organizational decline (Comfort et al, 2001). In such situations, there was the possibility of a complete change of direction regardless of whether certain decisions were overturned, should the same scenario ever resurface in the future. The effect on Company ABC was immense leading to greater insecurity and lower motivation, which without proper management would result in negative growth.

Leading and leadership is an organic construct; leadership decades ago behaved and led organizations differently to how it is believed they should be led in the 21st century. This should in no way suggest that in today's environment we cannot learn a great deal from past leadership, but today's leadership requirements seem to have metamorphosed and demanding a different outlook. Leaders in the 21st century need to sustain a climate of trust and a sense of community within the organization (Ayub, Abd Manaf and Hamzah, 2014).

2.5 Transitioning Through Double-loop Learning

2.5.1 Challenges of Migrating to a Different Model

If a change is to be initiated, a transition from one state to another, then this change should be sustainable (Buchanan et al, 2005), since organizational change seems to be an "untidy cocktail" (Pettigrew, 1985). To make informed decisions in regard to organization change, one must obviously understand the current situation and the goal one is expecting to achieve. Kurt Lewin's (1947) well established three-step approach to organizational change argued that change should transpire as follows: unfreezing the present level; moving to the new level; and refreezing the new level. Therefore, in moving to the new state, the old has to be discarded (Burnes, 1996). Lewin's model is rational, a static approach with hard boundaries, though it should perhaps be more tentative, with the flexibility for shifting to each level progressively, as Burnes (1996) rightly suggested. Managing change requires understanding the whole organizational structure, strategy, culture and other aspects (Barnard and Stoll, 2010). This would suggest that change cannot be dictated by any single approach, but should be flexible based on the organization's internal and external boundaries.

The success of change can only be judged on how well resistance to change is managed. Before any change can begin, what needs to be understood or even speculated is whether there will be resistance to change and its underlying causes. Oreg (2003, p. 680) summarized these causes as follows:

- Reluctance to lose control – suggests that individuals are not content when their life is not within their control or when changes are imposed on them.

- Cognitive rigidity – dogmatism in play, suggesting that individuals are less likely to adjust to change.

- Lack of psychological resilience – suggesting that change is a mark of past failures which would be difficult for individuals to cope with.

- Intolerance to the adjustment period involved in change – additional work could take time to adjust to and might not necessarily be accepted.

- Preference for low levels of stimulation and novelty – those who are less likely to accept novel ideas are more likely to resist change.

- Reluctance to give up old habits – removing people from their comfort zone induces stressful situations and makes them less likely to move to new situations.

Oreg (2003) argued that reluctance to lose control was the fundamental reason why employees inferred that their lives would change, even their personal lives, which was a valid and common reason. Resistance to change ultimately contributed to whether a change process would succeed or fail, as well as the dimension of time, since change should be a gradual process and speeding the process or skipping steps ultimately produces unsatisfactory results (Kotter, 2007). Change in organizational action should be aligned with the changes produced by technology or external environmental factors. What happens if these factors change frequently? How can action adapt so quickly when it had only just settled after a recent change? Typically, in Company ABC, it was a fact that change occurred frequently, and internally it led to a sense of insecurity, although, from an external perspective it could be seen as dynamic. Furthermore, when changes did occur, such as moving from traditional on-premises platform implementation to cloud and making on-premises implementation obsolete, the transition to change strategy is almost immediate, with a negligible transition period. The effect of this type of change was two-fold: first, it interrupted the planning and strategy of existing and new TSPOs and, second,

it prompted the regional sales strategy to announce such changes, which ultimately reduced the sales forecast. As Oreg (2003) and Kotter and Schlesinger (2008) stated, this can cause intolerance to change where changes ha the unforeseen effect of requiring employees to change too rapidly. It was often thought that change demanded adaptation to change. If this is so then certain change initiatives were not well thought through, or perhaps changes in the 21st century are unlike those of the past.

2.5.2 Creating an Environment for Change

Little has been mentioned regarding change agents as capable and credible media for change. Since I represented the scholar-practitioner, who had initiated this change, I had to be a skillful interpreter of the entire process, having the responsibility of a change agent and of acting as a technical specialist or consulting assistant in the change (Caldwell, 2003). To take on such a role requires experience, deep knowledge and an unbiased viewpoint. Since change is such a vast topic, the focus should be on creating a learning organization which has a strategic renewal approach, inducing harmony and change at all levels of the enterprise in question (Crossan, Lane and White, 1999).

Leadership is both a research area and a political skill, the ability of an individual or organization to lead or guide other individuals, teams, or entire organizations (Tang, 2019.). However, even a change agent requires support during the process or he cannot in turn support and manage deviations. Change to be successful requires support from different areas and levels within an organization (Al-Ali et al, 2017), especially at the regional level in Company ABC. There was never a moment where change did not include some type of ambiguity, which meant that the change agent required the appropriate skills to manage the situation. Still, it was not clear how to manage the change in the department and what was expected as the outcome. No-one knew whether the objective fulfilled the needs of the whole business unit and if all its members had even enough time to focus on the transition.

The thesis covers what is defined as SLL and DLL, based on the framework by Argyris

and Schön (1974), and the transition from one state to another as the principal approach taken to make this change. In principle, during change, it was observed that there was a lack of communication; closed discussions and a sense of controlling the situation with a pre-defined outcome prevailed, in other words, single-loop thinking. DLL is a more evolved model, encouraging openness, true testing of theories in public and rejecting the idea of being defensive.

2.5.3 Transitioning to the Change

The idea of change is generally not a topic that is easily accepted especially when the people concerned are entrenched in their day-to-day activities. The learning set had contributed ideas and suggestions that implied valid reasons for change. The questions raised were how the learning set could adopt such changes and whether the ideas were sustainable and supported from the top down. The followers' effective commitment is a required contribution for successful change (Abrell-Vogel and Rowold, 2014).

The quality of the change should be measurable, and should give appropriate indications how the change progress could be measured. However, the transition should invoke awareness and growth leading towards new competencies, determined by the relationship with the change agent, the exploration of group dynamics of learning and the way in which such group dynamics apply to the participants and change agent (Argyris 1974, p. 96). This author went on to state that the process first should describe the change agent's design and relationship to the participants and second expose the actions of the team to themselves, others and the group. This would indicate how likely was it that the team's willingness to change would materialize through observation, discussion and feedback.

In change projects, guidelines are provided in terms of prescriptive approaches and methodologies, but to meet such ideal outcomes can be considered unachievable. If change agents are aiming at perfection, they are misguided. Moving towards model II is no different, and there are bound to be times when the participants in this change program

are hesitant and frustrated over its viability. Therefore, when considering DLL, the change agent will have the specific task of maintaining the common objective and keeping the idea alive long enough for the change to occur. Argyris' explanation of the change to model II can seem contradictory as if the change agent had the idea of a transition to model II, which has the characteristics of a model I mindset. But there is a difference, the openness of the transition, and especially the participants' freedom of choice.

2.5.4 Embracing the Transition

In any phase of the transition, participants should observe the activities of change from different perspectives. The change agent introduces the change, and the managers of the department manage its day-to-day activities. This could be confusing. Moreover, and since the team is often on business trips, fitting into one mode of thought and stepping out of another is challenging. Change-oriented action has therefore a direct impact on a participant's performance (Baik, Song, and Hong, 2018). Change needs to continually progress and become a sustainable framework, allowing the team to begin thinking on a different level and implement new processes (Jackson, 2000). As the author suggests, the improved impact to the business should be constantly visible, with steady feedback and continuous improvement through an appropriate mechanism enhancing the team's ability to learn and contribute to a better environment. More important, leadership should monitor the organization so to ensure that the team continues to move forward and not revert to its old ways. This is described by Becker (2004) as routine, a pattern of action which is followed repeatedly, but is subject to change if conditions change. Routines, according to this author, can take the form of action, activity, action and interaction. Although such characteristics are subject to change through external forces, routine is itself an almost relentless force. Ultimately, to the layman, a major organizational transformation turns one routine into another routine.

The second part of this new phenomenon is how it can be embedded in organizational memory. The migration from one state to another is only as good as the sustainability of the state that it now obtains. This requires a driving effort, not only from leadership, but

also from the team on the ground. The overall goal is to maintain competitiveness in the market whilst continuing the learning capacity of the team to drive the change forward. The culture of the organization lies the strength with which it can drive competitive advantage since the culture is enabled to react promptly to changes in the environment and in customers' requirements so it stays competitive even in a turbulent environment (Hitka et al, 2015; Sarangi and Pradhan, 2021). The team shows the increased value of the product and understanding of the different dynamics of the sales procedure by putting forward a better value proposition.

Traditionally, organizations ideally tend to embrace change as soon as the directives are handed down to the relevant employees, like flicking on a light switch. It is often overlooked, however, that any transformation should be allowed time to establish itself, moreover, many employees are rather ambivalent towards changes under the pretext of a follow-up change which may occur and has often occurred in dynamic innovative organizations. In such conditions, leaders are forced to act speedily to remove such perceptions and carry out the specified objectives of the transitions.

In summary, as the video industry evolved, predicting such volatility had to be an organization's first intuition for ensuring survival. The inevitability of evolving innovation in the video industry has seen the need for urgent shifts in strategy, even if an organization was not prepared for its implementation. Fear is the usual earliest emotion, which can be overcome through appropriate and transparent communication in a concise explanation of the objectives of the transformation and their purpose. Dynamic organizations find continuous change commonplace and employees tend to acclimatize throughout their tenure by converting threats into opportunities and looking forward rather than reflecting on the past. More often than not, defensive routines creep in during transformation to a more propitious environment, but to create such a state requires dedication from all stakeholders and precise monitoring from the change agent. Change ideally results in a win-win outcome and successful organizations demonstrate their rapid growth in terms of size and financial performance measures (Hong et al, 2019).

2.6 Theoretical Framework

The video industry in the CEE&N region was suffering seismic shifts in user preferences. The direct variables that contributed to the reduction of sales and revenues in Company ABC over the past few years had been the pressure exerted by the competition, a turbulent exogenous economic and political environment and Company ABC's lack of leadership and focus on the development of the video solution. Another variable indirectly contributing the presumed effect was the high complexity in implementing the video solution and less of a focus on video development by leaders than they had previously brought to a formerly strategic product line. As a result, it was becoming more and more likely that the video product-line was following a similar path because some of the biggest competitors were ceasing to offer the product in their own markets. There was a great deal of activity in the video department, which showed signs of insecurity and uncertainty about what would happen next. However, due to the persistence of Company ABC, this department continued the product-line with a streamlined organization, both centrally and regionally. This research was then developed to throw light on the growing problem and to maintain the local RSST intact.

The main concepts identified in the literature review were OL, changes to model II and organizational memory. Organization learning allows an organization to contribute individual knowledge to organizational knowledge (Haamann and Basten, 2018) and individual learning is an important condition for OL (Romme and Dillen, 1997). In a learning organization there are three building blocks; (a) a supportive learning environment, (b) concrete learning processes, and (c) leadership that reinforces learning (Garvin, Edmondson, and Gino, 2008). Model II (Argyris and Schön, 1974) fits in the context of OL rather than that of a learning organization. A learning organization enhances the ability of individuals through interaction with each other and through education and experience (Wang and Ahmed, 2003). Model II theories are espoused theories which when practiced follow the principle of stepping-back to determine the larger frame of an organizational problem in order to change the context to one which allows OL and change to occur (Greenwood and Levin, 2007). The third key concept is organizational memory which prevails when new ways of working and improved outcomes become the norm

(Buchanan et al, 2005, p. 190; Kamasak, 2017). This is taken from Lewin's (1947) three-step approach to organizational change, namely unfreeze-change-refreeze. The present research is therefore set to adopt this model for managing the change through elucidating the current state, understanding the actions required to make the change feasible and, once the change takes effect, to refreeze through organizational memory and discarding old habits (Burnes, 1996).

With this background in mind, my philosophical position was constructivism, a stance that emphasizes the societal understanding of reality through the world in which actors live and work from the subjective meaning they give to their experiences (Creswell, 2013). As an insider researcher and part of the research process. I was offered a meaningful model for carrying out the study. To help support the research, collect the necessary data and analyze it, I incorporated Interpretative Phenomenology, a qualitative method. Interpretative Phenomenology offers a sense of reflexivity, balanced with pragmatism and transparency, underpinning a generic approach which is used to address particular research questions together with thematic analysis, which is a balanced methodology in its own right (Braun and Clark, 2006). The overarching methodology adopted was AR, a process used to address organizational problems requiring the participation of individuals who have an interest in change and formulating new knowledge in the process (Bradbury, 2015). The research framework is illustrated in Figure 5.

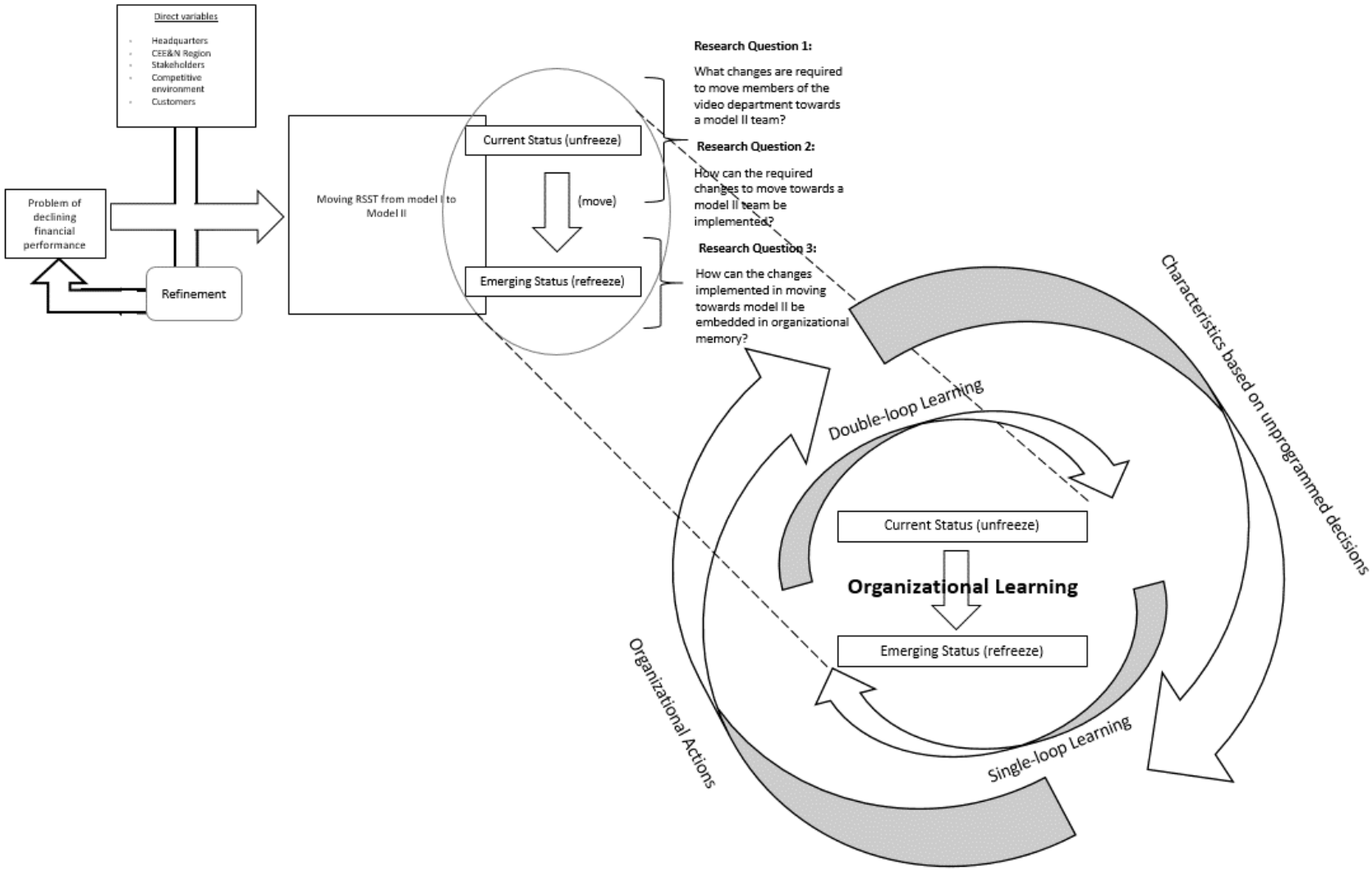

Figure 5 – Theoretical Framework

2.7 Summary

The literature review elucidated the key concepts and provided an insight into the existing literature and knowledge of the thesis topic. The literature provided input in examining the state of the organization from three perspectives: first, an understanding of DLL and the application through a wider context; second, the concept and importance of OL in the video department; and, finally, addressing concerns of the transitioning of model II action through the application of DLL. The next chapter details the research design and methodology used and how the research philosophy, methods and research strategy evolved to form an AR framework to address the research questions stated in Chapter 1.7.

Chapter 3 – Research Design and Methodology

3.1 Introduction

This chapter addresses the research approach and provides a foundation for structuring the research through inquiry-based discourse essentially to provide clarity to the learning capabilities of the RSST department. Given the smaller than anticipated number of participants, the research was based on Interpretive Phenomenology (IP) (Heidegger, 2005) as a better approach than other feasible approaches. Inquiry-based discourse led to data collection through interviews with the intention of focusing on the effectiveness of learning and the transformation between learning models. This is described in the previous chapter as model I and SLL transitioning to model II and DLL. The methodology used in this paper is AR, and the method is IP analyzed by means of template analysis.

My initial interest in transformation using learning models was as a practitioner in a technology-based industry seeking an opportunity to add value to a declining business unit. The literature research together with my current work provided the background to the following pivotal research questions arising from the management problem at the time:

1. What changes are required to move members of the video department towards a model II team?

2. How can the required changes to move towards a model II team be implemented?

3. How can the changes implemented in moving towards model II be embedded in organisational memory?

Having the above research questions in mind throughout the research design allowed me to reflect on the purpose of the study and the research approach and to focus on this approach in designing the interview questions for the participants.

3.2 Research Approach

Research approaches exist to address two fundamental tasks: to fill a gap in knowledge or to solve a problem. These topics can be addressed by developing research themes and actions through research paradigms. This idea determines which research fits which paradigm by interpreting the philosophical assumptions. However, it is necessary first to understand the logic of inquiry, which can be seen through different research strategies, namely, the opposing ideas of inductive and deductive research. An inductive approach explains the working of the world by facts gained through observation, allowing a researcher to work back and forth between themes to set out a comprehensive set of themes from the interaction with participants (Creswell, 2013, p. 45). The deductive approach begins with a hypothesis leading to a theory that answers a particular problem. Therefore, the inductive approach is best suited for qualitative research and for analyzing qualitative data.

In order to collect and analyze rich and useful information about the phenomenon under question, such information must be captured from those who have lived experience of the phenomenon (Creswell, 2013), which to formulate and have meaning entails the collection of expert knowledge. Heidegger (1962; 2005, p. 20) embraces IP, where in the absence of emotions lived experience unfolds, creating an ontological science that describes the phenomenon as “showing itself” and further explains the need to provide an interpretation of the truth.

It is important to formulate an appropriate research strategy and design which can explain the problem to encourage data collection and eventually discussion (Coghlan and Brannick, 2014). This sounds like a somewhat linear process which has a start and proceeds to an end, although Creswell (2013) suggests that research should be seen as more circular and recursive. However, to put research into perspective, the bigger picture can be seen by considering Saunders, Lewis and Thornhill’s (2019) research onion, as shown in Figure 7.

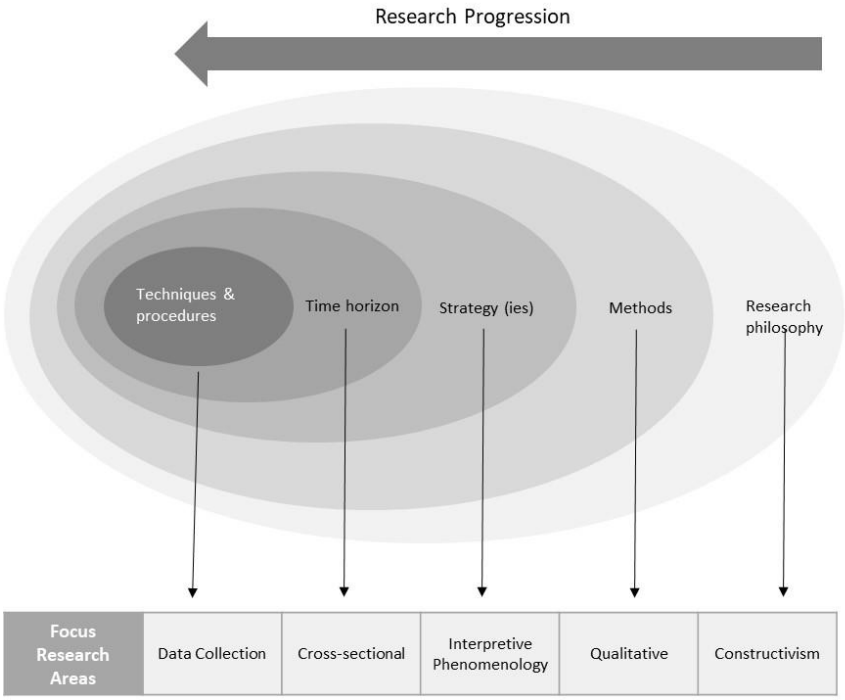

Figure 6 – Layers of the research design

Source: Adapted from Saunders, Lewis, and Thornhill (2019)

As research proceeds, it emerges as a 'defined' paradigm which is critical in order to enable the methodology to be extrapolated. As the layers are peeled, the essential meaning comes to the research in a form more logical in sense-making. For this research, my philosophical position was constructivism, the overarching methodology adopted for study was AR and the method for collecting and analyzing the data was IP.

3.2.1 Overview of Paradigms

Researching a subject through philosophical assumptions elucidates the various approaches to social science (Burrell and Morgan, 1979). Ontology studies how the world is viewed and the assumptions which concern the very nature of the phenomena under

investigation. Epistemology makes sense of the ontological view and provides assumptions regarding what forms of knowledge can be obtained. The methodology is the bridge between epistemology and method, and deals with the position of the researcher in the research. This research adopted a nominalist ontology, an anti-positivist epistemology and an ideographic methodology.

Research paradigms are used to elucidate the framework of the research being conducted; however, these fundamental concepts can be complicated to articulate. Over time, the definition of paradigm has evolved. It began with Kuhn (1954), other philosophers complementing or rewording the concept with ideas such as 'worldview' visions and beliefs as central elements of its meaning. Creswell (2013) emphasized four main interpretive frameworks in research: post-positivism, social constructivism, postmodernism and pragmatism all varying in their philosophical assumption and thus allowing researchers through reflection to create the ideas that give meaning to their research.

3.2.2 Characteristics of Constructivism

There is no single definition of constructivism, but it can be distinguished by certain characteristics (Burr, 2015). The ontological stance is the primary premise of research, which entails making meaning from sense evidence as an activity of the individual mind (Tam, 2000). In social constructivism, people want to understand the world they live and work in through the subjective meaning of their experiences (Creswell, 2013). Therefore, researchers are part of what they study and participants in the human interest, intuition and reflection that are essential in engaging with the research process and investigation. The goal is to increase the understanding of a situation or scenario, through lived experience and through the probing of rich data. A stakeholder's perspective must be adopted and a theoretical abstraction of reality is then formed. The unit of analysis in constructivism includes the complexity of the whole which will involve data from non-probability sampling methods through a small number of cases. This moves in the direction of focus from people's perceived ideas to recognizing their experiences through

a reflective exercise, since individuals' experiences are not passively absorbed (Ernest, 1994). Fox (2001) also describes constructivism as a passive view of the learner, which is a less common pattern for authors. Thus, the sense of fluidity or less-structured meaning of constructivism can be concluded.

Positivism is an alternative framework that can be applied to social science; this takes a stance which is objective and independent of the researcher, offering more of an outsider's perspective (Greenwood and Levin, 2007). It entails that he/she is detached and irrelevant in terms of human interest, since the goal of research is to demonstrate causality through deduction. Positivism uses quantitative analysis with the patterns of statistical probability so long as the size of the sample is appropriate. Another interpretive frameworks is postmodernism, a mid-to-late 20th century movement which developed after the decline of modernism. Creswell (2017) suggested that postmodernism is a focus of knowledge which is based on the world today seen from different group affiliations. Bradbury (2015) claimed that postmodernism as a set of truth claims was socially constructed to serve the interest of particular groups, methods, is equally distrusted and may not arrive at a conclusive definition of reality. Pragmatism as an alternative framework does not focus on methods and is not committed to any one system or philosophy of what reality might be.

3.2.3 Justification for Choosing Constructivism

As part of the research, using a constructivist approach is more meaningful than other approaches because the phenomenon requires the convincingness that is conferred when the researcher is a part of the research process. Constructivism is a theory of learning where actors actively construct knowledge and meaning from interaction with the social world. Constructivism is based on subjectivism and relativism, the notion that while reality may exist separate from experience, it can only be known through experience. Constructivism emphasizes an epistemology whereby knowledge results from social interaction and language and is therefore a shared rather than individual experience (Prawatt & Floden, 1994; Vygotsky, 1978). In order to provide an account of an individual's

experience, one cannot perceive his/her reality but only interpret it. The objective of the RSST tea was is to determine what change to make and how to make it in order to continue its business success and at the same time gain knowledge and improve their learning capacity. This is where the strengths of constructivism lie, that its critical focus is on developing realistic conceptions of human learning (Fox, 2001, p. 30). Furthermore, Phillips (1995) emphasizes that the learner's being an active participant is a foremost principle in understanding the environment that one is trying to interpret.

Within the RSST team was a sense of collaboration when managing the day-to-day activities of normal business. This collective work ethic enhanced the use of constructivism as a powerful tool to fragmentize the abundant work-based problems. The commonality of projects being delivered was a condition and common issues materialized, enhancing capabilities and learning with a joint taskforce approach The fundamental problem in the sharing and cross-pollination of information was an abhorrent misuse of information and a rather isolated method of grasping the underlying issues (Blackman and Ritchie, 2008; Argyris, 1976a; 1976b;1976c).

Having a subjective view in the department would perhaps help to explain the actions taken by the team. The local senior management now had a more open mind for many reasons other than pleasing the management in HQ. The local management was seeking different perspectives on increasing the regional business and growth by means of different approaches. They were beginning to listen and visualize beyond their managers to altogether more international or Western methods and perspectives. This allowed me to present the strategy for creating and developing business in a less covert way and with more openness. The application of constructivism aided the formulation of a sensible but evolutionary strategy for the near-to-medium future. The literature relating to DLL from a wider context in various industries takes a similar stance to that of my research as a subjectivist employing social constructivism through AR (Kantamara and Ractham, 2014; Matthies and Coners, 2018; Van Dooren, 2011; Jaaron and Backhouse, 2017). The research followed a qualitative method of gathering data and the authors cited above presented empirical data that endorsed the sound applicability of the approach.

Social constructivism has been argued by Easterby-Smith, Thorpe and Lowe (2002, p. 29) as the means by which people make sense of their lifeworld by sharing experiences through the medium of language (Berger & Luckman, 1966). Individuals understand phenomena by ascribing meaning to things and later behaving towards such things in accordance with the importance they attach to them (Blumer, 1969). Through the social interaction that occurs between the person and the world produces interpretation. The ways in which people make sense of phenomena in their world serve as a guide to future action (Blumer, 1969).

As a researcher, I am attempting to obtain true descriptions of how individuals experience phenomena in their lifeworld. Therefore it is the wish to understand the impacts of action in the workplace in Company ABC, which necessitates consideration of a range of social actions and interactions. Considering participant data in the social context that it exists is an aim of this study therefore a constructivist approach is adopted. The researcher notes that a number of studies that claim to follow a constructivist approach also claim emergence of themes or categories of description, which appears to be incorrect. It is important to be mindful of this situation and necessary to avoid discussing themes as emerging when they are in fact socially constructed.

3.3 Action Research Approach

AR is the overarching research methodology used to address organizational problems requiring the participation of individuals who have an interest in change and of formulating new knowledge in the process (Bradbury, 2015). It was introduced by Lewin in 1946 and combined the generation of theory with changes to the social system through the researcher's acting on or in the social system (Susman and Evered, 1978). As a form of social research, it provides relevant information for interpreting a social phenomenon where such information is actionable (Greenwood and Levin, 2007). The question What are we trying to achieve or what is our strategic intent? is often raised and relate closely to the competence of resources, which means that they are equally weighted on the participation of individuals (Armenakis and Bedeian, 1999; Stringer, 2007). This forms a

reflective activity that encourages action. Such reflective practice encourages learning, an important aspect of the AR initiative, since it goes beyond the team, eventually resonating to individuals, organizations and society (Raelin, 2001). The following sub-sections provide details for basing the thesis on AR which is aligned with my philosophical assumptions.

3.4 Action Research Builds on Learning and Action

Brydon-Miller, Greenwood, and Maguire (2003; p. 8) observed close links between learning and action, suggesting that AR required to collectively and individually reach and push beyond the comfort zones and create a door-opening function in a collaborative spirit in order to disseminate AR. Equally, Coghlan and Brannick (2014) adopt a similar view: that there is no learning without action or action without learning, an idea of learning processes that is far from conventional. Within the realms of AR, individuals can join together in learning processes through communication, sharing experiences and taking action together to complement both learning and action. Through AR, I wanted to persuade the video department to open its doors and initiate a dialogue at different organizational levels. This would allow the RSST members to reflect on their experiences in the region and emphasize to the regional managers that they wanted their knowledge embedded and to learn from one another. The purpose of the emphasis would be to narrow the chasm in the information flow and facilitate DLL by comparing the situation and question norms (Kantamara and Ractham, 2014).

3.4.1 Action Research as a Participatory and Collaborative Practice

AR is conducted through collaborative teams and the fact that the participatory nature of AR makes action meaningful with, for and by individuals and communities (Koshy, 2005; Simonin, 2017; Senge, 2014). Participants must use their knowledge and make it work to enhance the goals and objectives of the participants (Coghlan and Brannick, 2014). For this to happen, the action researcher’s involvement is crucial. It enables participants to

adopt a stance rooted in a long-term and broad-based ‘ideological struggle’ and recognition of its power to influence the status quo (Cassell and Johnson, 2006; Mitchell, Lee and Agle, 2017). The insider researcher and the subject of the research must have the degree of interdependence that is essential for AR (Susman and Evered, 1978; Greenwood and Levin, 2007). I agree that a combination of the two acts as a guideline for planned action such that the researcher can balance his/her own values and ethics in a way that prevents the researcher from being a disinterested observer. Thus the insider-researcher he/she embarks on a journey not addressed in the video department, although participation from the extended stakeholders is key to achieving the goal of solving the management problem.

As presented in the salience model in Chapter 2.2.3, the dominant stakeholders represented by the CEE&N Regional Managers were present in the region allowing me to gain full access to the key decision-makers, and this facilitated the progress of the AR project. This further developed a channel for communication upwards to other dominant stakeholders in HQ, strengthening the influence on the status quo (Cassell and Johnson, 2006; Majundar, 2017).

3.4.2 Action Research Involves Problem Solving

Pivotal to AR is the ability to address an organizational problem. I agree with Koshy, Koshy and Williams (2010) that AR can solve problems so long as it leads to an improvement in practice, which implies that some degree of change should occur. AR focuses on problem-finding and problem-solving by giving a voice to individuals’ frustrations. The AR process, knowledge is created or meaning is constructed through acting on the environment to solve real-life problems (Greenwood and Levin, 2007). Using the AR method allowed me through my belief in the constructivist epistemology to take a subjective stance to AR and face the problem of financial performance of the department. Kantamara and Ractham (2014) state that knowledge generated through DLL supports the notion of change in the long term that goes deeper than the surface change that is generated by SLL. AR generates power and knowledge.

The roles which innovation and performance play in a learning environment are significant and the interrelationship of the two concepts in organizations is relatively scarce (Jiménez-Jiménez and Sanz-Valle, 2011). This is plain, because of Company ABC's innovative dominance in the industry-generated knowledge and thus it could have led to increased learning and higher performance, although Patky (2020) argued that the degree of performance improvement is dependent on the environment, cognitive ability of leaders and resource flexibility. Ultimately, performance indicates how well organization learning has succeeded, though this would be difficult to demonstrate in a qualitative research study. In this research, performance can be measured through improvements in the success of the sales cycle (Serrat, 2017).

3.4.3 Action Research for Generating Knowledge

DLL is the form of knowledge and the target for a research project (Argyris, 1978). Greenwood and Levin (2007) argued that AR generates knowledge by bridging the gap between local and scientific knowledge. AR is a tool or methodology for creating actionable knowledge. The RSST team are seeking answers to determine how the video business will develop further through the application of DLL. This department of Company ABC will continue to be challenged if it ceases to contribute to the bottom line year-on-year. The question that arises is whether actionable knowledge is equally effective with and without resources, something that Company ABC has streamlined. The team has in the past asked the same question: since the organization is product driven when it assesses how the team can increase sales and revenue. The aim must be to create an organization in the video department that will be uniquely valuable for understanding the business better and will enhance the business in the future through dialogue (Jyoti, Gupta, and Kotwal, 2011, p. 327). In order to do this, we need to understand the learning capabilities of the existing team before we take appropriate action (Antonacropoulou, 2006 cited in Clegg and Bailey (eds), 2007). Many managers in Company ABC cannot envision the gap between knowledge and action, let alone how to make the knowledge actionable, which is a problem either related to the diffusion of knowledge within the

organization or management's inability to implement it (Pfeffer and Sutton, 2000; Stacy, 2000). The fundamental problem is that the business department does not know how to continue the video business and grow in positive terms. Where is the area of growth and how can it be achieved? The development of a three-pronged approach to address this is as follows:

1. Internal commitment.
2. Market and industry analysis.
3. Partner collaboration.

These are discussed in detail in Chapter 5.

3.4.4 Shared Commitment to Social Change under Action Research

Change in an organizational setting is a key objective of AR, as important as the change at the individual level of the researcher through reflection on his/her experience (Kantamara and Ractham, 2014; Brydon-Miller, Greenwood, and Maguire, 2003). Bradbury (2015) suggested that there are four quality dimensions for organizational development: (1) quality of the collaborative relation in the insider action researcher, (2) quality of the AR process, (3) implementation of the dual outcomes with some level of sustainability enabling organizational memory, and (4) development of the self through inquiry and action. The manifestation of the change will be at the department and individual level, and, as stated by Kurt Lewin in 1947, a well-established three-step approach to organization change argues that change should transpire by unfreezing the present level; moving to the new level; and refreezing the new level. Once a change is initiated, a transition from one state to another, then this change as it proceeds should be sustainable (Buchanan et al, 2005).

Engaging AR in the social context is seen as a detached process over conventional social sciences (Greenwood and Levin, 2007, p. 62), arguing that its core characteristic is addressing real-life problems. AR projects within one's own organization, are best

managed through the working model of an inside researcher, by having organizational knowledge, personal ambition and actionable sensibility, notwithstanding the negative influence of ambiguity and conflict due to role duality (Coghlan, 2001). There is a tendency within this role to destabilize the equilibrium between the department's members (Moore, 2007), but this is a necessary evil if their cognitive levels are to be able to contribute to the research. This is necessary, as Reason (2006) argues: in AR, the choices and transparency during the inquiry between the researcher and the participants will determine the quality of the outcome. Although a practical outcome may be sufficient, the areas of in-depth inquiry could remain untouched. Academically, AR is a very frequent approach though it is not so well known to non-academics. To the average person, a team meeting to discuss problems or a weekly meeting can be considered AR by a researcher. The outcome can perhaps be similar but different in its focus. Regardless of how one wants to answer their research questions, AR can be conducted with positivist, interpretive, and critical epistemologies.

The researcher has observed successes and failures over the past 6 years, where the environment has continually changed enough to impact on the department's resources, focus and strategy. These continual changes have led the RSST to be more subservient to their management and less creative in problem solving and in their support for the task of developing a workable strategy for the CEE&N region. Therefore, the right steps next are to identify the problems in the form of a problem statement and establish a learning set within the team to address the problem and the strategy. Thereafter, the cycle looks at data collection through interviews with subject matter experts and analysis of the collected data. Once the data are analyzed and the results published action can follow. Over the years, the team looked at many avenues for improvement, and made incremental improvements which coincided with the resource changes in the department. Ultimately, transitioning towards a DLL department was the final goal although I would argue that the development of a strategy which is successful, implementable and effective is the action that will prove the success of the transition. Still, as improvements are made, the important aspect of the transition was that it should be promoted as a sustainable action throughout the CEE&N region.

AR is composed of many cyclical processes (Kock, McQueen, and Scott, 1995). It is often perceived that the overall action is long and arduous and therefore can discourage the use of AR; however, such cyclical processes have their advantages: (a) research misconceptions can be corrected during the research, (b) they raise client commitment, (c) they offer better context for direct observation, (d) they take the client's point of view into consideration (e) cross-sectional biases are avoided, and (f) they yield deeper and richer results (Kock, McQueen, and Scott, 1995, p. 16). The benefits of AR in the context of research in my organization fit well within the remit of my philosophical position and are grounded on my subjectivist ontological and social constructionist epistemology and use of the qualitative method for collecting and analyzing data to produce knowledge, as AR should. I want to take the knowledge generated to enable the RSST to move towards model II action through the use of the AR research cycles. The following sub-chapter analyses AR cycles and points out the reasons for selecting Argyris' AR cycle for this research.

3.5 Action Research Cycles

Coghlan and Brannick (2014, p. 11) say that AR cycles comprise four main steps namely, constructing, planning action, taking action and revaluating action. Constructing refers to letting stakeholders understand the issues in the organization for which planning and action will be taken; planning action encompasses the collaborative effort required to plan for action; taking action describes the implementation and intervention of the plan made collaboratively; and evaluating action determines the outcomes of the action. Since all AR cycles are cyclical the outcome of the last step of evaluating action feeds into the next cycle.

In my AR study, I wanted to introduce two action cycles. The first was one which includes the following steps: Discover – Invent – Produce – Generalize (DIPG) (Argyris, 1976a; 1976b) and represents the main cycle for transitioning from model I towards model II. The second cycle is the action learning cycle which contains the steps, Design – Invent –

Produce – Evaluate (DIPE) (Argyris, 1995), also known as the reflection cycle. The applicability of using Argyris' cycle and process method in my research is that it contributes more than other methods do, in transitioning people from one status to another due to the flexibility and clarity of its process, however complex the theory presented in the literature. In order to move to model II learning, people at each stage of the action learning model must re-learn how to learn, which is achieved by cycling through the steps of the model at each stage.

The stages of the main cycle are described below.

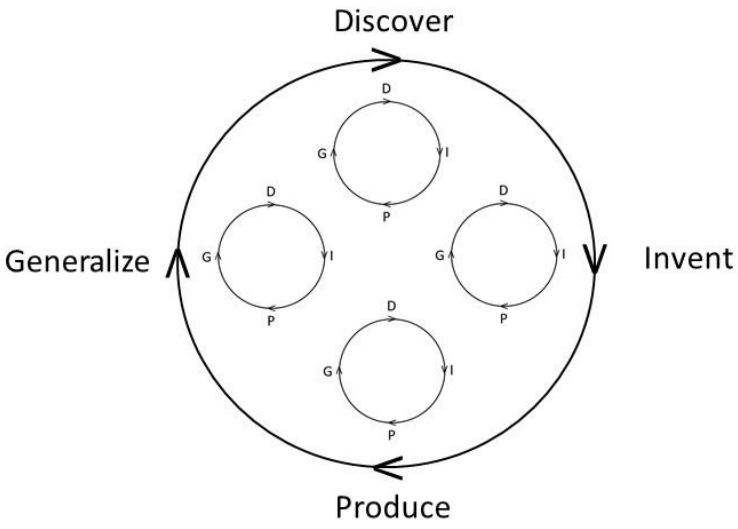

Figure 7 – First Action Learning Cycle

Source: Adapted from Argyris (1976b)

Through a critical understanding analysis at a deeper level, the thesis moves forward to develop a learning framework which is actionable. The action learning cycle prescribed by Argyris was chosen because it has a very solid structure that creates a process for understanding and addressing the management problem and produces an alternative action through the application of DLL that other cycles do not. Consider Figure 8,

illustrating the two learning cycles that were constructed (which also includes the action reflection cycle to demonstrate the complete process).

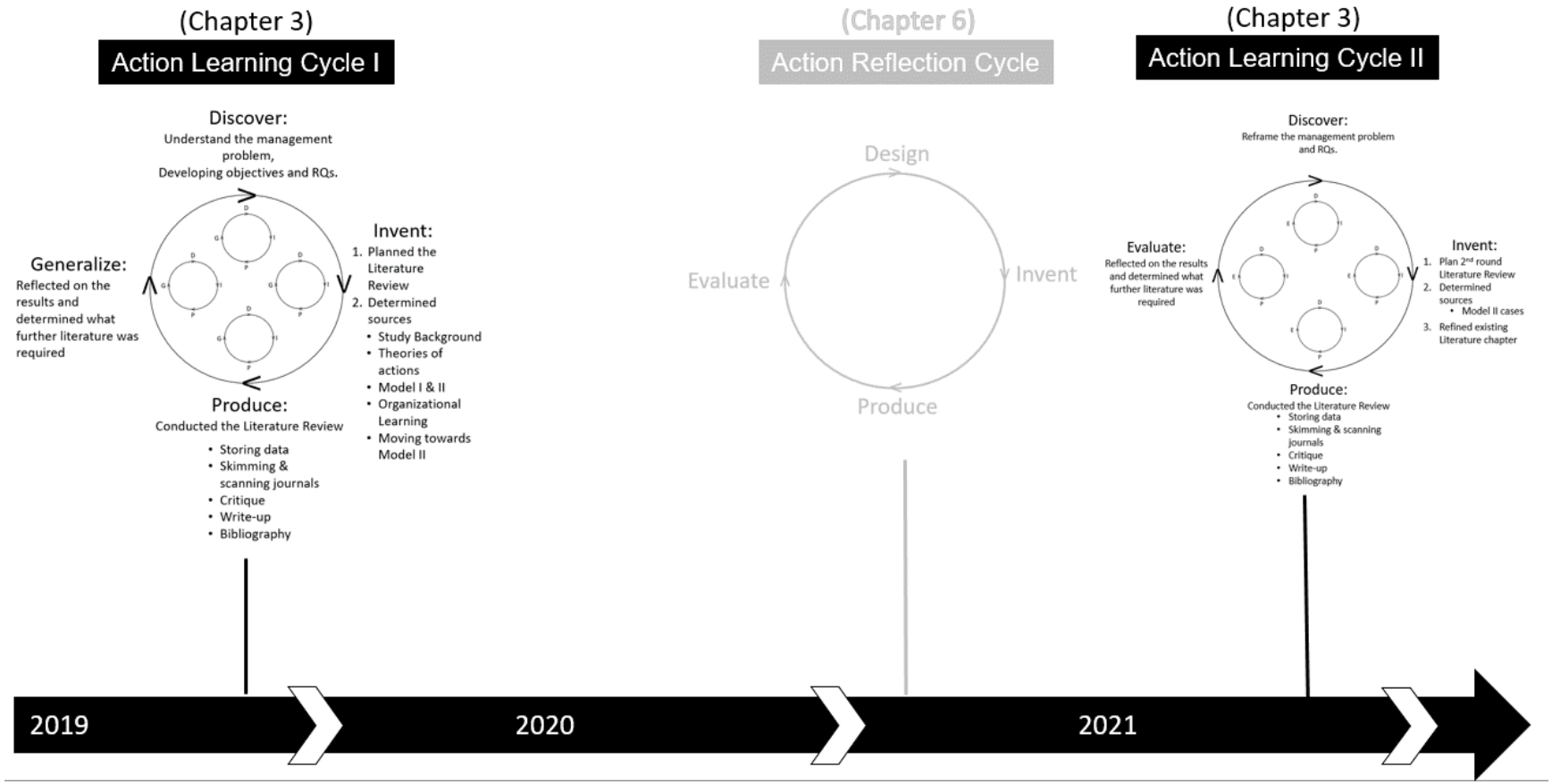

Figure 8 – Overview of the Action Learning cycles

3.5.1 Action Learning Cycle I

As a key member of the regional team, I managed all the solution sales activities for 28 representative offices in the CEE&N region. The action learning set that had been formed before this stage of the thesis was initially setup to discuss weekly sales opportunities and evolved into a more focused group to discuss fundamental issues of the video business. At this point we began the problematizing process which was the beginning of the learning process. Action learning cycle I demonstrates the cycle undertaken to review the literature, a process of critical thinking about a research topic (Bharti, Agrawal, and Sharma, 2015). It focused on the two cycles conforming to Argyris' action learning cycle: Discover-Invent-Produce-Generalize.

3.5.1.1 Action Learning Cycle I: Stage I – Discover

The learning set comprised the Director of Regional Video Sales, who was leading the RSST and five of the Representative Office Managers. The Services Portfolio Manager was also present to input his views from the services perspective. The bi-weekly gathering allowed members to voice a wide range of issues and concerns, which eventually led to the key topic of the research. Initially, as the researcher I focused on changing the action of the RSST to promote a new way of working but without understanding the underlying issues (Blackman and Ritchie, 2008; Argyris, 1976a; 1976b; 1976c). At this time the learning set viewed the big picture from an outside-in approach and tried to grasp the external environmental forces in play. We discussed the uptake from a consumer perspective that people are willing to pay for quality content, and believed that the business within the video industry had been flourishing. TSPO saw a good opportunity to include this video service as an offering among their consumer products, not taking into account, however, that many aspects of the business had changed several years before. Video implementation was not sustainable due to the costly solutions for TSPOs and alternative and cost effective vendors were offering more attractive solutions, forcing them away from the larger video service technology providers. Therefore, I created the management problem as follows: Can OL support the RSST in the CEE&N region to counter the fall in annual sales in the video industry?

The Invent step gave rise to following: The research is aiming towards a change which will be based on the application of DLL, which is based on model II theory, to engender a ‘new ‘way of working. This produced the key concept of DLL (Argyris, 1974; 1976b; 1976c; 1995), which was the central tenet of the research to be conducted. The Produce step was to understand DLL and show how the department would benefit from OL (Argyris and Schön, 1978; Cook and Yanow, 1993; Shrivastava, 1983) through the practice of model II which was expected to be the outcome of the research. Going through the cycle of the first stage to Generalize, the final step, I determined the viability of going to the next stage, which was to plan the literature review. I learned that much time had to be spent on the problematizing process, as a critical exercise that should not be underestimated because it would have had a ripple effect on the remaining stages and on the final outcome.

3.5.1.2 Action Learning Cycle I: Stage II - Invent

The Invent Stage is necessary in order to gather pertinent literature from multiple sources, which entailed using academic and professional literature to capture a rich treatment of concept and models (Rowley and Slack, 2004). The Discover step would provide the input from the previous stage through the consolidation of the management problem, combined with the objectives and research questions that would guide the study of the literature. The first Invent step was to become familiar with the basic terminology of the research topic and then to understand where the literature could be found that would make a contribution to the research (Bharti, Agrawal, and Sharma, 2015). I began by performing searches using Google and Google Scholar (Easterby-Smith, Thorpe, and Jackson, 2012) and numerous academic databases (Chapter 2.2.2). In the Produce step, I developed tools and argumentation by establishing a case for the literature review through arguments, claims, evidence, and the relationship of the evidence to the claim, and also determined whether there were any complex claims (Bharti, Agrawal, and Sharma, 2015, p. 37). The Generalize step visualized the foundation of the research to be conducted, which allowed the following stage to begin. This stage was observed as preparatory for the literature review which formed the basis of the critical-thinking aspect

of the exercise.

3.5.1.3 Action Learning Cycle I: Stage III - Produce

By taking the outcome of the previous stage, I looked at the Produce stage, which was the actual reviewing of the literature. From the Discover step, the process of conducting the literature review was established from the previous stage and would allow the Invent stage to determine how to manage the data that had been collected and organized. This process involved scanning and skimming documents to determine which held the strongest evidence of the research topic. This could be done most efficiently by reviewing the abstracts or introductions and discussions or conclusions. Thereafter, the material was mapped, which is a technique for organizing the works to be included in the literature review so that each article or reference has some descriptor that fits with the understanding of the topic; this is noted or catalogued (Bharti, Agrawal, and Sharma, 2015, p. 96). Storing the material began using Mendeley software to support the bibliography although through the research process, I began to store the material manually on a hard drive and alphabetically record the bibliography using Notepad because I found it more convenient.

The Produce step dived into the literature review which was executed and prepared over a 4-month period in regular reviews with my first Supervisor; these raised the chapter to a relatively decent quality. With some final tweaks, it was sent to the second Supervisor for review. Once feedback was received, the gaps in the literature review became clearer. At the Generalize step, it was important to absorb the feedback and learn from it to further enhance the material.

3.5.1.4 Action Learning Cycle I: Stage IV - Generalize

At this stage, the Discover step called for some parts of the literature review to be re-written. It was clear that the literature review should have satisfied a number of criteria presented in the work of Snyder (2019) and Easterby-Smith, Thorpe, and Jackson, (2012,

p. 105): (1) Were the data abstracted from the article appropriate in concordance with the overall purpose of the review?, (2) Was the process for abstracting data accurately described?, (3) Had proper measures been taken to ensure quality data abstraction? (4) Was the chosen data analysis technique appropriate in relation to the overall research questions and the data abstracted? and (5) Was the analysis process properly described and transparent? At this point of the research, despite the demoralizing effects of the feedback, the outcome gave me a chance to strengthen the chapter further. The Invent step sought to establish an understanding of the comments made and decide whether there was any substance to the feedback. This exercise was supported by the first Supervisor and, in the Produce step, a strategic plan was formulated to structure and address the comments. This action learning cycle was concluded by the decision to perform action learning cycle II, as presented in the next sub-section.

3.5.2 Action Learning Cycle II

3.5.2.1 Action Learning Cycle II: Stage I - Discover

During an ad-hoc meeting between the Regional Manager and the RSST, he explained that the video business in the CEE&N region was still a very small contributor by which to justify the value of the RSST to Company ABC, in view of its revenue and profits requirements. This could have been a signal that the department were under some level of scrutiny in its performance and the video department might have to be reinvented. The problem statement after reframing became: How can team actions be modified towards model II to improve the financial performance of the video department in the CEE&N region of Company ABC? The Invent step of the second action learning cycle began once the learning set agreed on the reframed problem statement, I was also able to refine the research questions. The Produce step was to plan the major gaps in the literature specifically on DLL which would determine the implementation of DLL through real-world case studies. This would explain the research framework that these cases belong to.

3.5.2.2 Action Learning Cycle II: Stage II - Invent

The Discover step requires a solution to be found to the reframed problem (Argyris, 1976b) and the gaps in the literature review clarified from the previous Discover in Stage I. The idea was to look through the researchers' lens to study DLL holistically through empirical work by researchers. Most of the cases investigated double-loop and OL across a number of industries, namely, education, manufacturing, healthcare and technology to name a few. The Produce step allowed the findings from the material to be made through a research search string that included "double-loop" AND "empirical".

The results included Hwang and Wang (2016); Kantamara and Ractham, (2014); Matthies and Coners (2008); Dooren (2011); Jaaron and Backhouse, (2017); Williams and Brown (2018); Simonin, (2017); Lauer and Wilkesmann (2017); García-Morales, Verdú-Jover and Lloréns, (2009); McClenaghan (2015) Sitar and Škerlavaj (2018); Chaston, Badger and Sadler-Smith (2000); Viio and Nordin (2015). Only a handful of empirical journals were sourced, which allowed me to remain focused. Too much information can be paralyzing making research fruitless (Easterby-Smith, Thorpe, and Jackson, 2012).

3.5.2.3 Action Learning Cycle II: Stage III - Produce

The Produce stage followed the method in action learning cycle I, with a deeper understanding of how DLL was generated in different cases and their philosophical positions. There was no further input at this stage during this process.

3.5.2.4 Action Learning Cycle II: Stage IV - Generalize

To critique the literature, I used the work of Snyder (2019) and Easterby-Smith, Thorpe, and Jackson, (2012, p. 107) proposing 'a critical evaluation of the literature according to argument, logic and/or epistemological or ontological traditions of the review subject'. Again, there was no delineation in the process that had already taken place in action learning cycle I.

3.6 Phenomenology

Phenomenology is described as both a philosophy and a method, both of which describe the lived experience of the phenomenon, a pre-reflective consciousness of life (van Manen, 2016). Lived experience is deeper than understanding what reflection brings to someone and demands the ability to express oneself so as to have meaning to others, all contributing to good phenomenology. It is however important to share experiences and for the subjects under study not to interpret the phenomenon themselves since it can lead not only to misinterpretation of the phenomenon but also a misconception that thematic analysis is an automatic outcome (van Manen, 2017). This is true in the social science, for stories and phenomena give their own interpretation and meaning to life, although an understanding of underlying assumptions and misconceptions is an important element.

The next level of phenomenology requires an understanding of two branches of study, descriptive and interpretive. Husserl (1970) originated an approach which is called descriptive (eidetic) versus Heidegger's (1962) interpretive (hermeneutic) phenomenology. Each branch has its distinctive meaning and interpretation. The interpretive approach appears to be more suited to this research, given the need for participants to understand phenomena in their individual social settings.

3.6.1 Descriptive versus interpretive phenomenology

The idea of descriptive phenomenology is experiencing phenomena as they are perceived by human consciousness if they have value and are properly the subject of scientific analysis (Lopez and Willis, 2014). Descriptive phenomenology offers subjective information to scientists seeking to understand human motivation because human actions are influenced by what people perceive to be real. What is essential for the researcher is to shed all prior personal knowledge, described by Husserl (1970) as bracketing, in order to grasp the essential lived experience of those being studied. Descriptive phenomenology is a transcendental view, stripping away literature research and any consciousness of prior knowledge, together with personal biases.

IP relates to humans recognizing that experiences in their life-world are embedded in, and linked with, a social, political and cultural context, often called situated freedom (Lopez and Willis, 2004, p. 729). Expert knowledge on the part of the researcher is valuable and is a guide to inquiry, which is where the mind plays a major role in the backgrounds of understanding that lead researchers to undertake the research. It does not negate the use of theoretical orientation or conceptual frameworks of inquiry and does not require hypotheses to be tested. Meaning is derived as a combination of the researcher and the participants within the focus of the study. The aim of IP is to extract phenomena through a decisive method without cohesion or biasing influence.

3.6.2 Justification for choosing interpretive phenomenology

There has not been an opportunity in the past few years for groups in the organization of study to discuss the business in any great detail and to understand how to make the best choices or discuss improvements to the business. Essentially, this requires several key team members with experience in and knowledge of video technology to give their lived experience. These team members have experiences of a phenomenon; qualitative research then takes the phenomenon and builds insight, offering a holistic image of the whole, which according to Morse and Richards (2002) and Ritchie and Lewis (2003) is ultimately important. Interpretative Phenomenology is closer to the interaction of individuals than an alternative qualitative strategy. Under interpretative phenomenology, there is a sense of reflexivity, balanced with pragmatism and transparency, underpinning an approach which I used to address my research questions, together with thematic analysis which was a balanced methodology in its own right (Braun and Clark 2006).

The characterization of phenomenology as concerned with what experiences are like is now sometimes utilized by qualitative researchers putatively working within the phenomenological theoretical standpoint. It is common to frame qualitative phenomenological research methodology in terms of uncovering “what experiences are like.” (Williams, 2021). Van Mannen (2017) nicely suggests that *Phenomenology, if practiced well, enthralls us with insights into the enigma of life as we experience it—the*

world as it gives and reveals itself to the wondering gaze— thus asking us to be forever attentive to the fascinating varieties and subtleties of primal lived experience and consciousness in all its remarkable complexities, fathomless depths, rich details, startling disturbances, and luring charms.

A number of ways of analyzing data can be used, for example, Template Analysis (King, 2012) and Giorgi's four step analysis (Giorgi, 1979), as alternative means of analysis in psychological phenomenology. Template analysis has six steps and makes use of discrete and composite codes, sub-themes and overarching meta-themes to analyze the data collected. A template will eventually evolve and interpretation and addressing of the research questions will emerge through the binding patterns and relationships between the themes. Giorgi's approach is both similar and different. Initially, multiple studying of the text familiarizes the researcher and the next step is to return to the text but looking through the lens of the phenomenon so as to compose 'meaning units'. The third step is to take the participant's views and expressions and transform them through reflection and imaginative variations into a psychological language with the phenomenon in mind. The final step is the synthesis of the meaning units into a consistent statement of structure for learning (Giorgi, 1979; p19). The underlying principles for data analysis using Giorgi's four step analysis are much more complex than Template Analysis because of its descriptive nature and approach. I concluded that Template Analysis was an effective way of complementing the interpretative phenomenology method by capturing and presenting qualitative data in the form of defined themes.

3.6.3 Composition of SME Participants

Looking back at Section 3.4.3, the interviewing of participants provided insight into the lived experience of the phenomenon (falling sales) that individuals encountered and the provided the data required for analysis. The information below provides an overview of the participants' background, without revealing their identity. Most of the eight participants

had at least eight years of experience worldwide while some had more than 20 years of industrial experience in the technology domain.

1. **P-1: Senior Product Consultant** had spent more than 15 years in Eastern European technology companies and eight years in Company ABC. He had a technical education starting his work experience in business support systems then specializing in the video and broadcasting domain; being fluent in several languages he gained region-wide customer knowledge. During his tenure, he received awards for his highest sales orders and revenues with TSPO-T in Country-S.

2. **P-2: Managing Consultant** had experience in numerous Fortune 100 ICT organizations at senior CXO level for almost 20 years, six in Company ABC, and also had experience as a behavioral coach. His work for TSPOs in the European market had given him both an in-depth understanding of the business from the viewpoints of a vendor and a customer and the relevant leadership and business skills.

3. **P-3: Director of Services CEE** had very rich project management experience, having worked for many years with various ICT organizations. He was highly qualified with professional certifications in many of the major project management methodologies, and an understanding of the local market after 20 years of Telecom and IT Industry experience. He had worked for 6 years in Company ABC in a dual role between services and solution accountability. He was specialized in price negotiation and demonstrated meticulous planning skills.

4. **P-4: General Manager** had developed numerous video platforms for small to large

multinational organizations. These led to industry recognition, award winning solutions and associated patents. Now at a senior-level, he was consulted for all global projects, providing CXO-level engagement, P&L accountability and responsibility for the overall video product line. He was educated to doctorate-level and had many professional qualifications in leadership and management.

5. **P-5: Chief Solution Architect** had been with Company ABC for 15 years and knew about key programming languages, requirements analysis and solution design in very complex technologies; he was now at the forefront as Chief Engineer for Artificial Intelligence. He had spent most of his tenure on international assignments spanning Latin America, Western and Eastern Europe and Asia.

6. **P-6: Head of Regional Services** had served for 18 years in Company ABC specializing in the delivery of complex video solutions. He was a true expert in project management at the highest level, with international experience managing customers from the Fortune 100 organizations. He also had cross-product experience with microwave and core networks from various suppliers and possessed a Master' degree in Telecommunications.

7. **P-7: Director of Video Business Group** was a fast-thinking leader, most of the successes in the region having depended on his leadership. Being eight years in Company ABC had very quickly enhanced his professional development. He managed the RSST and was the point of escalation from all regional TSPOs. His highly articulate and promising talent was recognized throughout the organization.

8. **P-8: Regional Solution Sales Manager** had end-to-end responsibility for solution sales from contract negotiation, to pricing negotiation, contract closure, TSPO

relationship and business development. With 14 years in Company ABC, he began as a programmer for a wide variety of products from OSS and BSS development. He was the key resource and main contributor to the success of the CEE&N region.

3.7 Data collection

The lived experience of participants in a social context is captured through data collection. Of the several ways of doing this, interviews allow the greatest depth of understanding. For example, the effectiveness of interviews in comparison with focus groups for primary data collection is underlined by Morse (2001), who argued that focus group data, which the author refers to as “snippet data”, tend not to consider process adequately’; the narrative form of actual events is more suited to doing this. The following sections show the steps taken to recruit participants and how the interviews were conducted to gather relevant data.

3.7.1 Recruiting participants

I chose candidates from members knowledgeable in the video domain, first sending out as many invitations as possible to fulfill the requirements. Those who rejected the offer to be involved in the research did not affect the choices available. Those selected were astute enough about the nature of the business and technology to diverge from the purpose of the investigation.

Three documents were prepared for the participants: Participants Information Sheet (PIS), Discussion Sheet and a Consent Form. First, the PIS document provided information to the participant on the background of the research at a high-level and an idea to why they were chosen as a participant. This is a very important document, as it gave some open option to consider whether to be part of the research or not, and the choice to stop at any point if any sudden discomfort arose around the research topic. The added feeling of anonymity was also an important factor to emphasize, since the nature

of Company ABC's foci is on security, protection of technological secrets and its confidentiality, which was clarified before any discussions took place. The second shared document was another background document describing in more detail and objectives of the research, with some definitions to add clarity to some frequently used dialogue in the research. In addition, included was the interview questions which would allow the participant to be somewhat prepared for the discussion. The nature of the initial questions related to a work-based problem which the participant had experienced in the past, which in the interest of time during the interview, be better served if prepared beforehand. Finally, the last document was the Consent Form, which provided evidence to the faculty that the participants accepted the discussion, with acceptance that there was no cohesion by the researcher towards the participant. This document was to be signed, dated and scanned back to the research before the interview could be conducted.

Once the ethical reviews and approvals were issued, the research was able to begin the recruitment process. In order to recruit the participants, an email was sent out introducing the aims and objectives, to 30 potential candidates. There were approximately seven potential candidates that had responded within a time period of approximately four weeks, which candidates belonging to category A, the 'sure 'list. Upon only receiving seven positive responses, I requested the email to the remaining candidates, to which another six had positively responded within another three weeks of waiting. Other challenges faced during this process was that majority of the participants chosen during the first round of investigation were retrenched due to employment volatility in the video department. The second challenge was to ensure the list of participants to be replaced were well enough informed about the industry. This led eventually to the reduction of the number of participants involved in the research from 13 to eight, but this was still sufficient for interpretive phenomenological research according to Creswell (2013). I would also argue that the number of participants required in order to gather more data is time-dependent. However, in principle I determined that data collection would continue until data saturation occurred.

3.7.2 Demographics of SME Participants

The method for choosing the interview participants described in Chapter 3.5.1 states that eight participants agreed to be interviewed for the research from the original total of 15 who had originally accepted. All eight participants were male although two of the 15 original respondents had been female. The ratio between male and female derives from heavy male orientation of the company; according to Ilumoka, Milanovic and Grant (2017), only 28% of females choose science, technology, engineering and mathematics (STEM) occupations, as this case illustrates. There was little difference between male and female respondents in willingness to participate, since at the outset no-one was eager to be involved, but after one reminder all the invited staff had responded one way or another. Other data collected from the participants can be seen in Figure 10.

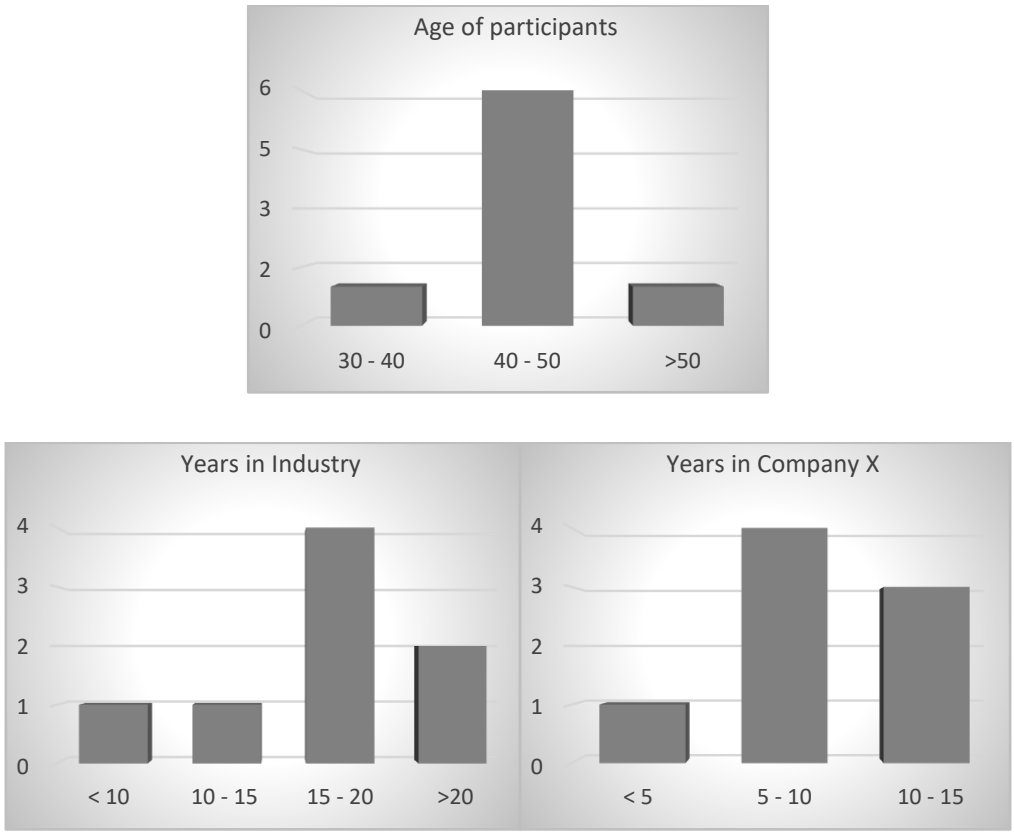

Figure 9 – Participant demographics

Six of the eight participants belonged to the CEE&N region and were involved every day

in video projects in the region, where five of the participants belonged to representative offices and one to the regional office. Two of the eight participants had wider responsibilities with one involved at a European level and the other with global responsibility.

3.7.3 Interviews

I had multiple roles and responsibilities ranging from a team member of the department to an insider researcher, entailing observation and analysis of the business and the research project. Data had to be collected face-to-face in order to capture the essence of the discussion, because much data gathering is performed through close observation. However, the Covid-19 pandemic made it essential to work with the participants on video. This led to a number of further challenges. Not having the face-to-face interaction made the experience less personal, audio and video quality issues caused distortion in playing back the recorded discussions and the transcript accuracy was impaired; moreover, the interviews took extra time to prepare.

All the interviews were conducted in June and July 2020. Before they started, it was emphasized that the session would be recorded through video (Zoom) and on a Dictaphone, with observations noted by me. Once the participant understood the requirements, the interview questions which had been shared were asked in sequence, and new questions were introduced as the discussions got under way. A total of 16 questions were asked (see APPENDIX C – Interview Guide), belonging to three main areas: (a) work-based problems which would demonstrate how the participants dealt with actual problems (to determine which theory of actions and learning processes was espoused by the interviewee, (b) capabilities and competencies, which illustrated the actions and attitudes of the participants, and (c) future prospects, to understand how each one might be shifted towards model II action. The questions were formulated from the following areas: (a) my experience of the phenomenon, (b) the extensive literature review conducted, (c) the management problem and the research questions raised from the outset of the research (King and Horrocks, 2010). The interview guide evolved after each

interviews: questions became clearer, or were removed and/or replaced, in the interests of gaining improved feedback. On three separate occasions, the participants were asked further questions, as a follow-up, to enhance or gain further information on doubtful areas.

During the interview process, I took care to offered sufficient opportunities for the interviewee to respond to each of the questions. I also ensured that, if the topic was moving away from the questions, I could the interviewer bring the discussion back on track through either repeating a question or rephrasing it. The interviews ranged in length from approximately 30 to 55 mins, and ended by briefly promising that all the audio and video recordings would be kept on a personal secure drive and personal notes and other documentations would be kept in a safe facility known and accessible to the researcher alone. Finally, I reminded the interviewee that no names or references to the individuals would be used in the thesis write-up; full anonymity would be preserved.

I believe that the outcome of the interviews was good enough in order to proceed towards thematic analysis (King, 2012) for interpretive purposes. I knew that, through thematic analysis, themes emerge, where the facts are not objective waiting to be uncovered in the data. The researcher should make an informed choice of what to include and what to leave out and how to interpret the data (King, 2012, p. 28). The important focus during the interview and data gathering process was to ensure there enough was being learned through different mechanisms not only by the researcher but by the participant. Coghlan and Brannick (2014) state that there are three main mechanisms for learning, cognitive, structural and procedural. The critical reflection points are to assume that one or more of the three mechanisms are embedded in the participants during the process of researching. This was the mechanism that I intended to instill in the participants.

3.7.4 Analysis

The analysis of the collected data, consisting of the transcripts, involved reading them several times for full comprehension in order to formulate a desirable thematic structure. Before the analysis of the transcripts of each interview had been prepared from the

recorded data and set aside until all the interviews and transcripts were complete. The researcher must begin the analysis by setting aside any personal experience in order to focus on the raw data of the participants, depending on which approach was taken for the analysis. Under consideration were two approaches, the Nvivo software tool, and Template Analysis (King and Brooks, 2017). Using any qualitative analysis tool has a great many positive advantages, but manually it is not easy to be sure that the tool had functionality and accurate reports, with reliable individual angles to help researchers present their findings. Researchers who are new to such tools should be mindful of the time needed to master them so they give meaning to the data, and remember that researchers must manually input the data, which may add up to poor use of their time. Essentially, Template Analysis (TA) provides an intimate analytical method of understanding a phenomenon, through a tested structured and procedural approach. This was why I chose Template Analysis. As the discrete codes, sub-themes and meta-themes emerged they were entered to make up a template, as advocated by King (2012). The relatively simple approach to this exercise allowed me to fully embed myself in the data and interpret them sensitively through personal intimacy with them. The grouping of the data is based on frequency distribution noting in the analysis how often they recur among the participants. See Figure 12 for the data analysis process.

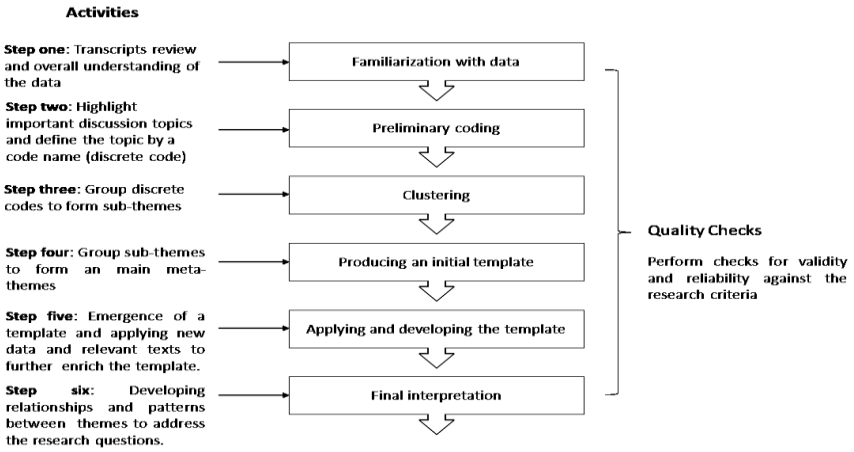

Figure 10 – Overview of the analysis of the research data

Source: Adapted from King (2012)

TA allows the production of codes that formulate themes from textual data (King, 2004). The author argues that TA can be used with a variety of epistemological positions. Understanding the underlying causes of certain human actions and demonstrating coding reliability is an initial scenario (Miles and Huberman, 1994), and secondly, a contextual constructivist position (Madill, Jordan, and Shirley, 2000) it is assumed that for the phenomenon in question, the many interpretations will depend on the actual research. Codes are generated using TA that refer to a theme or issue that can be concluded as relevant for the research. The way in which codes are organised and unified show a much collective view of how the data is gathered.

There are several reasons for using TA when compared to data analysis methodologies through grounded theory for example (Strauss and Corbin, 1990), and IP (Smith, 1996). Grounded theory is prescriptive from a data gathering and analysis perspective which requires a process to follow prescribed specific procedures (Strauss and Corbin, 1990), allowing TA for researchers to adjust it to their specific requirements. If it was to compare to phenomenological approach, TA complements IP by ensuring conceptual topics and by the use of clusters forming groups to eventually identify them as main and constituent.

There are some obvious benefits with TA, of which one is that it offers a less time-consuming effort on the part of the analyser and one that can handle much larger groups of research participants. TA further offers the uniqueness of giving a holistic view of the data gathered through the use of clusters, which is allows simply to understand from beginning of collecting the codes to meta-theme generation. The large amounts of data were considered daunting to begin, but when categorized formed a coherent basis for clarity of the subject.

TA was used in this research for two reasons. First, the method was used as a tool to synthesize the vast information gathered from the original primary questionnaires made to all the participants. This tool became of great importance for me as I was able to gather the most significant concepts and relate them to major clusters. Second, the method was then used again to refine all the information and develop the four main meta-themes. A detailed explanation of its use is presented in Chapter 4.

As part of step one, I transcribed each interview to create the data for analysis. This

manual method of transcription, which I preferred, familiarized me with the data. However, since the interviews were conducted over a period of six weeks, it was important to reflect on each of the transcripts many times before and during the above steps. The transcripts were recorded in Microsoft Word. Step two began by taking each transcript and identify important text that would offer insight into my research topic. These important texts produced a discrete code and were indexed on the right-hand side of the document, through the 'track changes' feature in Microsoft Word. Separately, I used a Microsoft Excel spreadsheet to list all the discrete codes grouped by participant with an indicator to identify the location of the discrete codes in the Microsoft Word document for quick cross-referencing. Important to note is that these discrete codes were established keeping in mind my own experience of the phenomenon, management problems, research questions and the literature research conducted thus far. This aided the filtration of unnecessary data which had little relevance to the research and sharpened the focus on the subject matter and its applicability.

Step three involved clustering the data by consolidating the discrete codes, identifying their frequencies, and developing sub-themes by grouping the discrete codes to form composite codes. In this step, some of the initially identified discrete codes and sub-themes that had very little value for the research were removed, but retained for future research. At this stage, overarching meta-themes were also emerging and some were created. King and Brooks (2017) suggest that at step five the template begins to emerge and take shape through the addition of more data and relevant text. The template was further refined by renaming discrete codes, sub-themes and moving these components around the template for better 'fit'. Throughout the above five steps, numerous templates were created which showed the evolution of the template data throughout the process. This also stimulated my thinking and provided an audit trail to demonstrate the quality of the data analysis (King and Brooks, 2017, p. 36). The final template is tabulated in Tables 6-9. The final step provided a holistic view of the template, which allowed me to trace patterns and relationships between themes and prioritize these in a hierarchy that would deepen my insight into the research topic.

Once the first interview had been analyzed according to the above process, I identified

56 discrete codes, some of which had been incorporated into clusters of similar codes. I did so by reviewing the interview transcript line by line, identifying appropriate codes and giving them definitions. The 56 codes identified in the first interview led to the development of 18 sub-themes, identified on the basis of the meaning attributed to the codes. The second interview followed the same process, whereby, a further 22 discrete codes emerged, some of which again were incorporated into clusters of similar codes. These 22 codes developed into another 3 new sub-themes, giving a total of 78 discrete codes and 21 sub-themes. Once the second interview analysis was complete, I tried to categorize them to form meta-themes. The themes had to be distinct from each other and yet have some overlap. The initial set of sub-themes, namely, macro-economic issues, decision-making capabilities and HQ strategy, lent themselves to being compartmentalized under the meta-theme of Conceptualizing a Video Strategy, based on the idea that the external forces and internal-driven thoughts are packaged to create a strategy or the conceptualizing of a strategy. The second meta-theme to be created after the second interview was driven by the sub-themes showing commitment, learning capabilities, and the third meta-theme formed in the name of problem-solving informed the idea to transition the current departmental teams into a forward-thinking group. Essentially, this was an important finding from the interviews because understanding this aspect of the team's performance is the epicenter of the knowledge required to improve the team and transition towards a better functioning unit.

The third interview developed another 21 discrete codes and another three sub-themes which developed into the sub-theme generating Capability Improvement areas, since the idea that was recorded represented the voices of those who had strong and overt communication about the department. The fourth interview produced 14 new codes and 3 new sub-themes. The reason for a further increase of discrete codes was that the interviewee was the first from the services organization. This gave a new perspective with wider understanding of the capabilities and the shortcomings of the video business. Delivering a solution to TSPOs has always been a challenge and this gave the interviewee a chance to express the frustrations and successes of the current solution for delivery. The fifth interview was given by the Senior R&D manager, who had spent 15 years in

Company ABC and whom I had often worked side-by-side with in the past few years. This interview produced another 3 new sub-theme codes. Interviews six to eight produced, in a similar fashion, several discrete codes which were aligned with the established sub-themes suggesting that data saturation had indeed occurred (Guest, Bunce, and Johnson, 2006).

Once all of the codes were consolidated, some discrete codes were identified which were not yet associated with sub-themes and were retained for further sub-theme development or future research. Once these were removed from the list, the meta-themes were re-defined. 124 discrete codes and 31 sub-themes were identified by the time new codes had ceased to emerge, suggesting saturation. Eventually, through filtering, the data were narrowed down to complete the analysis as 108 discrete codes, 18 sub-themes and 4 meta-themes (see Chapter 4 for the analysis). The meta-themes established were: (a) Communication, (b) problem solving, (c) defensiveness, and (d) team action.

Theme 1 - Communication

The meta-theme communication was derived from the disparity in the relationship between the managers in HQ and the Regional team which required addressing to support the RSST to move towards a model II team. The discrete codes represented the dissatisfaction of the participants to the overarching actions of the HQ managers and represented a chasm and misalignment in developing the business in the CEE&N region.

Theme 2 - Problem-solving meta-theme

The Problem-solving meta-theme sought the issues the participants described they accounted in their day-to-day activities and how they went about resolving them. This provided an input into the actions they took in order to understand their learning capabilities.

Theme 3 - Defensiveness

Defensiveness provides a continuous theme to theme two, describing the outcome of the

participant problem-solving outcome. It was realised that many issues that had surfaced were not managed correctly, rather it was shifted for others to take responsibility.

Theme 4 - Team Action

This overarching meta-theme gave an opportunity for the participants to understand their and others' collaboration in the video domain and the strengths and weaknesses as a department. This offered insight into the continuity of the research after the research is complete on completing the actions required to move the team towards a model II team.

Video is a core strategic product line in Company ABC, as the global roll-out of sophisticated technologies, namely, 4G and 5G networks. The biggest contributor to network bandwidth use is video data with the emergence of Virtual Reality (VR) and Augmented Reality (AR) applications (Liyang et al, 2018). This made understanding the participants' thoughts about video strategy essential. The video strategy emphasizing the past rather than the present exposed topics in the top-down organizational approach and a lack of control among the regional teams evoked the first two meta-themes. Equally, the second key theme 'strategy perspective', provides a view of the current state of the RSST members in terms of knowledge, experience and skills in managing the department and thinking for themselves. It also exposed a number of key gaps such as technical knowledge deficiencies, cultural gaps and autonomy in working effectively. An important distinction made by Argyris and Schön (1996) is defined typically as a between single-loop and DLL and first-, second- and third-order change (Coghlan and Rashford, 2006). The data gathered from participants which are categorized as coming from the 'Stakeholder perspective' focus on customer demands and the internal environment. Finally, the topic of interest is how Company ABC's video department understands the focus on and evolution towards a better team that will create strategies from a 'team perspective' for a forward thinking group.

3.8 Ethical considerations

In any form of research, the researcher must consider the ethical implications of researching subjects, and the process of doing so. Ethics in qualitative research extends from how the researcher treats the participant to how the results are used (Roth, 2005). During the preparation of the interviews, the participants were given all the information regarding the background and expectation of the interviews but I felt a sense of awkwardness in asking to share particular problems. Roth (2005) brings to this discussion an important argument: that the consent forms allowing someone to be interviewed do not take into account the greater value of oral consent, which has an impact on the researcher-participant relationship.

Being an insider action researcher creates particular ethical issues during the research. These include sourcing, interpreting and making use of the information that belongs to the organization in question, which may expose the organization, staff, stakeholders and the researcher themselves (Coghlan and Brannick, 2014). Therefore, it was necessary to obtain consent at the highest organization level before attempting to carry out research; some managers who did not understand the breadth of this research hesitated to allow it to proceed. The ethical issues surrounding insider research are inherently linked by role-duality (Holian and Coghlan, 2013). These authors suggest that since the researchers know the subjects under research, a profound effect on the research outcome can ensue (Coghlan and Brannick 2014, pp. 405). During the interview process, two clear observations were made; first, the observers seemed intimidated to be asked about their experiences, which perhaps affected what they said; second, Company ABC is extremely concerned to maintain the security of information and cyber security; thus, participants did not give the sense of a free flow of information. Therefore, I felt a challenge over what to include or exclude in the report without being manipulated.

To avoid ethical issues, Siedman (2006) emphasizes that an ‘informed consent’ form is pivotal. The researcher’s initial message should be to inform the participants that their participation is entirely voluntary and those not participating will suffer no negative consequences (Fowler, 2009). The information for the participants covered the background of the research, a declaration of anonymity, the right to withdraw and the

secure safe storage of data, which would have no negative impact on the participant. Fowler (2009) further states that the protection of respondents needs to be ensured, so they should be notified in writing that any recorded information and data, whether electronically, via audio and/or video or hand-written can be shared. Further ethical issues can be avoided, since no names would be used in the recorded information and each participant would be known only by an alphanumeric code, and mapped in a file secured and accessible only to the researcher. With all this in mind, at all stages of the research that the researcher must exercises ethical reflexivity, a major aspect of qualitative research (Roth, 2005), which is also a path towards being a critically reflexive practitioner (Cunliffe, 2001).

From a researcher's perspective, ethical issues can also arise through participation cohesion. In phenomenological research, when the researcher knows the expert candidates for interviewing, covert cohesion can take place if these candidates do not accept being interviewed or do not respond to the request at all (King and Horrocks, 2010). The situation can be aggravated if the researcher continually requests their participation. The Ethics Review Panel of the University of Liverpool approved the ethics standard set for this thesis, subject to appropriate ethical standards and the use of the ethics codes and ethical action.

3.9 Research Trustworthiness

Researchers involved in an inquiry must develop the rigor of the data produced to ensure validity and the trustworthiness of the findings. Guba and Lincoln (2005) offer four elements conducing to trustworthiness, namely, credibility, transferability, dependability and confirmability, to which the research should adhere. The following explains how the four elements apply to a research paper.

Credibility addresses how congruent the findings are with reality (Shenton, 2004). According to Patton (1999), credibility falls under three key areas of discussion:

- Rigorous techniques

- Credibility of the researcher
- Philosophical assumption of the value of qualitative inquiry.

The above were addressed through the use of well-established research methods as described above in this chapter, the random but selectively chosen individual experts for the data gathering, the performance at the interview stage to ensure quality data gathering through iterative questioning and the triangulation of the data and observations by the researcher (Shenton, 2004, pp. 64-69). There is no doubt that the analysis and recommendations for further discussions of the thesis depend on the credibility of the researcher in the sense that he/she must possess essential skills in qualitative research and has the ability to make rigorous observations throughout the research (Patton, 1999). Regarding the philosophical assumption of the value of qualitative research, I am acting as an insider researcher in my own organization; the participants have established a relationship with me; and all interviews, data collection and analysis using appropriate methods, have complied with the protocols outlined by the university and are ethically sound.

Transferability refers to the ability of the research to be used in other settings or applied to other situations (Bengtsson, 2016; Shenton, 2004). This element is very interesting in that the quality of qualitative research is dependent on whether the research can be reused elsewhere, despite the small scale on which the data were collected. I would argue that if a similar study were conducted, then the research could be transferred to other scenarios. However, the research being conducted is primarily targeted at embedding in organizational memory and focused on transitioning the lessons learned from the central HQ in the CEE&N region and disseminating them throughout the 28 country region.

Dependability refers to reliability which entails that, if the research was repeated, the results would have a similar outcome (Shenton, 2004). This can be further clarified through Bengtsson's comments (2016) on stability, such that coding and data analysis remain relative static, but changes are recorded to ensure validity throughout the research stage. From the capturing of the participant data to observations, transcribing and data analysis, the meaning of what has been produced has been consistent and no alterations

have been made in the translation of what was observed and recorded.

Confirmability argues that the research should show evidence of the attempt to be objective, where the researcher takes a neutral stance and seeks impartiality (Patton, 1999). During the interview stage, open questions were asked, allowing the participants to freely offer their expertise and at no point did the researcher drive any of the discussions or disrupt the free flow of information. Therefore, the data could be regarded as reliable and at no point could the collected data be contaminated through any outside source.

3.10 Summary

Using social constructivism has been the premise of the research philosophy, which is an interpretive framework with the ontological aim of making meaning of reality and understanding the lived experience of individuals. Having a constructivist approach has allowed me to become embedded into the research process and decipher and analyze other people's reality. The strategic approach of IP also enhanced the research, using the methodological approach of qualitative research to understand the phenomenon and build insight into its problems. AR has been a driver for change in the organization, for it addresses authentic problems. AR is less understood by non-academics but equally embraced when it creates knowledge.

The whole process of recruiting, interviewing, transcribing and analyzing participant data was one that created excitement and raised enormous interest, in the candid opinion of experts in the business who worked for the organization. At each step in fulfilling the research design and methodology, every attempt was made to conform to all levels of trustworthiness.

The following chapter takes all the information gathered from the data of the expert participants' interviews and analyzed through categorization to form themes. These themes will provide insight into the topics revealed so far and will pave the way to showing the shape of the rest of the thesis.

Chapter 4 – Research Findings

4.1 Introduction

The purpose of this chapter is to frame the research findings of the interviews that were conducted with selective subject matter experts in the CEE&N region. Taking a constructionist view and using IP allowed the lived experiences of the phenomenon to allow individuals to be used tell their stories of interpreting their workaday lives in the department. More importantly, the interviews allowed most of the participants to voice their opinions more candidly that they could have done outside a research project. The research participation opened a door to opinions from those who had been silent before this opportunity arose.

The aim of the research is to investigate how the video department in the CEE&N region of Company ABC can improve its financial performance through OL, specifically by moving the department towards model II action s through the application of DLL. It was important to understand from the participants the issues and challenges they are facing and what could be achieved from addressing the themes from the business, strategic, stakeholders' and team's perspective. These themes will be discussed in detail in this chapter through the actual dialogue spoken by the participants.

4.2 Overview of Key Themes

The following table provides the content of the meta-themes, sub-themes, their frequency and the discrete codes produced during the analysis stage. In order to provide a thorough yet parsimonious discussion the researcher decided to consider the four most frequent codes from each meta-theme and to provide a detailed analysis of their properties. TA was used as a tool to synthesize the vast information gathered from the original primary questionnaires made to all the participants. This tool enhanced the process to gather the most significant concepts and relate them to major clusters. The method was then used

again to refine all the information and develop the four main meta-themes.

Meta-Themes	Sub-Themes	Frequency	Discrete Codes
Communication	External influence	4	Difficult to implement in a fragmented region
		6	Turbulent environment
		3	Global trends are not reflected locally
		4	Weak influence of regional trends
	Decision making	5	Decisions imposed by HQ
		4	Centralized decision making (top down)
		2	Decisions are short-lived
		4	Questionable decision model
		3	HQ not confident about local team decisions or strategy
	Internal changes	4	Lack of accountability
		4	Productivity stifled by many changes
	Responsibilities	5	Top-down approach
		5	Lack of responsible leadership

Table 3 - Communication theme

Meta-Themes	Sub Themes	Frequency	Discrete Codes
Problem-solving	Working process	4	Lack of alternative options
		3	Individuals unable to influence strategy
		6	Ineffective policies/procedures
		5	Rigid immutable strategy
		4	Lack of resources
		3	Recurring poor working model
	New thinking	4	New situations – unstructured and no heuristic to fall back on
		7	Need to look at a new approach
		5	Successful solutions elsewhere not transferable
		8	Solution to fit at a regional level

Table 4 - Problem-solving theme

Meta-Themes	Sub Themes	Frequency	Discrete Codes
Defensiveness	Understanding needs and demands	3	Very fragmented solutions
		4	Need for collaboration
		4	Learning to repeat successes
		6	Technical issues problem
		5	Strategy not matched to current situation
		4	Need to understand voice of customer
	Mixed messages	3	Mixed messages to teams
	Showing flexibility	6	Gap between customer and organizational expectations
		3	Losing credibility
		5	Not able to address customers' needs
		6	System not meeting customers' expectations
		4	Skill in building customer relationships
	Feedback	5	Overall dissatisfaction

Table 5 - Defensiveness theme

Meta-Themes	Sub Themes	Frequency	Discrete Codes
Team action	Showing commitment	6	Capable team
		3	Different teams collaborating
		2	Teamwork
	Learning capabilities	5	Learning by doing
		5	Team constantly learning
	Team's capability gap	6	Team needing to work more efficiently
		7	Team needing additional capabilities
		4	Need of focus in capabilities
		4	Fixing inadequacies falls back on team
	Team's attitude towards work	6	KSAs (key skills and attitudes) of video domain essential

Table 6 - Team Action theme

4.2.1 Theme 1: Communication

This theme provides a holistic view of the organization as a whole, particularly the interworking relationship between the regional office and HQ. The theme emphasizes the complexities and challenges that the RSST faces, despite the successes achieved in past years. Thus, the impact on learning can be judged from a communication perspective (Comfort et al, 2001). The sub-themes categories from the meta-theme were external influence, decision-making, internal changes and responsibilities.

Two key areas that were dominant for the participants were coded as turbulent environment and solution not fitting in a fragmented market. Different people view the topic of a turbulent environment differently especially its effects on performance (Patky, 2020). Looking at two major aspects of it, one issue is the organizational changes in response to exogenous economic, political or competitive pressure, which is not uncommon in the ICT industry, while the other issue is the frequent internal changes that have left the organization particularly fluid, lacking structure and causing the departmental employees to feel insecure (Isaac and Song, 2021). This internal fluidity has a ripple effect on the company's customer base:

> "I do not [understand] what is happening from above. Simply put, I am doing a day-to-day job sometimes without direction. I am living in some sort of black box". – Participant P-6.

One could argue that the organization is adapting to forces both from outside and within. Another key problem highlighted by six of the eight participants is the one-size-fits-all solution strategy to be accommodated in the CEE&N region. This region consists of 28 relatively small countries, which are very different from each other in terms of economics, politics and regulations, making the market very fragmented. The instructions from the top down were to sell a baseline and non-bespoke solution which raised many issues regarding compliance with local country regulations. This has meant that customization to meet TSPO's country-specific requirements was inevitable and shows a gap in understanding on the part of HQ.

> "The biggest gap in the organization is how the CEE&N region's market requirements can be added to the baseline product and design from HQ. This simply is not happening in my understanding" – Participant P-2

Another key area of concern expressed by the participants is the issue of decisions imposed by HQ (Argyris, 1976c). Sometimes a problem surface which creates challenges to one's everyday work. Most of the participants were opposed to the many decisions made by HQ because of their effect on individuals. There was a common theme of centralized decision-making, decisions were enforced and decisions were very short-

lived. Hence, both HQ and the regional office had little trust in each other when it came to decision-making and there was no room to discuss key issues. This is not unusual for HQ' decision-making models, but since the video problem requires a bespoke solution, the decisions made by HQ do not offer the right direction for the region.

> *"*Our video strategy and policy, going from the on-premises model to the cloud model, was the biggest problem we had faced in the past years. Due to this strategy change in the region, we think that the decision is not suitable for the region". Participant P-7

With this reaction to the frequent changes, it felt as though HQ' leadership strategies had stifled productivity (Argyris, 1976a). When the participants were asked about leadership, they mentioned several points to do with centralized, regional and functional leadership. They sensed a lack of accountability and a leadership void in all three areas, and when asked to initiate a new strategy in the region in order to enhance and revitalize growth areas, one replied:

> *"*Our representative office of Company ABC, specifically the project team leaders, did not want to take any formal responsibility for such management choices". – Participant P-1

It is widely thought that the RSST play too insignificant a role and no pressure that is it exerts will be enough to let HQ see what makes sense: the team's voices are often left unheard. As a final comment regarding the communication theme, despite RSST's successes in the region, there is much negativity among team members on the support they believe HQ is prepared to give them or listen to what has been learned so far on this topic (Jyoti, Gupta, and Kotwal, 2011). It is also interesting that to observe that the effort to make changes among the middle- to upper-management ranks is proving difficult (Majumdar, 2017). The core is the video department. One-way communication is sent down from the top with little opportunity to discuss product concerns or suitability in the market with the upper management due to communication issues and a fear of reprisals, reflecting a form of SLL. (Argyris and Schön, 1974).

4.2.2 Theme 2: Problem-Solving

Throughout the interviews, the participants were able to articulate that problems had been faced throughout some key areas. The problems focused primarily on the video solution, specifically due to a lack of available options and ineffective policies and procedures to fulfill their business objectives. The participants' overall reaction was that they had a poor working model and that the video strategy was rigid and immutable, lacking resources in this domain and recurrent Essentially, the participants were continually looking for new ways of working and eager to see whether HQ would eventually develop a more suitable solution for the region's markets.

The RSST who have been working in Company ABC, speak from a great deal of experience and knowledge of the video domain, which is a niche industry. To understand how the RSST manages the video business, I assessed their actions as a team by focusing on their problem-solving capabilities. The interviews were structured by asking the participants at the outset to describe a problem in order to understand how they managed that particular situation. Participant four told a story about TSPO-A, who had agreed the specification of a video solution which was eventually delivered and launched by Company ABC. An incident occurred several months after the launch which eventually required a video solution that entailed additional hardware. This particular requirement was at first thought to be misunderstood by Company ABC. When I asked to the participant to describe how he had dealt with the issue, he implied that the nature of the investigation caused the team to resolving the issue more through implicating TSPO-A than through trying to understanding the root cause of the problem.

> "It was valid at one point that TSPO-A had introduced this requirement, which was perhaps unforeseen. Not often do we look widely and deeply enough to understand the dynamics of the problem" - Participant P-4

The participant mentioned that if it was not for this interview he would not have reflected on his own actions. He concluded that it has been easier to blame others than to admit guilt since this behaviour is driven from the higher levels of the organization.

Participant P-3 gave an example from the past to infer that the department is not a

learning organization, which results in the same situations recurring. During video tender preparations, HQ assign staff who are either junior or who possess little or no experience in the business domain, which is a strategy to encourage staff through learning-by-doing (Pedler, 2008). Although this is not a particularly poor strategy, it does result in passing-the-buck situations:

> "More often than not, individuals tend not address the problem but to push it to others and this I have witnessed in the team and we need to improve the process. This leads to increasing frustration both internally and externally towards the TSPO" – Participant P-3

Participant P-8 described an incident in which TSPO-C saw a shortcoming in one of the features of the solution and requested a change that required changes in the software. When asked about the strategy used in trying to resolve the problem, the mindset of the participant suggested that the issue needed to be fixed and Company ABC's R&D should have fixed it. He was asked to explain the choices he made that resulted in this action and replied:

> "At that time, I just thought ... [that] the problem should be fixed. And it should be fixed by R&D. Naturally, I had to do some background work to understand why this problem became an issue and then have enough ammunition to discuss it with R&D" – Participant P-8

The attitude of participant P-8 was that solutions are developed by R&D and that the lack of insight into the CEE&N regional TSPOs offers sufficent evidence to defend the RSST from sales shortcomings and lack of contribution to the bottom line. Problem-solving within the video department is itself a problem due to the lack of communication, as argued by participant P-2

> "I had my interfaces in HQ where I had spoken to them regarding sending requests and usually, the cooperation was okay; the question was about solving work problems. I was limited in decisions to solve these problems, which means I was not in power to make decisions due to reasons that I am

> not aware of or unsure about. The typical case was in a situation. where some decisions were to be made. It was always done in review meetings which were held by certain groups in a different language" – Participant P-2

Basically, participant P-2 was sharing his frustration about how the problem-solving process worked. It lacked collaboration and the common sharing of information. The participant suggested that the employees should all have a common goal and share the responsibility towards the TSPO.

In conclusion, the participants shared several cases where SLL was evident in the regional organization, which had led to much frustration, anger and failings among the teams (Blackman and Ritchie, 2008; Hayes, 2018). It was also very evident that there was a lack of reflection on past occurrences to determine better strategies and move forward. There was also a lack of cohesiveness in problem-solving among the team; it tended to occur singularly rather than collaboratively (Colgate and Danaher, 2000).

4.2.3 Theme 3: Defensiveness

An important theme that emerged from the interviews concerned the issues, challenges and impact on the key stakeholders. Company ABC's foundation is built on four core values: customer-centricity, dedication, perseverance and growth through reflection. Being customer-centered has the highest priority, focusing on cyber security, privacy and the business continuity of the customer's network. If a customer's network is disrupted, whether by mobile or internet connectivity, it can be disastrous in terms of public relations.

The common sub-themes created on the basis of the theme of defensiveness were understanding needs and demands, mixed messages, showing flexibility, and feedback. These sub-themes seek to understand the triggers within the participants from which to judge how far a change is possible. Organizational defensive routines are defined as actions or policies that prevent individuals or segments of the organization from experiencing embarrassment or threat (Argyris, 1986, p. 541; Argyris, 1990, p. 25). In

discussing the previous theme of problem-solving, participant P-1 described a situation where the local representative office required bespoke software to be developed for TSPO-S. Since HQ did not want its resources to be burdened with such a development, it was instructed to find local technology partners to undertake the work. Although it was time consuming to source local technology partners, even when a local supplier was qualified, the local project team did not want to take responsibility for this local partner since, local management teams frequently change over time, partners introduce delays and eventually the overall strategy results in misalignment. Asked whether he would address these issues to improve the process in the long run, the respondent said:

> Any comment relating to the way things should be done, I would not provide, since I would pretty directly disclose my opinion about the treatment of Company ABC as excellent" – Participant P-1

So, defensiveness occurs and is evident through third-party technology partners when Company ABC is involved in reselling its solutions and services. It is also evident that these third parties frequently fail to deliver, which places the burden on the RSST and in turn adds to the negativity expressed by the TSPOs. One of the participants expressed himself as follows:

> *"*Operator [TSPO] can lose patience because of bad quality and continued delays in the commitment from the vendor. Both Operator [TSPO] and Company ABC invested a lot of resources, time, energy to do the quality checks, tests, clarifications continuously. There are more than 20 intermediate releases until now in the past 12 months. This is really unacceptable" - Participant P-6

This is an example of how third-party vendors have ruined the credibility of the RSST, and yet there are no contractual clauses to prevent this scenario from being pursued on a legal basis. According to the participants, it takes vast amounts of experience to understand the future implications of different scenarios when such scenarios occur. An example which recently occurred was that a third-party technology vendor, which the RSST often used and was highly recommended to its TSPOs, has recently announced

bankruptcy, which has badly exposed the team with very little prospect of business continuity, and only disruption to the overall business. The analysis shows that all the responses showed some kind of defensiveness and fear, with concern only for oneself (Argyris and Schön, 1974).

Regarding the system not meeting the customer expectation, one incident lays this scenario open. During one tender negotiation, the TSPO requested a three-year extended warranty on the solution for a very sizable financial sum. Although the RSST accepted this, the team did not consider the consequences of this decision. A three-year extension to the existing one-year warranty entails that both hardware and software should be under warranty for this period, whereas the warranty begins once the customer issues a provisional acceptance certificate of the complete solution for the launch. But since the project was delayed, and warranty had not been initiated, the hardware and software had their own product lifecycle which eventually did not align with the warranty period requested by the TSPO.

> *"*I do remember this situation, but the catch was, it was because we were at the last moment of the negotiation, the customer was not thinking far enough ahead and frankly neither did we consider the consequences. Our system does not cater for these situations" – Participant P-3

Since the contract involved such a large sum, when the participant was asked why he had not raise this issue during negotiation, he mentioned that he realized that the team was excited about the contract deal due to be closed and so he did not want to raise the issue because it would have been embarrassing to have prevented the signing of the contract at the last minute.

There is also a gap between customer expectations and organizational goals. As internal stakeholders, the RSST is quite perplexed by Company ABC's method in imposing a product on the TSPOs, the lack of personal support for customizing a solution, and forcing the RSST to accept non-negotiable proposals from HQ. HQ shows a lack of flexibility and an unwillingness to listen until the situation becomes dire which prevents the RSST from addressing the TSPO's needs.

*"*Due to the situation which we have to work with, we lose ourselves, make poor decisions, prolong the problem to death and frustrate the customer [TSPO]" – Participant P-2

The RSST has multiple responsibilities from the TSPO interface: tender completion, sale closure and now involvement in post-contract closure. Most of the RSST are non-Chinese, therefore language is an issue when communicating with all levels of the TSPO organization. The TSPO working level has had positive experience with the Chinese staff from Company ABC, although middle-level managers have experienced problems with clear communication and frequently with more aggressive exchanges from the staff. The lack of customer-facing skills was a common reflection from participants, suggesting that the Chinese staff needed some improvement or to be more driven by the RSST.

*"*It should be unnecessary to place people who are not qualified in front of the customer [TSPO] if it means that they will have a negative effect on us". – Participant P-1

An unfortunate effect is the great deal of positive feedback from TSPOs regarding the technology, but, more often than not, a significant negativity for those TSPOs that have been with Company ABC for a long time. Perhaps this is a natural evolution of business, but it makes it difficult to manage at the regional level. It was stated by five of the eight participants that the team's TSPOs felt overall dissatisfaction. The level of contentment can be subjective, however the individuals hear or experience it from the TSPOs, but recently, it has become evident through churn. The trade war between the US and China has not helped, however, when the TSPO's decisions suggest that it is moving away from Company ABC, even for political reasons. Naturally, this can be seen as negative.

There was a strong view from participants that there should be a strategy that fits at a regional level and that a new approach is needed, since CEE&N region lacks empowerment. It was equally shared among the participants that HQ' approach to understanding how the business is shaping in the CEE&N region is deficient and for this reason all decision-making is seemingly imposed and lacks local knowledge of the market.

> *"I see a pretty big gap between what HQ is doing and what is required by the market and what the video teams [RSST] are doing. In my opinion, HQ and we need to get the products under solutions, they [HQ] do not have a very good view of what is happening outside HQ" – Participant P-2*

This quotation describes a pervasive issue within the RSST, which is that the team's capabilities are being tested, and it is simply too easy to blame the product line. There has been an emerging trend of clandestine activity in R&D as though they were devising a product with no sight of the market or the competition. In fact, competition against its major rivals has now reduced, not to mention the arrival of new players in the market. Company ABC invests heavily in a strong frontline sales organization which has market, technical and sales skills. That said, video technology continues to be a niche product, and expertise in this technology is a globally scarce resource. This fact is very evident in Company ABC, such that the representative offices in the region have little to no knowledge in this domain (see Figure 15 for the organization structure). The theme of needing a new approach was common to seven of the eight participants and offered a very specific view of the problem source.

> *"One of the gaps we have, which I am witnessing even now, is that the representative offices sales guys do not seem to have the capabilities of selling or even introducing the video solution naturally" – Participant P-4*

It is relatively easy to resolve a problem if inadequate training leads to a lack of knowledge sharing with frontline sales staff that motivates them to consider video technology in their daily approach towards TSPOs. This issue was raised at a meeting in 2016 in the presence of over 40 members from the region, and so far this still remains unaddressed.

It is often stated that the video solution is very technically complex and as such complicated to sell. The natural evolution of the product in response to exogenous impacts has limited selling opportunities, since most TSPOs require an end-to-end solution. Moreover, the video platform itself is also a very complex component, as well as the rest of the eco-system. Even though the region is fragmented, the video platform continues to have constant technical problems, created by the unique TSPO

requirements and/or through poorly tested software.

> "If we continuously work 12 hours a day for a long period of time, and continue to contribute to making the customer happy and succeed and fulfill customer requirements, it will be exhausting and not sustainable". – Participant P-5

It can be concluded that the RSST has gained much insight into how the product is being developed and how it compares to the competition, including the way in which Company ABC is presenting the solution to the outside world. However, there is a problem with blaming the products and the solution that are to be offered to customers. The problem-solving process among the RSST has not evolved further than SLL (Argyris and Schön, 1974) and individuals can be very defensive when they are not aware of their own action.

4.2.4 Theme 4: Team Action

When the topic moved to the current existing capabilities of the RSST, most of the participants agreed that the success of the region was due to the team's expertise, camaraderie or team playing and sheer commitment and determination to meet or exceed the bottom line. That said, the general theme surrounding the RSST's shortcomings was that a team needs to be more efficient and focused, possess more technical and broader knowledge, and be more involved in the operational phase.

Six out of the eight participants suggested that the RSST needs to work more efficiently a repeatable activity. The RSST are the leaders when new tenders are received, but it is plain that during each tender completion it raises the same questions. This gives the impression of a complacent organization, but other factors are in play too. The problem lies in the fact that the internal policies and procedures are very complex, and the time between different tender releases from TSPOs des not allow the RSST team to understand every detail of the process to a level where efficiency can make a positive effect. Participant 3 commented that HQ decides who to involve in which projects; when this participant was ignored it reduced his effectiveness:

> *"*Of course, as I mentioned, the first thing is that the feedback from projects must be established, our team is involved with all projects and involved in all meetings, relationships with customers, etc. The most annoying thing is for the customer in Country-N. They were bringing in a lot of different people and we were excluded from all communication. This type of behavior restricted the capabilities of the team and is something that needs to be improved". Participant P-3

This explains that the capabilities of the team are not embraced and thus capabilities are misused and learning are further lost. Regarding the lack of technical and broader knowledge, participant P-1 expressed his views very directly. The RSST is closer to the sales staff, having the bravado and capacity for customer-facing relationships to be frontline members in any business engagement. This participant maintained that product understanding which he believed was essential, is limited. More importantly, he stated:

> *"*The organization is constantly changing and teams are becoming more streamlined. So, essentially, responsibility for getting the work done is shifting in the sense that we have to wear multiple hats. Therefore, it also means that we need involvement and understanding in the service, commercial, legal and procurement domains, for example". Participant P-7

One of the major criticisms received, not only from the participants, but from a wider audience, is that the RSST tend to 'wash their hands' once the sale contract is signed and handed over to the Services department. Although this is a slight exaggeration, it is evident that the RSST could be more supportive during the implementation phase right until the product is commercially launched. Below are listed a few problems that have occurred:

1. The handover from RSST to the Services Team is not well established, causing problems during the implementation.
2. It gives the TSPOs an opportunity to scope-creep functionality not committed by the RSST.

3. The Delivery Team, from a delivery perspective, does not have a wide understanding of the sale and cannot defend all aspects.

4. This makes a poor impression of the TSPO's professionalism.

Both participants 3 and 7, who were senior executives from the Services department had similar sentiments, while participant P-7 made a very specific comment:

> *"*I believe that on the numerous projects which have been under my personal project management, the problem with the handover from RSST is not so critical compared to the over-commitment made by the RSST and such commitment is approved by the management due to pressure exerted by the customer in order to be awarded the contract, thus making the implementation very challenging, if not impossible and subjecting our office to huge and significant costs". - Participant P-6

Over-commitment of features and functionality is a serious issue and is generally frowned upon by Company ABC. Usually, this impacts on the profit margin and then management begin to ask questions about the increasing company costs.

The final part of this theme describes the process of detecting errors and the strategy used to correct those (Agyris, 1977). To understand the participants in this regard, they were asked to provide their views on the current capabilities of the RSST team through an understanding of the team's cognitive process and performance in problem solving. Problems that occur on the surface from a multitude of sources – key stakeholders such as TSPOs, and HQ to low-level technical problems concerning product-related issues and pre-sales to operational management. The general tendency has always been to escalate issues to HQ if they cannot be resolved by the RSST team. Two general philosophies surround this strategy: first, the RSST team does not want to resolve the problem regionally as it would be sure to need HQs' approval; second, since the RSST believes that the issue emanates from the key components of the solution, the solution itself is the concern of HQ and should be management's responsibility to resolve. There is perhaps a third reason, which is that there is a reciprocal and mutual belief that nether regional

teams nor HQ believes in the ability of either to make sound decisions, which leads me to diagnose a lack of trust.

Another common issue for the participants arose when they were asked to analyze how they addressed problems, which was very difficult for them. Firstly it is assumed that people do not understand their thought process when attempting to resolve problems, and, second, it is argued that having a creative and systematic approach is sufficient for a satisfactory outcome (Hicks, 2004).

> *"*People just want to get rid of problems. They are not looking … at a general perspective, trying to improve the process, the products or whatever, and this is part of the culture as well of this company, I would say". - Participant P-2

The corporate culture and evidently the continuous growth of the business has somehow discouraged employees from proving themselves through creativity, initiative or even through eagerness to stand apart from others. It has encouraged them to effectively ride freely on the cash cow. Although effective policies and procedures are being put in place through the Human Resources department, the process is still at a relatively early stage.

When asked about what made the participants happy in the video department, what they would celebrate and what they were particularly good at doing, they replied:

> "This was a niche product in a global organization and we were recognized as a leader. I would celebrate executing different business models and I was able to offer consultancy to the TSPOs" – Participant P-1

> "Working in self-motivating teams, and being able to contribute to the organization. We were very successful at one stage, especially with the kudos we achieved" – Participants P1 and P7

> "Working and collaborating with different skillsets, we were offering our expertise as we had at least the technical capabilities for such a complex technology" – Participant P2

4.3 Non-addressable topics

Moving towards a learning environment has nothing but advantages to stakeholders in particular; it supports the TSPOs in introducing research-intervention activities (Argyris, 1985), through discovering their current state, re-educating them and monitoring their change. Now that the overarching sub-themes have been analyzed, codes to the sub-themes were categorized as outside the discussion area. Although these codes were important to the overall research objectives from the data collection perspective, further investigation will be kept in mind for future research. Those particular sub-themes are as follows:

- Lack of resources

  The perspective of the participants has been that a lack of resources to make the video business a success overarches all other topics. This can be interpreted in two ways: (a) the product-line wants to find as few as possible bespoke and customized solutions for TSPOs; and (b) there are not enough front-line resources to sell solutions. The lack of resources has always been a contentious complaint: that with revenues in decline an organization cannot remedy it.

- Successful solutions not transferable / learn to repeat successes

  Having a solution in a heavily fragmented region such as the CEE&N region is a valid reason to believe that a single solution can fit all markets. If true, this is something to explore. However, to some degree, the department can repeat its successes, but it knows that all the different markets in the CEE&N region have different regulations and therefore the video solution for certain TSPOs must be bespoke. The participants raised this as an issue in order to express the complexity and their frustrations in deploying such a solution.

- Need to look at a new approach

How effectively can this approach allow the department to significantly improve the regions' bottom line? There are plans to introduce and combine other products with the video solution, but they are currently only at the analysis stage. For example, Company ABC has developed cameras that allow broadcasters to record live sports. When several cameras are used in tandem, broadcasters can create their own VR events or shows. These streams can be shown live through the video solution or recorded for VOD.

- Team constantly learning

  Learning and knowledge transfer have been observed as interchangeable in the department. This topic was raised during the interviews to show that many individuals have joined the RSST at different knowledge levels and are quickly brought up to speed. For the research, this topic was recorded but deemed very generic.

To emphasize the coding aspect of thematic analysis, forming these codes as part of the data analysis was not at first expected to be discarded from the research, but could be seen as adding value for future research. Braun and Clarke (2006) argue that retaining the surrounding data keeps the context intact and, since no data are without contradiction, to eradicate such inconsistencies throughout.

4.4 Results: Analysis Insight

During the interviews participants provided a great deal of insight on topics ranging from Company ABC's HQ and its strategy, which impacts on the CEE&N region to the TSPOs and internally on the RSST. The themes emanating through the analysis hold the key to the evolution of the next steps. These insights provide a path to understanding the areas of improvement which need to be developed, raising the idea of learning as an improvement. Furthermore, in order to develop an intricate inquiry into the themes, the

support offered by the learning set team sessions provided such input. The topics raised during the analysis stage have been under considerable scrutiny since 2016, during the Annual Sales Conference where I was the key speaker and moderator. This conference brought together 40 people who had actively been in the center of video solution sales, ranging from Senior Executives, Product Managers, Solution and Services Sales Executives and Customer Account Directors. This conference was held for another two years and then abandoned, due to its cost. The details of the conferences and Action Learning Team sessions are addressed later in this chapter.

The first overarching insight revealed that Company ABC's HQ 'senior management' do not take into consideration the different regions around the world for which the organization caters, in particular, the CEE&N region. The CEE&N region is unique in having fragmented markets and economic and regulatory distinctions. This observation related to the fact that the upper-level strategy does not fit the CEE&N region and as a result has affected and will affect future business in the region. A second insight identified was that the organization is very result-oriented and indifferent to how results are achieved, as long as the company's core values are followed. This is not in itself perplexing, but it does indicate that the RSST requires a more intuitive sense of building the business through empowerment and autonomy (Forrester, 2000). The third insight concerns the video solution itself. It was stated in the research that Company ABC's key competitors had reduced to levels where they are not seen as threats, but OTT suppliers have emerged who present a much greater threat. The video solution is analogous to a living organism, one with a stable structure. However, without the capacity to evolve and cater for the needs of the masses, it will not survive. Finally, OL is effective on the basis that individuals', teams' and groups' learning capabilities improve, and this capacity, through the changing of mindsets and action, is vital. It was generally perceived that team collaboration suffered significant gaps, as did the processes of managing TSPO issues and problem-solving, and the fundamental policies for assigning staff to the RSST.

4.5 Action Learning Set Collaboration

CEE&N region's middle and senior management had a good relationship in regard to

communicating the region's business during 2014/15. It was the idea of the president in 2015 to hold a regional sales event starting in 2016. This was embraced by the region and at the first event in February 2016, a total of 40 people attended (see Figure 11). The conferences focused on the following key areas:

1. Where are we?
2. What do we need to do?
3. How do we work together to make it happen?
4. How do we proceed?

Although the above topics embodied a general understanding of what the company wanted to achieve, RSST chose a few key people to prepare and provide their experience before the conference, so that their experiences from different perspectives and in different roles could be heard.

Besides these events, the RSST team have had monthly meetings to catch up on current issues faced by the team and updates from the departmental head regarding the organization and overview of the current sales pipeline. Despite their catch-up function, the meetings were not believed by the RSST to add very much value. As a result, during late 2019, I introduced specific topics to discuss at the end of these meeting, which would serve as input to the research. I felt that when all team members were available it was an appropriate setting for such discussions (see Figure 11).

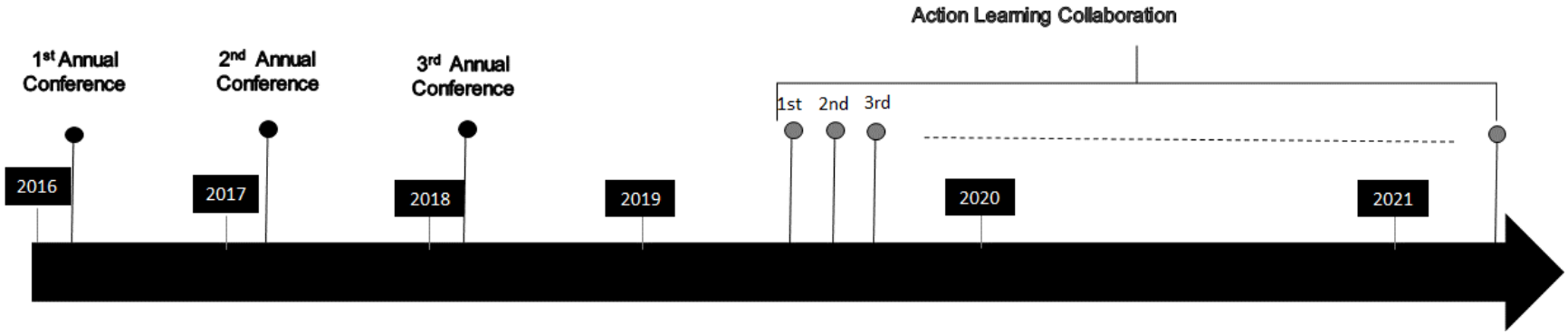

Figure 11 – Meeting timelines

The overall objective was to take all the input provided by the video team experts from the interview stage and with the data collected to encourage the learning set to observe the organization as it then was, and contribute their resources through dialogue to improve the department and the business. This would lead to a better learning environment at individual and regional levels. The discussions held with the team made them feel at first as if they were delving into undiscovered territory, but at the same time the discussions were based on the same topics as before. Throughout the multiple meetings held, I encouraged the members to be more inquisitive through presenting a problem, helping others with their problems, and facilitating the process (Pedler, 2008). Ideally, it is human nature to want to proceed with a guaranteed and successful outcome, but it is not necessarily how situations develop and it is important to understand that not knowing in advance and using experimentation is central to action learning (Revans, 1982).

4.6 Summary

The research journey ends this chapter with an account of those who participated in the interviews whose data had generated meaningful themes through coding using thematic analysis. The analysis of these themes complements the literature review, which, perhaps predictably, has formulated a structure for the remainder of this thesis. One major discovery led through the analysis and brought out by the interview participants is that their perception of the video business, within the remit of the themes identified, was largely negative and demonstrated the action of SLL. This was not surprising because, for several years at least, the CEE&N region had been very successful in terms of high levels of revenue and sales performance. One can interpret this observation in many ways, but it was suspected that the success could have been achieved equally without some of the angst and problems faced.

As I absorbed the experts' view of the topic through the interviews, three interpretations of insights became clearly defined. First, despite the past successes, the team was at the stage where it is a paramount issue to know about the market. Otherwise sales will suffer;

second, the team should take more ownership of the business given to the heads of the region, to empower them to carry the business forward; and, finally, the product needs to evolve and be able to meet the requirements of those who need it for their business (the TSPOs). This is a necessary service to offer subscribers, for the sake of competitiveness (Sarangi and Pradhan, 2021).

Understanding these insights has further encouraged me to understand some lessons in learning. First, in the video business, one cannot apply the product as an out-of-the-box or off-the-shelf solution in the CEE&N region. The success in recent years has encouraged the region to rely on a team pf people who are and should be elite experts to break through to new ground and continue developing the business in the future. Second, the voices of the heads of the CEE&N region and hierarchical levels below are not heard by HQ and thus there is a level of distrust preventing certain areas of accountability from being handed over to the region. Third, although it has been evident through Company ABC's core values that customer-centricity should prevail, this is not what occurs at a granular level in such a huge organization. Unfortunately, this indicator of 'happiness 'is subjective, but it is apparent whether or not it is perceived by others.

With the above interpretations and conclusions drawn so far, I was able to identify some gaps which would have changed the results if they had not been avoided. Such speculation meant that some more senior persons were not interviewed or rather given the chance to participate. Although IP suggests a range of participants, the lower limits of participants should be raised to improve the level of the research. A wider audience should certainly be considered in deciding what input to bring forward for its further improvement.

Chapter 5 – Discussion

5.1 Introduction

This chapter describes how the research was conducted within the research cycles and how the research questions were addressed. It shows the linkage between the research questions and the literature in order to clarify that the structure of the thesis is sound and serves its purpose. This chapter, further, explaining the key benefits and actionable outcomes of the research. Finally, at this point near the end of the research, the chapter highlights the study's limitations and implications and shows how they pave the way to future research projects.

5.2 Addressing the Research Questions

Qualitative research questions need to articulate what a researcher wants to know about the intentions and perspectives of those involved in social interactions (Strauss, 1990, p. 6). In order to address research questions, Stringer (2007, p. 11) argued that all stakeholders – those whose lives are affected by the problem under study – should be engaged in the processes of investigation. It can be assumed that a study is as good as its own research questions; Agee (2009) suggests that they form part of the overall research aims.

It is important to maintain an understanding of the key objective of this research, which is to develop environmental learning by transitioning from model I and SLL towards model II and DLL. Transitioning towards model II takes time, much pain and a great deal of professional assistance (Argyris, 1976a); thus, the research seeks to determine a subset of the actionable outcomes by the end of this DBA research.

The mapping of the research questions to themes is performed and shown below. Each of the sub-themes is mapped to the research questions and an indicator is provided to show the relationships between them. To restate the research questions offers additional depth of clarity in the analysis following tables:

1. What changes are required to move members of the video department towards a model II team?

2. How can the required changes to move towards a model II team be implemented?

3. How can the changes implemented in moving towards model II be embedded in organisational memory?

5.1.1. Addressing Research Question #1

What changes are required to move the members of the video department towards a model II team?

The purpose of moving towards model II is to ensure the action of the RSST practice model II which leads to OL. Argyris (1976b) suggested that people generally fail to realize they are not acting in the way they espouse, due to: (a) a lack of reflection; (b) SLL; and (c) ineffective problem-solving to challenge the status quo. This makes the current action of the RSST an essential element when transitioning towards model II through the application of DLL, since their current pattern was that to shift the responsibility to the HQ for poor product strategy. The team understands that, to refrain from their current way of working and be able to move towards another way of thinking, as Lewin (1947) states, requires the sequence ‘unfreeze-change-refreeze’ which is an optimal model for change and improving learning.

The mindset deduced from the decision-making action of the RSST appears typical of model I. One of the problems with such study is understanding teams and whether to assume that model I is in play. Barrick et al (1998, p. 388) claim that teams that have higher cognitive ability and are more extraverted are more emotionally stable and are more likely to stay together in the future. In the RSST, there has been a great deal of

employee turnover in the past few years which has demonstrated some of the characteristics of the team. To be fair, globalization has played a significant role since this research began, in discovering other characteristics that are as critical in understanding team capabilities.

It was earlier analyzed that the decisions produced from central HQ were direct and thus the RSST in the regional CEE&N HQ (in Country-P) are generally subservient to their requests and demands. This is common among SLL groups. Since many of the decisions are short-lived and frequently changed, the RSST spend no time on questioning HQ' decision-making policies. The team does not understand how competency is conceived within the department (Bolden and Gosling, 2006) and this has a negative connotation for the RSST. Furthermore, it should be noted that, since the decision-making power is taken away from the regional team, the power to understand how the RSST can be thought capable of making decisions is taken with it. The lack of empowerment is evident in Company ABC, and is a vital component in today's business since an empowered workforce will lead to achieving competitive advantage, lessen the emotional impact of demoralizing organizational changes and mobilize organizational members in the face of difficult competitive challenges (Conger and Kanungo, 1988, p. 471). Empowerment shows a positive correlation with learning and employees tend to be more attached to the organization knowing that they have such capabilities (Safari et al, 2011). The downside of this revelation is that, although the assumption is valid, the RSST are not usually adequately skilled after recruitment to foster an empowered workforce (Forrester, 2000), unless they have been trained outside the organization. Essentially, the first key change introduced within the RSST was to establish communication among the team members and then with the local senior management. Having access to senior management in order to openly discuss the technology, strategy, progress followed this fundamental foot in the door.

The fluidity of the organization, in terms of people and products, had stifled RSST's productivity, which had led to the perception that departmental managers expressed little accountability. The company is driven from the top and is a culturally-driven organization,

as stated by Majumdar (2017), and the hierarchical nature of the organizational structure makes messages appear obfuscated, difficult to decipher or act upon in an orderly way, which is causing annoyance. The literature described how learning will prevail in times of external turbulence, and Patky (2020) argued that product and performance depended on the environment, the cognitive ability of leaders and resource flexibility while a shortfall in any of these dimensions can strangle a team's opportunity to improve. The second change was to disseminate information regarding the business in the CEE&N region through setting regular meetings that involving all the necessary stakeholders.

The RSST is a solid component in an overall eco-system process and the gaps that have been identified are gradually being filled. The RSST is beginning to look collaboratively at problems through a better lens, by seeking the underlying assumptions before identifying a problem, creating options and considering the best choice with least impact on the stakeholders. The current team's capabilities are adequate to begin an improvement plan that would lead to an alternative way of thinking and to promote learning. This is strengthened by the fact that there are positive elements from a solution strategy perspective and stakeholders who provide a sound structure for the aim of transitioning towards model II. The third improvement was to be transparent with stakeholders, using Company's ABC's internal evolution of business opportunities and product updates.

5.1.2. Addressing Research Question #2

How can the required changes to move towards a model II team be implemented?

An action plan based on the changes formulated from the previous research question, was developed. Argyris and Schön (1974) argued that transition towards model II first requires understanding, awareness and personal growth that will lead to new competences. Making people aware of the need for DLL is challenging, since many people are unable to make the change and this inability often is not recognized (Argyris, 1976b, p. 638). The participants of the research were highly critical that the RSST should try more efficiently to resolve daily issues, which requires a comprehensive view of the information and processes in the department (Paschek, Rennung, Trusculescu, and

Draghici, 2016). However, it was observed that the RSST members thought that they did their work as well as they could without any need to improve efficiency, due to their unawareness of the way in which improving efficiency can impact on performance (Davis and Peri, 2002). It was also observed that, because product knowledge and solution selling as the product develops are weak, the department needs a continuous knowledge transfer. I would argue that this knowledge transfer and communication flow to the video department from central HQ is delayed. To improve this situation the members of the RSST collaborated to maintain communication about product evolution. Since many inadequacies of the organization which needed to be managed and controlled fall back on individual members, this was relatively important.

A key component of model II is the ability to remain positive and promote positivity (Argyris and Schön, 1974, p. 87). So far, the following actions have helped to ensure that changes could be addressed:

1. A dialogue opened between the RSST and local senior management. To meet with local management is relatively simple, but it must have a purpose. Since the management are cycled every three years, I was lucky to meet with the Company's president to discuss the technology and strategy in detail. This led to regular meetings as far as the day-to-day activities of the relevant stakeholders permitted.

2. Since early 2020, the RSST has been engaged in dialogue in regular workshops to discuss how to position the business. This has had positive effects: the local directors and Regional VP have given thought to the video business. This has improved the environment from a threatening to a more propitious atmosphere through improved learning-oriented norms such as trust, respect for individuals and confrontation on difficult issues (Argyris and Schön, 1974).

3. Since the end of 2020, the team has also enhanced its engagement with local representative offices and dialogue with the Representative Office Managers.

4. Regional meetings, of the kind last held in 2017, have been approved by the VP.

5.1.3. Addressing Research Question #3

How can the changes implemented in moving towards model II be embedded in organisational memory?

Any changes whether at an organizational, departmental or individual level must benefit those who keep the business afloat, referred to in this research as the TSPOs. As the major stakeholder of interest, a dissatisfied TSPO can damage the relationship, from which it is difficult to recover. What separates the RSST and HQ is that the RSST now has most of the power to communicate. This is an important paradigm shift since it allows some sort of autonomy in the way that both the TSPO and HQ should accept the direction of the regional business entity (Moingeon and Lehmann-Ortega, 2010). Business between Company ABC and the TSPOs largely depends on the exogenous environment and thus if the economy is on the decline or political pressures impinge on the business activities between organizations, then it will have a negative effect on the business. Over the past few years, these conditions have materialized and Company ABC has taken mitigating action to counteract their impact.

Solution strategy has always been an issue, mainly due to the continuous shift in product selling strategy and its failure to fit at the regional level. Although the RSST realized that the strategy was inherently rigid and non-transferrable, with ineffective policies and procedures, there was very vocal understanding that the source of the issues was part of the team's thinking. The RSST continued to express its conviction that the lack of solution options to offer TSPOs and not having a wider portfolio of video products would prevent the TSPOs from remaining competitive (Khatibi, Ismail and Thyagarajan, 2002), especially in a fragmented and turbulent market. However, one cannot put all the pressure on the supplier; the pace of innovation and environmental pressures due to globalization (Lam and Shiu, 2010) outruns the sound decision-making of TSPOs, as is very evident in this industry. Once in 2017, the department won a multi-million contract with a TSPO in the Nordic region which eventually changed the dynamics of a customer-supplier relationship. This, as a reverse of fortunes, became a learning experience that countered the technical issues observed in the solution offered. This particular TSPO was extremely

knowledgeable in the video industry and had onboard solution experts in the domain. Eventually, this knowledge and their advanced ideas, together with the positive impact they had on our bottom line, enabled the TSPO to drive the roadmap. It was at this point that the RSST involved with this particular TSPO demonstrated its ability to think beyond its normal day-to-day activities.

Other than the turbulent environment observed in the past few years, one key observation made by the research participants is that one size does not fit all. Indeed, any solution in the CEE region needs to be heavily customized to cater for individual TSPOs' needs. It was claimed that any adoption of new technology requires knowledge, attitude and perceived behavioral control (Ho, Booth and Ocasio-Velázquez, 2017), and from a business perspective, the RSST can learn from its experience and support the TSPOs in enhancing their ability to understand the dynamics involved (Deng and Tsacle 2006); this would help to re-educate the TSPOs in this regard. Middle management in the video department frequently delivered their philosophy of educating TSPOs without being aggressive rather than being too subservient, but still ensuring that the customer is always right. The Marketing department in most TSPOs where business has occurred up to now tends to drive the requirements and often uses the 'we want it because we want it' mantra which tends to be annoying. The best way to counteract this way of thinking is for the RSST to give examples of how other TSPOs have implemented their solutions, describing what has worked and what has not worked well and allowing the TSPOs to leverage off best practices and the successful monetization strategies used in the region.

Once engaged with a TSPO, it is very important to understand its needs, for the customer relationship comes first, as defined in the core pillars of success for Company ABC. TSPOs see that technology suppliers differ not in the technology itself, but in the quality that the supplier brings to the business (Khatibi, Ismail, and Thyagarajan, 2002). A number of the participants made specific comments that Company ABC combines the end-to-end ecosystem offered to TSPOs with its technology partners. Choices made in the past by both HQ and regional offices regarding the technology partners have been poor. So, from a stakeholder perspective, this needs urgent attention. The region follows one of two strategies regarding third-party partnerships: Either Company ABC resells the

partner technology as part of the overall solution offering, or the third-party partner is vetted by Company ABC and allows the TSPO to sign an agreement directly with the partner. Both approaches have advantages and disadvantages, but the main consideration is which entity is prepared to take the risk to their business of any future events that may occur, such as the bankruptcy of the partner company, with disruptive consequences. From the perspective of Company ABC's team this is a clear positive outcome for the TSPOs. The RSST is very important in a number of ways: the team is unique in terms of its skills and capability, past contribution, customer-relationship-building skills and in supporting and nurturing TSPOs towards business success through its consulting and business development skills as argued by Simonim (2017). An improved team greatly encourages the generation of knowledge which can have a direct positive impact for the TSPOs, as Kamasak (2017) argued. He maintained that intangible resources contributed considerably more to an organization's performance than tangible ones. It is evident from the participants that the video department is nervous and this hinders further learning. The following case typifies the scenario of this fear-mongering. Since generating learning is the most important aspect of research (García-Morales, Verdú-Jover and Lloréns, 2009), consider the expectations of the RSST in terms of learning. What in fact does it expect? If the team is performing according to what they expect (theories-in-use), it is behaving as it does most of the time (Argyris, 1974; 1976a). There are two reasons for this: first, most of us are programmed with theories-in-use that do not teach us to reflect accurately on our action and its impact, especially while we are interacting with others; and second, most of us are also programmed not to tell others when we experience them behaving incongruently with what they have claimed for claimed about themselves (Argyris, 1976b, p. 639). This is a large part of this team's defensiveness. According to the themes highlighted, from a business and solution perspective, the team has little confidence in the leadership, decision-making and solution strategy and this leads the team to be less motivated in moving forward (Stacey, 2000). This inhibits DLL and overprotects the individuals and the organization (Argyris, 1995, p. 21). Expansive knowledge and learning needs to be created. For example, let's consider increasing knowledge of a technology or solution at a more granular level or improving knowledge from a wider or functional perspective on the business such as contract

management, finance and procurement. The action in the members of the regional team has been to understand their own roles and responsibilities well and to perform them to an adequate and satisfactory level.

The plan of action is to ensure that there will be continuity and to embed into organizational memory will take the following steps:

1. Ensure that all engagements based on what was stated in addressing RQ1 and RQ2 are maintained, and it will be each member's responsibility to ensure its operation.
2. In moving towards model II, the actions set out (see Chapter 5.3) will require to be completed in a satisfactory manner.
3. After I began this research, the organization changed and I became head of the department, making it easier for information to flow upwards and easier to access regional managers to maintain dialogue.

5.2. Actionable Outcomes

With AR, it is vital to understand whether the actions taken in the process of AR result in an appropriate solution to problems; in other words, the eventual outcomes should be workable (Greenwood, and Levin, 2007). Through the addressing of the research questions for resolving the management problem, the transition towards model II involves making un-programmed decisions based on seven actionable outcomes (Fisher, Francis, and Haven-Tang, 2021) which are presented in Table 7. It should be made clear that the actions are a work-in-progress and several part will need further work when the thesis is finished. Essentially, the table provides a holistic view of the progress that the RSST and I as the researcher made in the course of the research and the further work needing to be done. A section on limitations explains the reasons in detail and the future work that the topic requires.

#	Actionable Outcome	Interpretation	Output	Progress
(a)	Understanding the complexity of real life	Outline the nature 0f the video business. Ensure relationships and communication with work community are established, open and transparent, cohesive, and trusted.	RSST to elucidate the current situation and steps towards improving through pertinent dialogue and appropriate action in the learning sets. Establish communication channels with senior management and encourage discussions.	**Achieved**
(b)	Involving stakeholders (including employees) to maintain their interest	Once the communication channels are established, develop forums to regularly discuss.	Dissemination of information to all involved stakeholders through regular meetings.	**Achieved**
(c)	Being open with stakeholders	Build confidence in stakeholders about the decision making and management processes.	Need to be transparent with all stakeholders to maintain operation, credibility and smoother working environment.	**Achieved**
(d)	Supporting decision makers with appropriate behaviors	Producing an environment of encouragement, team work and value for longevity.	Reintroduce annual conferences since the last event (2018). Opportunity to meet senior managers and reflect on the current business.	**Future Research**
(e)	Internal commitment	Engaging with senior management and selling the ideas of regional strategy, progress and RSST capabilities.	Arrange Annual Conferences and ensure key regional and HQ managers are present.	**Future Research**
(f)	Moving beyond initial reservations to achieve outcomes	Disseminate learning and knowledge gained to remaining regional representative offices.	Work closely with representative offices and transfer information of the strategy through short training programs.	**Future Research**
(g)	Recognizing that societal gains may not result from actions	Model the recognition of opportunities for sustainable development through alternative means.	Monitor the progress through understanding the video department's improvements, and continue transfer of knowledge as staff in the region and HQ change.	**Future Research**

Table 7 - Research Actionable outcomes and progress

5.3. Actionable Outcome Progress

5.3.1. Understanding the Complexity of Real-Life

The obfuscation of communication was often observed throughout the organization eventually affecting the department at the regional level. The poor flow of communication developed a climate in which the fear levels and high emotions of a very insecure team environment rose, disrupting every corner of a cohesive working environment. This eventually impacted on the TSPOs due to the lack of an accurate and useful exchange of information. It was therefore helpful to open a channel of communication through close cooperation with the departmental managers. This also allowed key topics to be discussed with the learning sets to establish a better understanding of the new product strategies. Often, product updates were rare, which enabled the RSST to focus on a specific selling strategy.

5.3.2. Involving Stakeholders to Maintain their Interest

Once the communication avenues had been established, the RSST required a single source of information through the learning set collaboration. At first I took an outside-in approach in order to discover what stage the department had reached; it gave essential insight to the RSST as it sought to understand the external environment. The following strategy to explain the market and industry was prepared as outlined in Table 8 to Table 10.

No.	Area	Strategies	Actions
1	Study of market landscape	Identified regional TSPOs, service providers and broadcasters and identified untouched markets. Identify past customer opportunities, which were placed on hold.	1. Prepared market landscape analysis and identified key customer targets.
2	Competitor analysis	Determined key markets and operators.	1. Identified market and customer tender information. 2. Prepared a comparative and benchmark overview.
3	Industry trends	Determined the key developments in video.	1. Examined industry reports and internet sources. 2. Listed all exhibitions and conferences and identified key ones.

Table 8 - The Video Market and industry strategy in practice

The analysis exposed a number of gaps which were inevitable, but looking at them from a positive perspective was encouraging. The team was able to identify the target market through a large number of potential TSPOs in the region. This revealed a target market for future business. Through Company ABC's consulting arm, the information available also allowed the team enough knowledge of the market to defend its position before one of the TSPOs.

The more troubling area for the business was always why the TSPOs are more inclined to favor some of the smaller OTT video suppliers. In responding to tenders, one's business finances, future business and information must always be disclosed, to ensure that the business the TSPO will collaborate on is sound. Naturally, there are valid reasons for thinking so. For example the supplier may be a local vendor where language is not an issue, which is often the case in Country-P. If a TSPO chooses a local and much smaller

organization over a very well established organization, perhaps its reasoning should be questioned.

5.3.3. Openness with stakeholders

There is a very fine line to be drawn between degrees of the openness in the communication with stakeholders. There are also fine lines in sharing such communication internally to ensure a smooth running operation.

The next step taken was to classify all the different stakeholders and determine how best to involve them and operate through a process of improvement. It was a strategy agreed by the team to understand the video dynamics in the industry through multiple channels (Deng and Tsacle 2006). Initially, it made sense to look into the industry literature available, although some items were difficult to source and expensive, but much of the industry news was available free of charge over the internet. The table below shows the steps taken to create the strategy for understanding the current customer base of the TSPOs.

No.	Area	Strategies	Actions
1	Build partner ecosystem	Look at gaps in the video solution to identify potential partners. In the video chain, identify industry partners with key unique value. Determine existing partners' capabilities.	Extend Partner A's, Partner B's and Partner C's capabilities.
2	Share intelligence information	Frequently meet partners for regional product updates and opportunities. Understand partner target opportunities.	Schedule CXO-level business reviews.

Table 9 – Involving stakeholders to maintain their interest

There is a difference between maintaining the interest of TSPOs and that of other partners. There is a many-to-one relationship between suppliers and TSPOs, such that many more suppliers want to collaborate in business with Company ABC than there are TSPOs. This is an opportunity to understand why and what strategy can be put forward to change this setup. At no time has a TSPO decided to move completely away from Company ABC, although this has happened in certain technology domains. If it loses a bid in video technology in a specific TSPO domain does not correlate in the success, the TSPO will offer in other technology domains.

Table 10 provides an overview of the steps taken to address possible problems.

No.	Area	Strategies	Actions
1	Acting as a mediator	Establish a forum to discuss this with management and external partners for better co-operation.	Persuade TSPOs to go directly to technology vendors.
2	Addressing poor decision-making	Develop regular needs assessments and the environmental scanning of eco-system partners.	To build a stronger product offering is to determine the value of a wider choice of partners and let them openly integrate their solutions with Company ABC's video platform.

Table 10 - Partner collaboration

The RSST re-sell partner technologies to the TSPOs, but it was discovered later that the RSST acting as a mediator did not offer much value to any of the stakeholders. It was originally planned to lose the mediator role and allow the TSPOs and partners to relate directly and enter contractual back-to-back agreements. However, trust is an important factor which prevented some TSPOs from agreeing. Trust has been a challenge in many

environments and stakeholders are at a loss to understand how to build it (Shapiro, Sheppard and Cheraskin, 1992). From observations where partners have had direct relationships with TSPOs, it can be seen that relations improve, product quality and delivery increase and overall performance leads to customer satisfaction. However, having direct relations with a TSPO is not necessarily the only strategy that will create a winning formula. The RSST continues to sift through the industry for qualified partners to develop the eco-system which is where it can add value to the process.

5.3.4. Supporting decision makers with appropriate actions

In an environment of encouragement, teamwork and value for longevity, I want to model the recognition of opportunities and sustainable development through re-engaging HQ and regional managers so that the annual meetings which were last held in 2018 can be revived. This will provide the following advantages:

a) Meetings of the RSST with senior managers from the region and HQ. This is important for putting names to faces, especially since this very dynamic organization goes through many changes in roles and responsibilities.

b) A time for reflection on the previous year's accomplishments.

c) An opportunity to discuss issues in regard to products, processes, challenges and organizations.

d) Alignment with all key members on future strategies and focus areas in the coming year. This will be a key time to discuss the progress of the change program.

e) Recognition for top performers and for continuous motivation.

The next Annual Conference is expected to be held in February 2022.

5.3.5. Internal commitment

The protection of self is a joint exercise and is oriented towards growth (speak in directly observable categories, seek to reduce blindness about one's own inconsistency and incongruity) (Argyris and Schön, 1974). In order to think in model II terms, internal commitment will be necessary through support for the ideas by the change leaders. The action will be to present the progress of the change and for managers to embrace the positive changes that have been made and learn what to expect in the future.

I expect that after the Annual Conference the commitment should be provided within three months. The organization should maximize internal commitment to decisions made to satisfy the conditions for model II learning.

5.3.6. Moving beyond initial reservations to achieve outcomes

We need to move outside the comfort zone of the regional office and begin to discuss the strategy development with other offices in the region, which spans 27 other countries. I believe that if the strategy is well structured, knowledge is created, and the RSST has understood that it can be sustained, then disseminating the strategy to other regions should be the next thing to do. For this purpose, a short introduction should be arranged through a training program, which is yet to be prepared.

5.3.7. Recognition that societal gains may not result from actions

There is a need to monitor how much of the change and learning is actually being used or is benefiting the region. Monitoring the sales and revenues can act as the key indicator. It should be ensured, also, that as people and organizations change the new staff are aware of the objectives through open discussions and the spreading of information.

Figure 17 illustrates the overall timeline to meet the above actions.

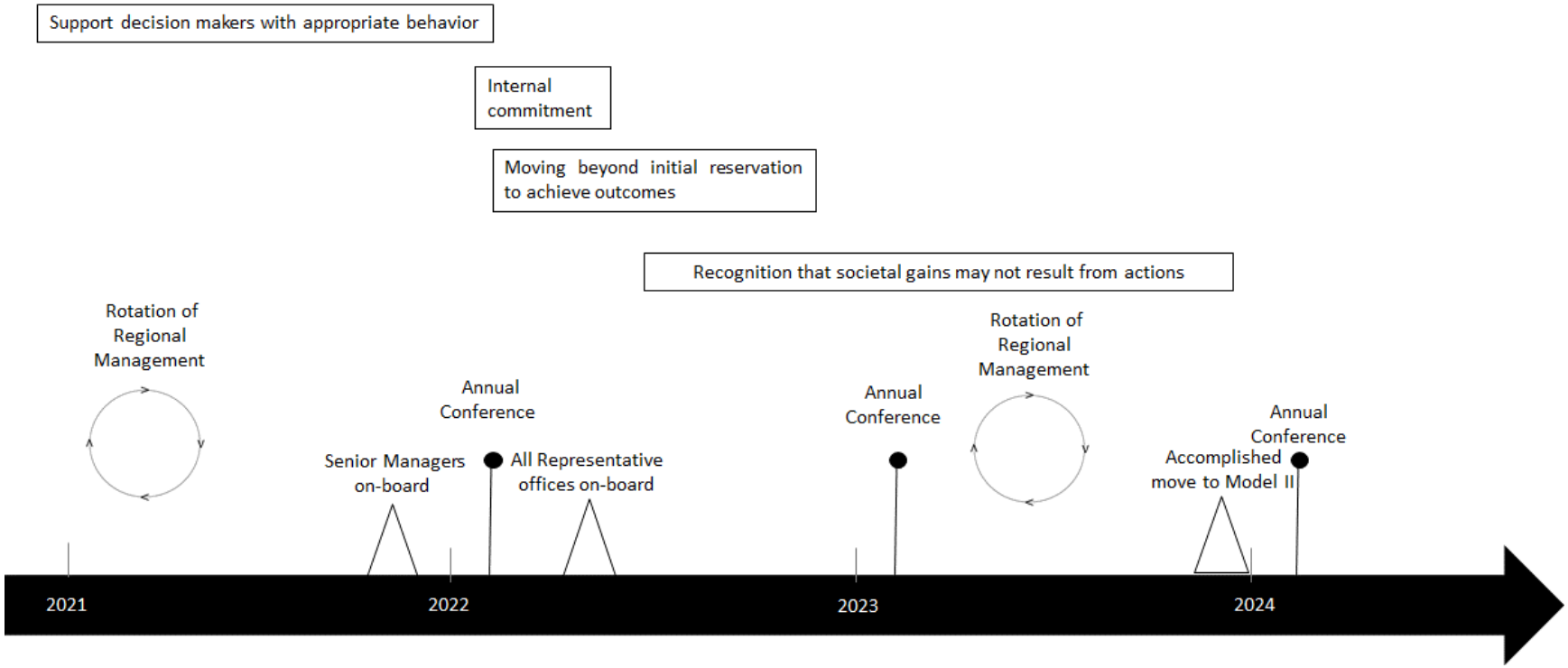

Figure 12 – Timelines for moving to model II

5.4. Company Performance

This chapter offers a retrospective view of the video department in elucidating the evolution of the video business in the CEE&N region. The content of this chapter will provide an overview of the video business strategy and reason to why the business performance is where it is today. This chapter also offers an explanation why the business performance has improved through representative model showing the causal relationships between OL and business performance.

5.4.1. Company Strategy

Table 11 illustrates the impact of all the video organizational changes up to year 2020.

Year	Stage	Description of change
2017	**Stage 1**	End-to-end solution selling, comprising the video platform, CDN, clients, and the reselling of third-party products
2017	**Stage 2**	Solution selling of the video platform and the reselling of third-party products, but no clients
2018	**Stage 3**	Selling of Content Distribution Network (CDN) as a silo product.
2018	**Stage 4**	Solution selling of the video platform but now cannot resell third-party products.
2019	**Stage 5**	Cannot sell CDN product as a silo product.
2019	**Stage 6**	Due to the trade war between the US and China, cannot sell any product containing US technology, which includes operating systems, licenses, chipsets and databases.
2019	**Stage 7**	Cannot sell video platform as an on-premises solution, but can sell the solution as a hosted or cloud platform (which is located in the CEE&N region).
2020	**Stage 8**	Can sell the solution as an on-premises solution again, which includes only Company ABC's in-house developed technology. Any third-party technology should be procured directly by the TSPO.

Table 11 - Company ABC video strategy

The changes that occurred to the video product-line initiated this research interest. It is clearer from the changes described above, the effects it had on the financial performance of the video business as shown in Figure 13. The financial performance sees a turnaround in sales during the period of the research in 2020 which offers an explanation that OL practice was having a positive effect on the business. The future of the business growth shows an estimation based on the completion of the actionable outcomes.

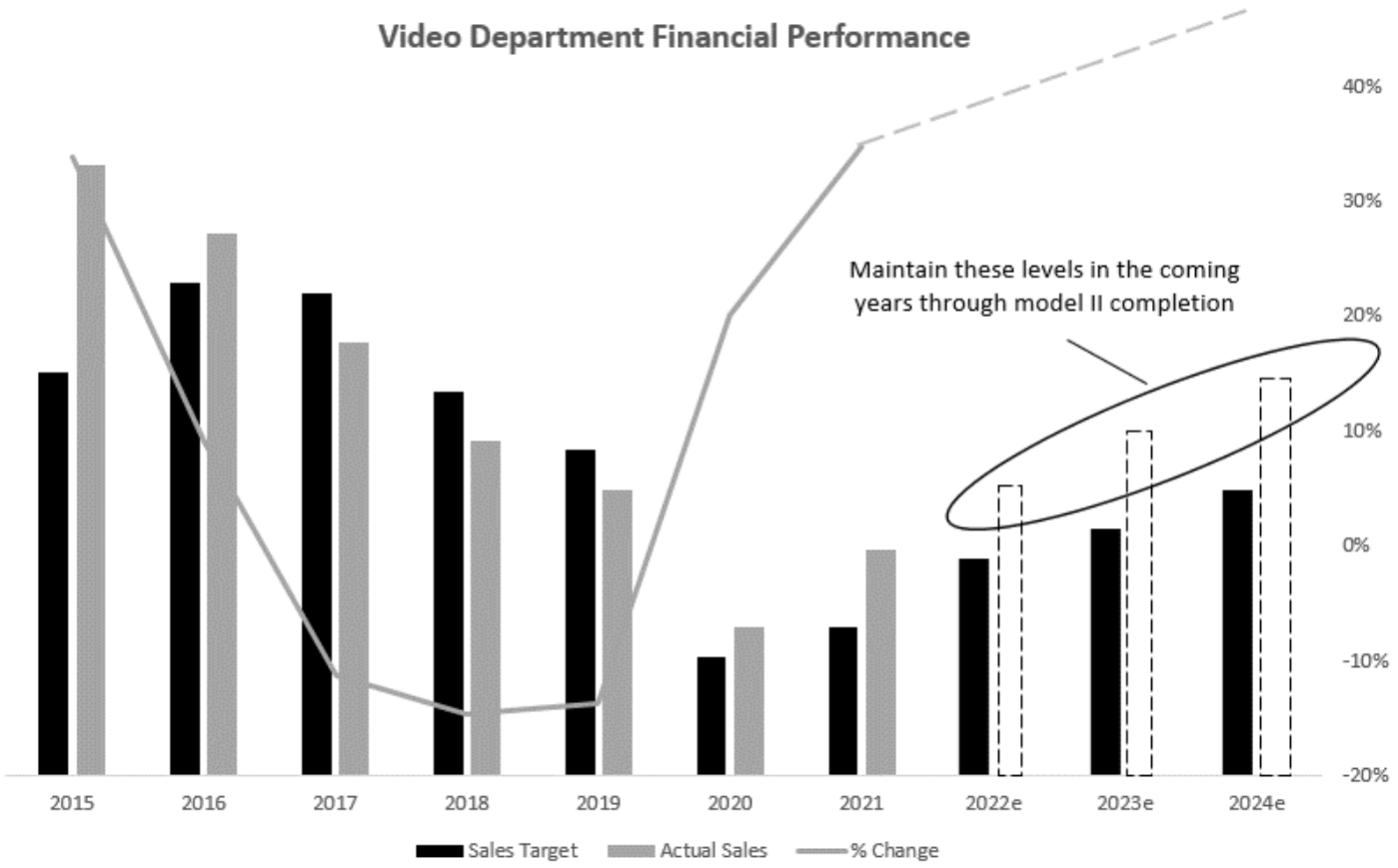

Figure 13 – Progress of the financial performance

Source: Adapted from Company ABC records (2021)

5.4.2. Path Analysis

From Figure 13, the following analysis describes the representative model of the causal relationships between OL and business performance. A large-scale study was performed using three hypothesis (Lopez, Peón, and Ordás, 2005, p. 231);

H1 Organizational learning positively affects innovation and competitiveness.
H2. Organizational learning positively affects economic/financial results.
H3. There is a positive correlation between innovation and competitiveness and Economic /Financial results.

It should be noted that there is nothing to state about the mediating effect of innovation and competitiveness on financial performance. As a result, that in a large-scale study involving path analysis a statistically significant direct causal link was shown from OL to the outcome variables of: 1) innovation and competitiveness, and 2) financial performance. Also, innovation and competitiveness was shown to have a causal effect on financial performance (i.e. a further indirect link between OL and financial performance).

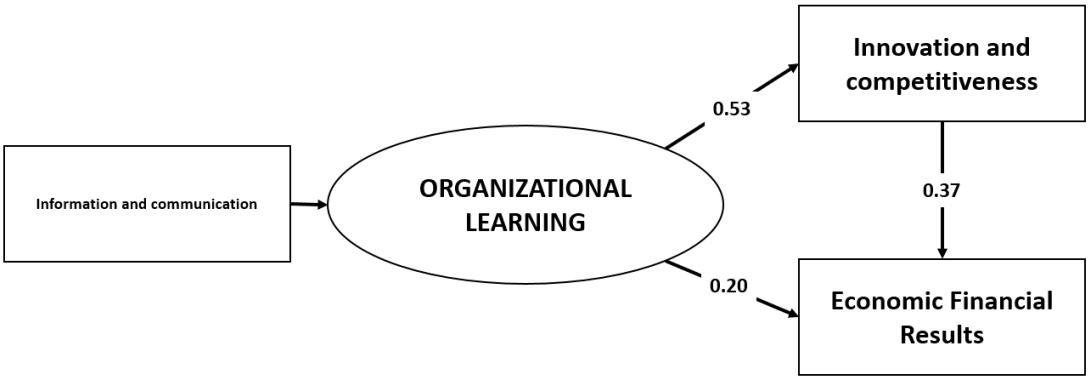

Figure 14 – Causal relationship model

Source: Adapted from Lopez, Peón, and Ordás, (2005, p. 238).

NOTE: the numbers above indicate coefficients as standardized parameters.

The authors do comment on the size of the coefficient between OL and financial performance (0.2) and explain this by saying that the relatively low value of the coefficient reflects the fact that the effects of OL on financial performance occur over an extended period of time.

5.5. Limitations of the Research

There is no doubt that the research performed in this study has limitations (Lopez and Willis, 2004), as discussed below. The study was grounded upon a social constructionist, interpretive phenomenological philosophy which describes the lived experience of the phenomenon, a pre-reflective consciousness of life (van Manen, 2016). The research was performed in a small team within the video department in the CEE&N region of a large ICT organization. The following discusses the limitations of the research as I see them.

- First, the organization is very dynamic in nature, whereas more meaningful data would have been obtained in more stable conditions as argued by García-Morales, Verdú-Jover and Lloréns (2009). A personal view suggests that the results could have been more presentable and valuable than they are, because they were treated as results of the effects of such changes in the external environment. The unstable environment created a bias steered more towards the organization's HQ and leadership than it should have been and away from the importance of self-reflection in solving organizational problems. There is no literature to suggest that the effects of exogenous environmental changes coincide with the lack of internal organizational activities when determining the exact reasons for improving OL.
- Second, the key understanding from this research is that the findings are isolated within a single ICT organization as the central research subject. Although this research can be used by other researchers performing similar research as a reference point, actions and results will differ in other organizations (Bengtsson, 2016). The question is not whether the practice can be replicated in other ICT organizations; in any case the literature review does not suggest that there is much knowledge of this available.

- Third, it is not understood why TSPOs and especially those Group Operators prefer do business with some of the small OTT suppliers. This research has not considered this apparent gap but could pave the way to understanding Company ABC's future strategy. Since most well established national carriers or TSPOs need to ensure the viability of the supplier, the attraction of a small supplier requires further investigation.
- Finally, during interviews, differences in views expressed may be grounded in differences in national culture (Kim and Toh, 2019; Barnard and Stoll, 2010). Taking an opportunity to probe the cultural aspect has much potential for shedding light on the phenomenon.

5.6. Implications of the Study

Implications require to be noted in order to understand the impact that the research has both on practices and organizations. The main objective of the research was to introduce a new way of working towards DLL with the aim of creating a learning path and improving the financial performance of the video department. The findings from the research have yielded valuable data. The research provides a reasonable but precise understanding of the RSST's strengths and weaknesses within the CEE&N region, and also emphasizes their capacity for leadership. The research exposed their capabilities, style, attitudes and creativity, which had to be appreciated in order to explain their current state. This implies that the region can begin to think more as a decision-making hub in the progress of the business, imposing less burden on HQ management, cutting significantly around current bureaucratic processes to reduce their complexity quickly and to reduce the pressure on resources from R&D.

The second important implication of this study derives from the uniqueness of the findings in this unprecedented study. These reveal much knowledge and many situations, ideas, strategies and data that differ from those proffered by HQ and were continuously challenging to me as an individual in the region.

Since embedding in organizational memory is key in a doctoral thesis, a set of procedures for the success and effectiveness of the outcomes must safeguard its future applicability. Understanding of such key concepts as model I (single-loop) learning and model II (double-loop) learning should take precedence. As the actions are being implemented, CEE&N regional organization should in the future remain open-minded and embrace the initiative. Continued support from HQ should be proactive and positive even after changes of staff. There is no time limit on this implementation.

5.7. Recommendations for Future Research

The topic of learning through the double-loop model is very complex. Reaching a model II state can be seen as subjective, since no-one involved in this effort can be sure of it, not to mention a researcher. Certainly, the strategy has been presented to the business at a high level, thus the management in the coming years is expected to adapt to what has been presented. A few areas need future consideration:

The organization must be enabled to accept what is planned in the CEE&N regional office: it is vital to disseminate the meaning of this initiative. The reason for HQ not being aligned with the plans created through this research is that the change was developed for local implementation, needing no influence from elsewhere. Supporting this change within its region will be difficult, mainly because information flow is difficult to monitor unless a dedicated individual is focused on this task.

As the change continues throughout the region, there is no guarantee what may happen later to the organization in the future; thus the change process may also need to change. Initial change, or first-order change, has been introduced but, depending on the results of the change, a second-order (or even a third-order) change may be required if the organization’s politics and issues change (Coghlan and Brannick, 2014).

Although the model of DLL through model II introduced by Argyris, it remains valid from a learning model perspective. The transmission of the learning capabilities will improve in years to come through the evolution of technologies such as artificial intelligence,

augmented, virtual and mixed reality. Company ABC is improving its learning capabilities through these mediums by promoting case sharing and experience and no doubt that learning will be further enhanced in the future through enhanced networks such as 5G and upcoming 6G technology. The evolution to 5Gigaverse (Company ABC patent) will be an interesting area to investigate as learning improves organizational memory.

5.8. Contribution of the Study

Knowledge is not only relevant in practice but also gives the people who use it and chance to re-create the world (Argyris, 1993). This contention suggests that knowledge is valuable but remains covert information for those who use it incorrectly. Working through the research with teams of individuals was not difficult in so far as the divide created by the researched needs distanced the individuals from each other. Important to any organization are its intangible assets, namely, skills (Kamasak, 2017). During economic downturns, hard-pressed organizations especially in specific niche industries cannot afford to reinvest in resources. Although the application of learning and knowledge management is crucial for an organization to develop further, management rarely engages in it.

The aim of the research was to bring about change and improve its financial performance through OL. Making a contribution to this evolving process was challenging but a fulfilling journey and I highlight the following key contributing aspects. In addition, there was the contribution to discipline knowledge by providing an empirical study in the literature review that extended the limited literature that exist on the implementation and transition to model II. This section shows both how the study has contributed to self and to the practice.

5.8.1. Contribution to Self

5.8.1.1. Development as a Scholar-Practitioner

More than a decade ago, an ex-colleague of mine asked me what I would do if I wanted to introduce change in an organization, a question asked during his recent interview for

promotion; when I responded by suggesting that one should change people's mindsets, I was merely ridiculed. Although I never supposed at the time that I would be a practicing scholar-practitioner, what has been achieved through this research is exactly what was suggested in that conversation. Having a scholar-practitioner lens enhances one's confidence in the ability to apply AR in the future in many fields and domains. Knowing something about the philosophical stance of constructivism, qualitative methods and IP has given me the necessary tools to disseminate this knowledge to others (Caldwell, 2003). Furthermore, preparing a solid foundation in the form of the literature research remodeled my thinking about the relevance and importance of critically analyzing the relevant material (Ikin and McClenaghan, 2015).

5.8.1.2. Improved Problem-Solving Skills

The study has been an arduous, challenging but rewarding endeavor. The depth of the course modules and requirements of the thesis itself, have developed areas in me that would have been hard to obtain in normal circumstances. Reflecting on my career in the many organizations where I have worked presents my contribution, among others, to problem-solving and certain complex situations in a more admirable light as argued by Greenwood and Levin (2007). Hence, during the period of this study, I have observed that I now offer and contribute more as my skills have improved. Technology in this industry is moving forward rapidly, and thus, concepts have to be implemented speedily in order to be relevant,to manage problems as they surface in a timely fashion and to improve organizational performance (Hayes, 2018, p. 328).

5.8.1.3. Development of Critical Communication Skills

Working in a hierarchical organization has many disadvantages for those who expect to climb the career ladder reasonably fast. It is even more difficult if the organization operates internationally, for Company ABC prioritizes local staff before foreign workers. That said, communication skills are essential in Company ABC and this added element of criticality is seen as an advantage. The advantage of being a native English speaker and the more advanced command of the English language through this research,

enhancing my critical communication skills, lead me to expect a reinforced position in the organization. Moreover, critical communication skills are exceptionally important and valid at the frontline where the interface with the TSPO makes all the difference in the success of Company ABC. I was asked a few years ago whether I wanted to pursue and grow in the role of technical expert or develop in a management position. My choice of a role as a technical expert in a very niche industry was not financially driven, but because I wanted to ensure the very highest level communication with the end-customer, adding value and worth to the organization; obviously, excellent communication skills will be necessary for this. They are very sought-after skills and it is no surprise that they are poorly developed in the industry (Comfort et al, 2001).

5.8.1.4. Improved Longevity in Career and Organization

Since less than 1% of the organization's employees has a doctorate of any kind, it is recognized as a highly valued academic achievement. Success would certainly enhance my career progression in Company ABC, but would also benefit me if I decided to move in my career path outside the organization. However, as the turbulent woes of the organization during the write-up of the thesis and the research itself suggest, the prospect of obtaining a DBA has a stronger hold. I began to study for it in March 2013, and during the gaps in the study, I challenged myself more to exceed the degree requirements because of the difficulty of picking myself up to resume continued study. Since I have overcome these obstacles, I am aware that Company ABC seeks to employ and retain highly academic and experienced individuals in order to combat the current environmental pressures.

5.8.2. Contribution to Practice

Organizations reduce costs through valuable engagement of staff which promotes OL (Serrat, 2017). Having a more engaged staff will reduce their turnover, increase customer satisfaction and promote a positive and energetic workplace. The following sub-chapters specifically offers the contribution to my workplace.

5.8.2.1. Internal Relationships

This research has brought the team together and improved trust among colleagues through OL (Ayub, Abd Manaf, and Hamzah, 2014). As the communication barriers began to fall, the effectiveness of group work improved dramatically, as observed during the latter part of this research. More than having close daily working relationships with close colleagues, if one can rely on individuals in the right places, having visibility and relationships at different levels makes work easier and less stressful. Although I need these relationships with senior staff, I have to be mindful to build them through listening, open communication, transparency, respect and self-awareness. The major discovery of the research is based on relationships and teamwork and the potential in opening communication paths and dialogue.

5.8.2.2. External Stakeholder Management

Creating a streamlined process for work with the company's eco-system partners was essential for improving the way in which the video department offered solutions to the TSPOs. The RSST was removed, because acting as a mediator between the RSST and the TSPO, together with collaboration and communication transparency improved the overall delivery of software. Re-education was important for all stakeholders because it showed them the expectations of all the other stakeholders (Wang and Ahmed, 2003). The added value of including partners to discuss delivery and product performance also enhanced the awareness of gaps in defining the requirements and the perceived outcomes. This improvement is still not without faults; further engagement will still require improvement to determine the level of success in the future. The overall improvement has been embraced by all stakeholders and the video department managers have praised the effort following fewer complaints from the TSPOs.

5.8.2.3. Empowerment

Developing the empowerment in the CEE&N region enhances the learning aspect of teams and departments (Safari et al, 2011). From a strategy perspective, this was a major theme raised by the participants in the data gathering stage and seems to ensure that the department will benefit. The opportunity to be heard through constructive dialogue was the first indication that the RSST might be able to drive the business from the region. Having access and open communication with senior management also advanced this initiative, making it a step forward in the growth of the region through increasing the team's competitiveness (Forrester, 2000).

5.8.2.4. Market Segmentation Analysis

The meeting of CEE&N Region with the president in December 2020 gave it the opportunity to discuss the future of the business. Chapter 5.3 - Actionable Outcome Progress, shows how an analysis of the regional market landscape, competitive analysis and industry trends outlined the challenges being faced. This preparation provided better and more precise tools as input to the regional leaders inducing the video business into organizational memory (Fisher, Francis and Haven-Tang C. 2021). At the beginning of 2021 came the Company Annual meeting at HQ, usually a chance for our regional managers to discuss the CEE&N region's successes and shortcomings during the previous year, future budget requirements and sales expectations. Major concerns expressed by HQ were the falling revenues of the video business; however, the organization accepted the challenges, and the outcome was to include three additional 'silo 'products to complement the video solution. The initial impression was that these products had belonged to a different department and, through poor sales, had been put under a different umbrella to allow a successful team to introduce them to the market. Through AR, the RSST have made a difference and contributed to the practice by enhancing the capacity to meet the sales and revenue targets for the year.

5.9. Summary

The meaning of the research questions was aligned with the research literature in order to offer some overall meaning. By addressing the research questions, I understood the limitations of the research and the implications that the outcomes have had on the practice and the organization. In this chapter, this allowed me to outline the progress made in the team and what might be achieved in the future to carry this research action forward.

It was observed from many of the participants that knowledge of the solution and the organization is a cloudy topic in the region, and that re-education is required through closer co-operation between the key stakeholders. Learning and re-learning are necessary, since DLL requires a layer of understanding. It is clear that the team has the ability to cross the gap and master DLL, moreover, the discussions within the learning team suggest that the outcomes of the research aim will be successfully achieved. Furthermore, the future contribution, other than ensuring that the team meets their current objectives, is to research how to successfully transition to model II in such dynamic organizations.

Argyris proposes a DIPG cycle that guides the move from model I towards model II. This seemed the logical action cycle for the main event which was the transition from the current state towards the proposed state. DLL is the concept and process that involves teaching people to think more deeply about their own assumptions and beliefs and helps people acquire and integrate new information and develop new skills, to question and possibly discard familiar and perhaps dysfunctional ways of thinking, feeling, and acting.

Chapter 6 – Reflections of a Researcher

The term reflection or reflexivity is interpreted in a research context as a retrospective account for the purpose of validating and presenting propositions, settings, thoughts and actions (Argyris, 1985). Equally, a researcher, as a sociohistorical interpreter, interacts with the subject matter to co-create the interpretations derived (Creswell, 2013, p. 248). This entails performing the task through the lens of a seeker who looks back through the DBA journey and extracts everything that could have been essential for delivering features which are now significant to the research. It was discussed in Chapter 3.5 that the reflection cycle would take into account the following stages: Design – Invent – Produce – Evaluate (DIPE) (Argyris, 1995). These stages facilitated my recording in a journal whatever supported my personal experience.

I approached the task of performing AR as a researcher in my own organization initially made me apprehensive, because an AR approach is founded on the notion that organizations are understood through the process of deliberate change (Coghlan and Brannick, 2014, p. 3) and change seemed for me as an overwhelming endeavour. My career had spanned two decades but my researcher-practitioner skills were particularly tested when I joined Company ABC. The bureaucracy, culture, and leadership style of this company make it distinctive in many ways yet it dominates the market. It is normal practice for employees to produce positive results and overwrite the way in which these results were produced (as long as the process met ethical standards). These were managers' methods for encouraging the staff to learn. However, I now see learning in a different light through which I am forming a bridge which is aligned with the objectives of the department between my espoused theories and theories-in-use.

It was the design of this research that led me to create the separate reflection cycle rather than embed it in the research, since I wanted to describe the complete experience of writing up the research. The next four sub-chapters provide the reflection cycles to analyse my personal experience in this research which encapsulates the whole timeline of the thesis (see Figure 15 and Figure 16).

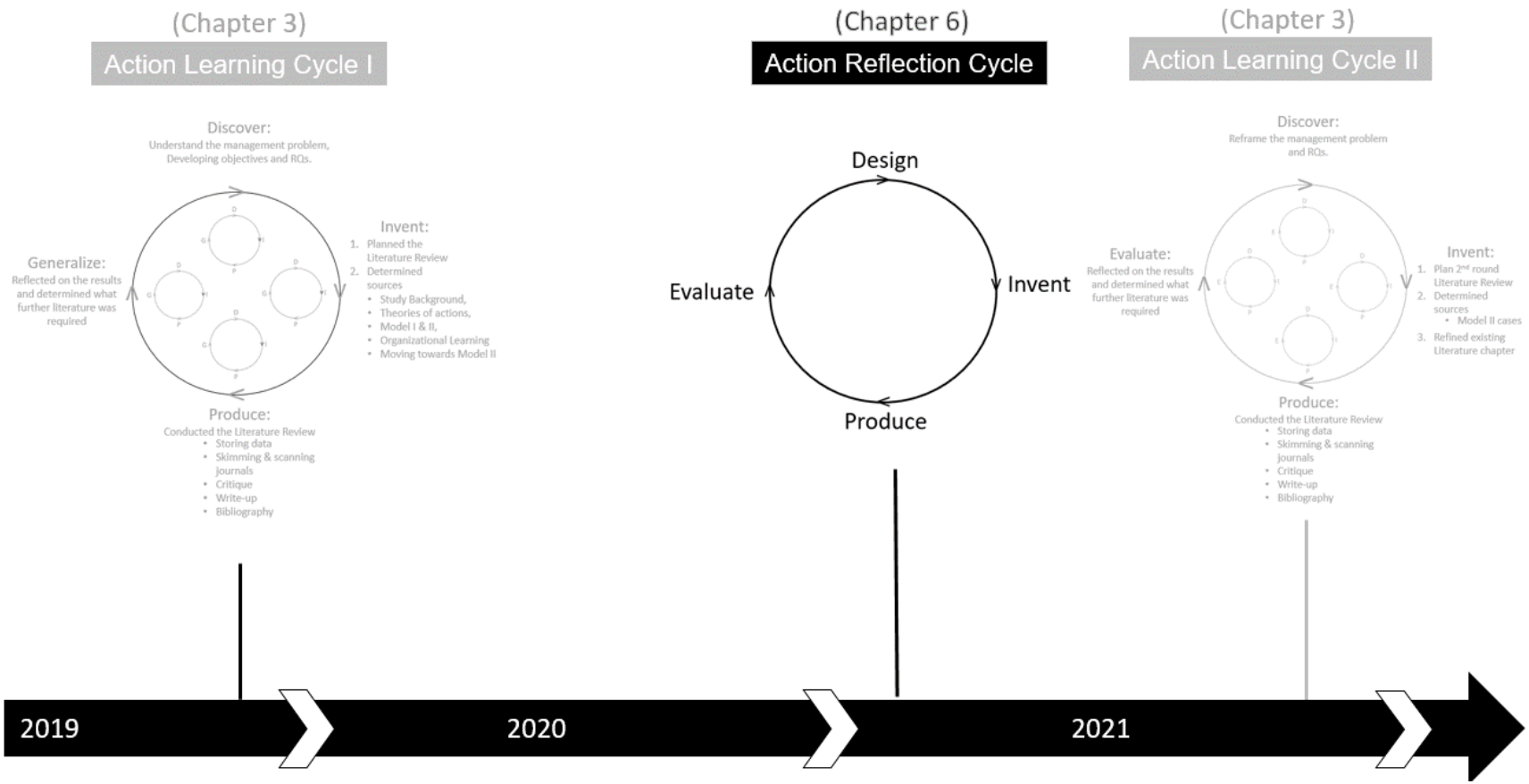

Figure 15 – AR cycles revisited for Action Reflection Cycle

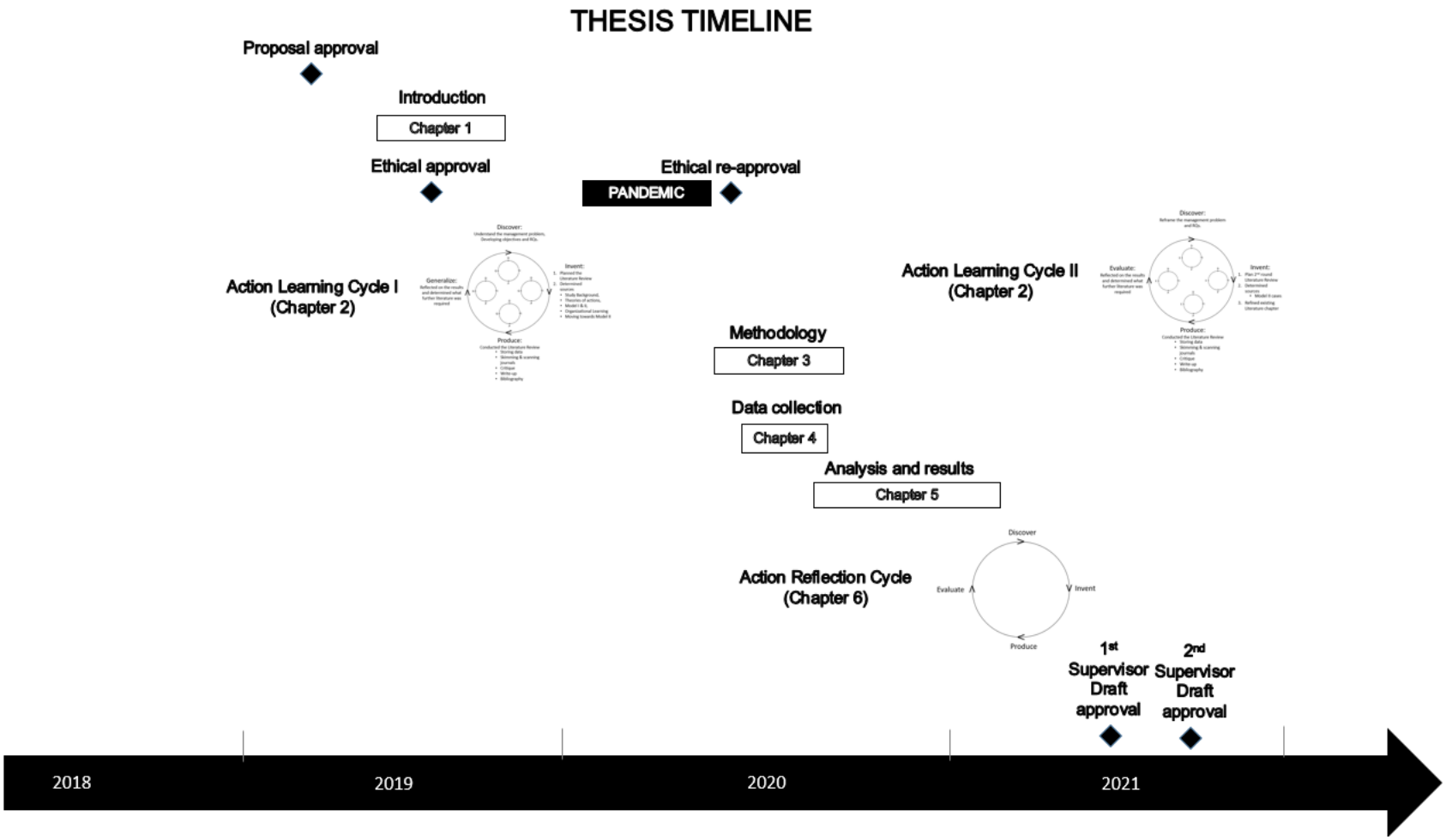

Figure 16 – Action Reflection Cycle Timeline

6.1 Action Reflection Cycle Step I - Design

The topic for the thesis was chosen in response to the pressure I received from regional managers about ways to make the department more successful. My manager's responsibility was typically to obtain feedback from central HQ regarding the bottom-line numbers that the department required to meet. The managers' responsibility included finding ways of understanding how to meet those targets and accepting them. Being asked every year how to achieve the success of previous years was the trigger that began the research topic. Moreover, there were other pressing issues in the organization that could have been part of the DBA, for example, how to improve the retention rate in the RSST through understanding the dynamics of the organization; or why such an organization as Company ABC continued to grow by means of the cultural mindset that was instilled in it. However, learning how to address issues which are already of concern to the managers was already a step in the right direction. The outcome of this phase created a valid argument that an organizational problem had to be addressed.

Although OL is a concept that when heard seems to entail the transfer of knowledge from some reputable source, more can be understood from the perspective of either a researcher or anyone else. OL, including the concept of a learning organization, has a great deal to offer in terms of understanding concepts and models that contribute to generating knowledge and learning. Even so it was very difficult to explain the topic to my colleagues on and show how them how the final objectives should be shaped to make sense.

The management problem was an important impetus in speeding up the acceptance of the topic as a serious problem. Although the organization and video department had performed very well for many years, the pressure on the RSST never ceased. The relentlessly aggressive environment obliged the team to focus on the relevant tasks and prevented any divagation. After spending years in the organization, at this point, the behaviour, values and assumptions of the RSST were perhaps so deeply instilled that the research would present a significant challenge. During the course of the present study, two changes were made to the video department management; these usually occur every two to three years, but had become more frequent. Although each manager had a distinct

leadership style, their emphasis on meeting and exceeding the departmental financial targets was something they held in common. This management object created pressure for the team and me; the reactions from managers were different, but they were often personally forceful, affecting us emotionally and mentally. It was apparent that the sales numbers were declining and I saw the team slowly getting smaller.

The management problem allowed a learning set to be created for the research which allowed the team members to express their opinions about the situation faced by the whole video department. Nevertheless, there was no chance to speak with the senior management, who were at the time shielded by the RSST manager; this made the team and me feel as if our voices were stifled, or at least filtered, muting our true grievances. This could have been different if the team and I had had the courage to insist on an official communication path through the re-introduction of the annual meetings which had lapsed due to the above changes. This step, however ended positively in that a well-established problem was identified and the RSST were thinking of the activities to improve the situation.

6.2 Action Reflection Cycle Step II - Invent

Through the invent phase, I sought a solution that would address the management problem. For this objective, the literature review and the eventual shape of the design addressed the topic. The expanse of the literature allowed me to create a map of all the chosen topics in order to understand their relevance. The map changed throughout the progress of the thesis and introduced a number of topics not previously considered, which contributed to the research.

At an early stage, the literature review introduced an overwhelming number of topics of learning, introducing many branches of research to consider in a host of domains: for example, organizational learning, knowledge creation, financial performance, change management, transitioning and challenges were explored. It was very easy to lose sight of the overarching themes, especially because the review was written over quite some time and it was challenging to maintain the focus. I also considered in how much depth

and how exhaustively the literature should focus on addressing the management problem. The literature review introduced the first AR learning cycle, the section cycle coming at a later stage in the research write-up. The second cycle was introduced after the supervisor's second review, which allowed me to focus on DLL though empirical work performed in different industrial settings which taught me how far DLL had been implemented in the industry.

A high point of my experience in performing AR was clarifying all the perceived ideas of the organization through collaboration with a learning set and through data collection. I then realized that I had developed a wider knowledge of the video department stakeholders. Through this collaboration with the team, I built and gained trust among them which has secured a propitious future working environment for group interaction. The research gave individuals an opportunity to speak openly and also to think seriously about the various topics in play.

Several areas in the research imposed a challenge. During the data collection, some of the participants felt as though they were not being honest enough especially about their view of Company ABC. It was discovered that their hesitation in commenting on the organization was that it felt intrusive to be asked, lest concern about negative feelings be exposed. The other area of concern was the understanding of Argyris' models of learning which seemed to them difficult to understand. This may have given the impression that the participants had to study something before the interviews, which may have felt disheartening. More importantly for the research, I realized that presenting the study before knowing that the move to model II would be completed and knowing that it would require a sustainable plan could be seen as a challenge. Still, the research project as a whole seemed rewarding as I wrote it up.

6.3 Action Reflection Cycle Step III - Produce

Previously discussed in this research, the video technology offered through ICT organizations is relatively niche and yet the impact of its future is considerable. My research shows that large organizations can attain whatever goals they want in order to

promote a healthy organization. In reality, the CEE&N has been a significant powerhouse region for the company and sustaining its success has always been an important directive for the video department and the RSST. Over the time when the research was conducted the organization was enabled to streamline and retain the team which could maintain the progress of the business. During this reflection cycle, I was able to address the research questions through a combination of literature reviews and data collection from the expert interviewees. It was observed that the RSST was in the grip of model I thinking; this prompted me to dig further into discovering how the research would aid the team to move from this mindset towards model II thinking. Model I thinking was clear from the way in which the RSST demonstrated its problem solving skills and from the defensive routines that accompanied it.

The emphasis in this phase relates to understanding the team's capabilities and moving their capabilities to a point where they would add further value. As argued by Argyris and Schön (1974), to be able to move to model II requires a sense of positivity that resonates with and towards others. The management's view of the outcome of the research was relatively stony and hesitant. Its guiding ideas and their significance produced many questions, but then any new strategy would be difficult to sell in such a hierarchical organization. The regional management suggested that some of the ideas from the research outcomes were creative but it was not obvious how to sell them to the higher management. With all the concerns expressed, I was assured that the research was led in the region at the departmental level and any input required by the organization's HQ would be minimal.

6.4 Action Reflection Cycle Step IV – Evaluate

The research was evaluated and the observations surfaced in many different ways. As an inside-researcher, I was interested in other researchers' views regarding their participants' collaboration. For one thing, how do individuals feel about an insider researcher and, for another, what are the psychological effects of such researchers during and after the research? Of the 38 applicants asked to contribute to this research, only

eight agreed, which suggested something about the prospect of AR in this specific department. As discussed above, the participants felt some hesitation during the data collection phase partly about the amount of information they were willing to share. Second, even obtaining information and literature from the organization required caution. Getting details from an organization that is highly responsible over its security and the secrecy of its information requires a great deal of prudence. Observing organizational learning in such a granular fashion was an enlightening experience since I now realize that, throughout my career, OL has been conducted in a very covert manner, if at all. In one sense, I believe that the organization learns, but the speed of doing so may be questionable.

Bearing in mind all the challenges and emotions experienced on the research journey I was able to accept and contribute better to the quality of the research. I have argued that this process of transitioning a team from one state to another was difficult and the department has made great strides in its progress so far through the ongoing transition.

6.5 Summary

Reflection, a rigorous process, is an important way of validating the effort spent on any work. Reflection also entails the personal feelings of individuals about social, organizational and exogenous environmental aspects, and can thus be considered as itself a direct and personal experience which cannot be replaced even when criticized by others. The reflection cycles have produced a detailed overview of the whole experience of the project and how much it has contributed to organizational learning and the development of knowledge in a particular work environment.

I am pleased to have had this opportunity to prepare and make an impact on a particular part of an organization. Originally, I would have thought it impossible, but writing a doctoral thesis turned out to be an amazing but difficult task. It has turned me into a scholar-practitioner, and a valued member of the team and the regional staff. The interesting aspect of Company ABC is that it is always looking for highly educated individuals. Whether I fit into this category is yet to be seen. However, my skills in research have

greatly improved especially in bringing literature to a more understandable level and giving me a chance to disseminate information to others in layman's terms. This education has perhaps opened some managers' eyes towards my capabilities and may determine my position and future opportunities, though this was not my short-term intention.

One of the objects of this research from the outset was to understand what evidence existed for the view that the RSST had the mindset of a SLL division. The wider purpose was to manage the transition of the RSST towards model II thinking through the application of double-loop learning. The transition began according to the process described in Argyris (1995) and will continue in order to determine the futures of the video business. Although the outcomes rest on interpretation according to the research, they have meaning in themselves for me.

Chapter 7 – Conclusion

Learning as a concept has been a long-perceived research topic among scholars for a generation and is at the same time a justifiable aim to follow in business. As complex and successful as organizations can be, they are apparently only able to learn and succeed in their own ways. OL is an interesting and valuable topic which most individuals understand as the Holy Grail in business. With most models, the answers do not lie in a single book or study. In fact, the more research, the more convoluted the ideas involved in the core topics.

This research set out to understand how the video department of Company ABC improved its financial performance through OL, specifically by moving the RSST towards model II actions through the application of double-loop learning. It was not the aim to implement the changes at a company level due to the immense size and complexity of the organization, but to secure outcomes that contributed to professional knowledge at departmental and individual levels. The literature review encompassed important topics concerning ICT industry and telecommunications, DLL, and organizational change towards model II.

The route taken to address the phenomenon was aligned with my beliefs through AR intervention. Its core objective was to resolve a management problem through the interaction of individuals and to encourage learning that would resonate through individuals, organizations and society (Raelin, 2001). The AR study developed through adopting a normalist ontology, an anti-positivist epistemology and an ideographic methodology (Burrell and Morgan, 1979). The present AR took the path of social constructivism as the interpretive framework because constructivism had the same underpinning philosophical aspirations as my research, namely, to understand lives and work in society through the lens of people's experiences (Creswell, 2013). I was truly enmeshed in the research as eight participants provided their candid feedback to the interview questions about the current situation and organization. The findings of the research contributed to two main failings: (a) HQ understood little about the business in the CEE&N region, and (b) knowledge gaps in the RSST team needed to be plugged.

The findings produced actionable outcomes for the research. Therefore, the actions to move fully to model II team will continue through the remaining steps of the actionable outcomes discussed in Chapter 5.3.

The research was concluded with the sense of elucidation that contributed a reflective recollection of my career encapsulated in a single experience in one organization. In fact, the additional effort after the research is completed will instigate further progress by addressing other actionable outcomes through supporting decision makers with appropriate behaviour and advancing with the internal commitment obtained. To take the RSST to this level will produce a more competitive, agile and forward-thinking group, better able to tackle complex internal and external situations.

The principles of DLL and the need for organisations to move towards model II are as relevant today as when they were proposed by Argyris approximately 50 years ago. The likelihood is that there will be evolving technologies where learning will be enhanced for humans will exist in order for the transition from one state to another in more exciting ways, however, the learning models and approaches will retain their relevancy.

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APPENDIX A – Participant Information Sheet

DOCTOR OF BUSINESS ADMINISTRATION (DBA)

PARTICIPANT INFORMATION SHEET

By

Hans Raj

Date: XXX

1. **Title of Study**

An inquiry into organizational learning in an ICT Enterprise: An action research study in a Central Eastern Europe and Nordic video department

2. Version: V1.0

Date: xxx

3. **Invitation for research**

This is an invitation to enquire whether you would like to participate in a Doctoral research study, in the form of an interview. Before you decide whether to participate, it is important for you to understand why the research is being conducted and what it will involve. Please take time to carefully read this Participant Information Sheet on the following pages and feel free to ask me (the 'researcher') if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your colleagues for advice, if you wish. I would like to stress that you do not have to accept this invitation, but should you agree, there is a separate Consent Declaration form which requires completion. Completed consent forms should be signed and returned electronically. There will be no face-to-face contact at any stage of this research. Any contact will be remote by means of email, Skype, WhatsApp or a similar platform.

Please do not hesitate to contact me if you have any questions. Thanks for reading.

4. **The purpose of the study**

The area of study is the ICT organization, Huawei, and it's offering of Internet Protocol TV (IPTV) video technology which has grown and evolved exponentially in the past 30 years, with current industry numbers reaching 1.073 billion home subscribers worldwide by Q3

2017, an increase of 60 million subscribers in single year (Digital TV, 2018). IPTV is a key strategic business for research and development in Huawei, which has seen a great deal of competitors invest and then divest or even sell-off such businesses due to poor performance. However, Huawei is resilient and aims to make its business the number one provider of telecommunication infrastructure worldwide.

The central aim of the thesis is to demonstrate the ability to generate insight via critical inquiry through an action learning program as we see the transformation in the future to a type II organization, embracing double-loop learning. Double-loop learning is the demonstration of asking questions in order to invoke change (Argyris, 1976), and by doing so, challenge the status quo and to continue to develop the business in this Central Eastern European region as well as developing on an individual-level.

5. **Why have I been chosen?**

There are a number of factors which has influenced me to choose you for the participation of this research. You have been in the organization for a considerable amount of time which means that you are well versed with the organizational structure, processes and procedures, well established among local and overseas staff and due to your considerable knowledge of the video technology and industry.

It would be of most interest to give your opinion and insight of the TV business in Huawei, and how it can be achieved taking into consideration industry's changing dynamics in this domain.

6. **Do I have to take part?**

This research participation is entirely voluntary, one in which you can decide not to participate from the start or to stop participating at any time during the process without any explanation. In either situation, this process shall be conducted with the highest

regards of everyone involved and with utmost professionalism.

7. **What will happen if I take part?**

Once you have agreed to take part, there will be a separate Consent Declaration application form requiring you to accept the terms and sign the declaration, to which you agree that you understand the purpose of the process. I, as the only researcher, will then request to interview you in order to ask you a number of research questions, to which your responses will be recorded by written method and/or voice/video recorded. You will have all the rights if you wish not to be voice/video recorded, by which I will ask you before the interview begins. There will be no face-to-face contact at any stage of this research. Any contact will be remote by means of Skype, WhatsApp or a similar platform.

I expect the interview to take approximately 45 minutes and it should be conducted in privacy such as a meeting room, avoiding public areas so that others cannot hear what is being discussed during the session. As it will be now a remote interview (due to Covid-19), it is expected that you are also situated in a private environment. It will be advised that additional time should be set aside in the event that the interview lasts longer than the aforementioned timeslot. In order to secure anonymity, your name will not be mentioned at any point and all data recorded for analysis, will be kept physically and electronically secure.

As a reminder, at any point of time, you can withdraw from the interview by requesting so. In this situation, we can terminate the interview and any data recorded by the interviewer (paper, audio or video) will be destroyed or deleted immediately after the withdrawal.

8. **Expenses and/or payments**

Any reasonable costs you occur in order for you to participate, which have been earlier discussed and mutually agreed, shall be reimbursed. There will be no other payments involved for your participation.

9. **Are there any risks in taking part?**

Given there is no face-to-face contact between you and the researcher any risks from Covid-19 infection have been mitigated. Therefore, there are no perceived risks or disadvantages in participating to this research study. If you believe that there will be any that you are concerned about, kindly mention before your participation begins.

10. **Are there any benefits in taking part?**

Other than providing me valuable information towards this research study, which is highly appreciated, there are no other benefits for your participation.

11. **What if the interviewee is unhappy or if there is a problem?**

If you are unhappy or you feel there is a problem, you have all the freedom to withdraw from the participation at any time without explanation. If you choose to withdraw from the interview, all recordings will be deleted as soon as the interview is terminated. Any personal information or data that you have provided (paper, audio and video recordings) will be destroyed or deleted as soon as possible after your withdrawal. At any time, you can still withdraw your personal information and data by contacting me on; hans.raj@online.liverpool.ac.uk (Tel: xxx).

If you remain unhappy, have a complaint, are concerned that regulations are being infringed, or that your interests are otherwise are being ignored, neglected or denied which you feel you cannot come to me with, then you should contact the Research Governance Officer at ethics@liv.ac.uk. When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), provide my name as the researcher, and the details of the complaint you wish to make.

12. Will my participation be kept confidential?

All data collected will be either hand written, voice/video recorded or written electronically in Microsoft Office documents. At all times, all collected data will be physically stored in a secure cupboard or on a password protected and encrypted computer (if in electronic form), which is only accessible to me. The data which is collected and analyzed will be used only for this particular project, however, can be used for future projects only with your consent. It will be required for me to keep the data for up to 5 years after collection of the data, and within this time period, data analysis and electronic documents will ensure anonymity of the participants.

13. What will happen to the results of the study?

The results of this data will be shared with my Principle Supervisor, Dr. Ron Fisher and other University staff involved in my thesis evaluation. Eventually, upon approval, I will be more than happy in sharing the results with all participants with secure anonymity through any medium agreed with the participant. If and when the results are published, an appropriate link shall be shared to all.

14. What will happen if I want to stop taking part?

As mentioned in Section 11 above, you can withdraw from the interview at any time without explanation. If later on, for whatever reason, you wish to terminate your complete involvement, any information gathered whether hand-written, voice/video recorded and electronically stored files shall be destroyed and/or deleted unless you give permission that it can be used for the thesis.

15. Who can I contact if I have further questions?

At any time, you are more than welcome to contact me to address anything that has been discussed in this document, or other areas which are not raised, on the following;

Name: Hans Raj

Email Address: xxx

Tel: xxx

APPENDIX B – Consent Form

UNIVERSITY OF LIVERPOOL

Committee on Research Ethics

PARTICIPANT CONSENT FORM

Title of Research Project: **Inquiry into the growth of PAY-TV Infrastructure Providers: An Action Research Initiative in a Chinese International ICT organization in the Central Eastern European Region.**

Researcher(s): Hans Raj

Please initial box

1. I confirm that I have read and have understood the participant information sheet dated 7th July, 2020 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected. In addition, should I not wish to answer any particular question or questions, I am free to decline. ☐

3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish. ☐

4. I understand, and have been informed via the information sheet, that there will be no face-to-face contact at any stage of this research. Any contact will be remote by means of email, Skype, WhatsApp or a similar platform ☐

5. I agree to take part in the above study. ☐

6. I will sign and return this consent form electronically to the researcher ☐

Participant Name	Date	Signature

Name of Person taking consent	Date	Signature

Researcher	Date	Signature

APPENDIX C – Interview Guide

DOCTORATE OF BUSINESS ADMINISTRATION (DBA)

By

Hans Raj

1. **Objective**

This paper is written in support of the research project which is being conducted by Hans Raj, titled;

An Inquiry into Organizational Learning in an ICT Enterprise: An Action Research Study in the Central Eastern Europe and Nordic Video Department

Time of Interview:

Date:

Place:

Interviewer: Hans Raj

Interviewee:

Position of Interviewee:

Project:

This research investigates Huawei's regional video team's capability to offer Internet Protocol TV (IPTV) video services which has grown and evolved exponentially in the past 20 years, with current industry numbers reaching 300 million subscribers in the Central Eastern European (CEE) region (Q4 2019), a steady increase of 5-8% year-on-year. IPTV is a key strategic business for research and development in Huawei, which has seen a plethora of competitors invest and then divest or even sell-off such businesses.

The management problem which requires to be addressed, through the research questions highlighted below, is whether the regional video team (CEE&N) will maintain their effectiveness through a change in capabilities in learning by embracing double-loop learning.

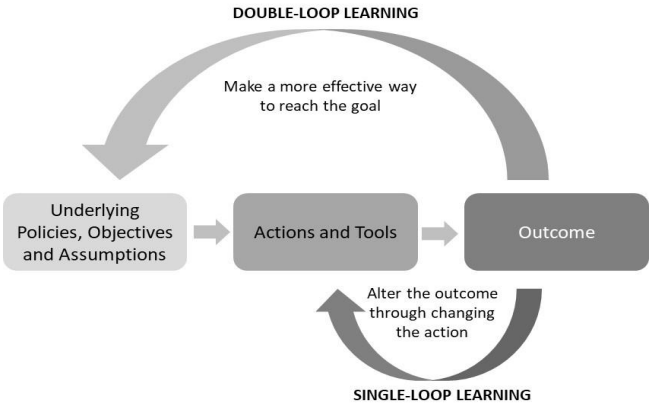
2. **Definitions**

Refer to the following definitions to aid you in the discussion:

- **Single-loop learning** (SLL) seems to be present when goals, values, frameworks and to a significant extent, strategies are taken for granted.

- **Double-loop learning (**DLL**)** occurs when errors is detected and corrected in ways that involve the modification of organization's underlying norms, policies and objectives.

See the following pictorial overview;



- **Learning** is the detection and correction of errors. The more complex a problem, the higher probability of errors due to ambiguity. If learning is high, decision-making is better.

3. Discussion topics

Work-based problem

a) Have you personally encountered a work-related problem on a project, and were you involved in analyzing it?
b) Can you give an example of the work-related problem that you faced?
c) What were your initial thoughts about addressing the problem?
d) Can you talk me through the steps you took in solving this work-based problem?
e) Can you explain whether the actions you took immediately addressed the problem or whether you initially took an action to understand why the problem originally arose?

f) For whichever approach you took, what was the reason?

4. Team behaviors

a) Can you recall whether individuals in the team were capable of addressing and solving work-based problems? Please explain how?
b) What team behaviors do you think are needed for problem-solving (identifying underlying issues that caused a work-based problem)?
c) Do you believe that the team have or had such behaviors? If so, to what degree?
d) How could any deficiencies in behaviors be addressed?
e) What additional behaviors would the team need to improve its learning ability?
f) Do you believe that the way the team handles problems, affects the Operator/s in any way? If so, how?

5. Future prospects

a) If the team continued in the same way of working, as they have done in the past, do you believe it'll make any difference to the department's success?
b) Do you see any benefit/s in embracing a different way of working for e.g. introducing DDL?
c) How and do you think that any changes arising from new learning methods will be sustainable?
d) What would you do if you have an opportunity to make a change for the better in departmental improvement and solution selling?

6. Additional Topics (discussed in 2021)

a) What made you happy when working here?
b) What would you celebrate?
c) What were you good at when you were in the department?

END

APPENDIX D – Country Codes

No.	Code	Definition
1	ALB	Albania
2	AU	Austria
3	B&H	Bosnia & Herzegovina
4	BUL	Bulgaria
5	CYP	Cyprus
6	CRO	Croatia
7	CZ	Czech Republic
8	DE	Denmark
9	EST	Estonia
10	FIN	Finland
11	GR	Greece
12	GRE	Greenland
13	HU	Hungary
14	ICE	Iceland
15	KOS	Kosovo
16	LIT	Lithuania
17	LAT	Latvia
18	MOL	Moldovia
19	MON	Montenegro
20	NM	North Macedonia
21	NO	Norway
22	PO	Poland

No.	Code	Definition
23	ROM	Romania
24	SER	Serbia
25	SLO	Slovenia
26	SW	Sweden
27	TUR	Turkey
28	UKR	Ukraine