Professional Doctorate

Final Project Report

Title: Preparing for the Digital Value Exchange Economy in B2B. As the B2B sector undergoes its own digital transformation how do manufacturing SMEs integrate the impact it will have on the value proposition of their existing marketing and sales resources?

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DEDICATION

I dedicate this work firstly to my wonderful children. You have shown such incredible support and encouragement during these last four years. Without you by my side, I would never have been in a position to write this dedication today. My unconditional love for you knows no bounds and I am so incredibly proud to be your Mama. 2021 will mark a special year for the three crowns; long may they roar!

To my amazing parents. Despite the years that have passed, the memories and the feeling that you are just a door away comforts me through thick and thin. I miss you so much.

And finally, to my partner: my rock, my hope, my motivation, my lifeline, my soulmate. Tu as su doser, raisonner, patienter, partager et écouter encore et encore. Thank you, for everything.

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SUMMARY

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GLOSSARY

AI	Artificial Intelligence
B2B	Business to Business
B2C	Business to Consumer
CRM	Customer Relationship Management
ERP	Enterprise Resource Planning
IoT	Internet of Things
OECD	Organisation for Economic Co-operation and Development
RPA	Robotic Process Automation
SFA	Sales Force Automation
SME	Small Medium Enterprise
WWW	World Wide Web

ABSTRACT

This thesis investigates how SMEs in the manufacturing sector integrate the impact on the client relationship of digitally transforming their existing marketing and sales resources. It examines how digitised client interfaces can contribute to building incremental value in their client relationship strategy through the categorisation and optimisation of data. The Data Value efficiency model (DVE) is proposed as an outcome of the research undertaken and contributes to literature on value creation in the digital transformation of sales and marketing. This model is supported by a suggested definition of the B2B Data Value Exchange Economy. Recommendations are made to guide industrial SMEs in categorising and optimising the flow of collected client data in order to interact with their client base in a timely and resourceful manner. By adopting a pragmatic, mixed-methods approach applying Grounded Theory methodology, primary research was undertaken, comprising a longitudinal behavioural analysis of client facing functions within the selected SME. Additionally, semi-structured interviews with practitioners, academics and company stakeholders were recorded and subsequently analysed using nVivo software. The behavioural analysis identifies that a partial digital transformation of the client relationship management role results in projected efficiency (time, financial and resource) gains of 44%. The qualitative analysis exposes an evolution of initial client/supplier engagement through Robotic Process Automation (RPA) and social media strategies. The research suggests that the digital transformation of sales and marketing functions in manufacturing SMEs will create value through enhanced websites evolving into value exchange platforms by integrating marketplaces of expertise. The marketplace will match client requirements to supplier expertise through artificial intelligence. As a consequence, the marketplace will formulate the value proposition of the sales and marketing teams in both a timely and efficient manner. The successful implementation of such a platform will be based on SMEs ability (internally or through consultative support) to identify and optimise four types of datasets based on client interactions: automated, designated, generated and co-created datasets It also suggests that SMEs need to integrate innovative digital interfaces with the proposed marketplace platform to enable internal and external communication between client and supplier, which responds favourably to clients' expectations of a single point of contact with the supplier.

CHAPTER 1. A PROLOGUE TO PREPARING FOR THE DIGITAL VALUE EXCHANGE ECONOMY IN B2B

1.1. Introduction

In 2015, a French industrial flooring SME commissioned the development and implementation of a digital marketing strategy for their company, as part of its five-year strategy to develop a brand renowned for its range of integrated solutions and services in the industrial flooring sector (see Appendix 1). At this time the company declared its value proposition as being the no1 French supplier of industrial flooring.

Following the recommendations from the research project it has evolved to a company that proposes integral solutions for industrial flooring and end to end customer satisfaction. The proposition has moved from a product focus to a customer centric experience - words such as integral solutions and collaboration underline this transformation and are reflected in the integral use of digital resources focused on the customer experience (eg a new fully interactive optimised website based on the guidelines and DVE conceptual model developed in this thesis)

The commissioned marketing project included the creation of a new branding strategy, a new web site and the implementation of a social media strategy. The Managing Director was vigilant in obtaining the support of the company executive team in order to guarantee management level buy-in and to ensure companywide adoption of the strategy. Executive level buy-in and sponsorship is critical in convincing stakeholders to adopt a new brand identity (Hiatt, 2006). This level of transparency was implemented in an attempt to overcome potential conflicts of interests identified by the Managing Director. These were:

- Any resistance demonstrated to changing the brand name,
- The temptation to divulge new brand name and identity to colleagues before launch date,
- The fear of an incapacity to adopt the new brand due to a historical attachment to the original company name and identity.

Six months after the start of the commissioned project, the company announced its new brand strategy during an annual event in March 2016. As part of a team building activity, all the company employees were split into groups and took part in a construction game to find a series of large puzzle pieces hidden in an off-site location. Once all the groups had reconvened, four

employees (one executive member, one sales executive, one engineer and one mason) were selected from all of the employees to construct the image formed by the puzzle pieces collected (Illustration 1).

Illustration 1. Photograph from the SME team building activity, courtesy of company archives (March 16, 2016)

The tactic of change management adopted by the SME supports Appelbaum *et al. (*2012) who emphasised the necessity to engage all stakeholders in a company, in the adoption of strategic change. In this case, the stakeholders participated in the real time construction of the new logo and brand identity.

This company event represented the first stage in the digital transformation of the company's client facing interface and demonstrates a key contributing factor of successful change management (Zand and Sorensen, 1975; Kettinger and Grover, 1995; Curtis *et al*, 1995; Appelbaum *et al.*, 2012; Karim *et al.*, 2016). Each and every individual impacted by change needs to understand, believe and adopt the proposed change. Change management, according to Hiatt (2006), reiterates that it is only when sense is seen in the proposed change strategy that employees' buy-in can be witnessed in the organisational change process (Chapter 1 section 1.4)

As the consulting project evolved around the digital transformation of the company, so the opportunity to construct an academic research project was construed. The nature of the company's activity, its industry sector and its resource constraints, meant that, despite the brand identity change, the idea of deploying a digital transformation of its client facing resources was met with resistance from stakeholders who were not convinced of the importance of integrating these tools as an enhancement to their client relationship management. This backs up existing literature on potential barriers to adoption of new working practices (Lindgreen and Wynstra, 2005; Cuevas, 2018; Taiminen and Karjaluoto, 2015). Their objections were threefold:

- Time constraints: they had no time to devote to learning how to use digital sales and marketing tools, which is a frequent concern in a professional context (Taiminen and Karjaluoto, 2015),
- Physical resource constraints: their human resources were deployed in client facing roles through their current practices and not invested in marketing to implement a digital strategy which is common to the B2B sector (Wiersama, 2013),
- Financial constraints: the company had no planned investment in sales and marketing automation technology.

Literature pays considerable attention to the digital transformation of large corporations (Choudhury, 2012; PWC, 2015), but ignores the key constraints of SMEs (Pelletier and Cloutier, 2019) linked to time, human and financial resources which are not identified as constraints for larger organisations (see Appendix 2).

Whilst digital transformation strategies are a recognised practice (Chong *et al.*, 2010; Dubois, 2019; Pelletier and Cloutier, 2019), what is not made apparent is the complexity of the resulting data generated, which has subsequently become a commodity due to its magnitude (Hanna, *et al.*, 2011; Karjaluoto *et al.*, 2015). Additionally, the behavioural change in buyers means that 71% of them start their procurement process with a selective unbranded semantic search (Cuevas, 2018; Choudhury, 2012), thereby contributing to the extent of data proliferation on the Internet. Understanding buyer behaviour is regularly cited as a focal point in the evolution of B2B marketing (Achrol and Kotler, 1999; Lindberg and Nordin, 2008; Schaub, 2014; Viio and Grönroos, 2014), and it is necessary to consider that the future B2B buyer is a Millennial (Povolna, 2018), whose habits and work ethics do not reflect those of previous generations in B2B (Taiminen and Karjaluoto, 2015; Wickramansinghe and Sharma, 2005). This is a key consideration that is integral in the construction of this research project as traditional industrial

SME workforce struggle to appreciate the strategic importance and value gained from the digitalization of client relationships (Habibi *et al*., 2015; Marshall *et al.*, 2013), but nevertheless must adapt their practices of a future procurement process managed by Generation Z (McKinsey, 2020), who are at ease with the integration of digital e-business platforms in their day to day activities (Povolna, 2018).

Theorising on the Digital transformation of sales and marketing skill sets has therefore been a fundamental consideration in the development of this change research project.

1.2. Digitalization as an Instrument of Change

Change Management is defined as the process of effectively moving an organization and its employees from one state to another with a goal of improving business performance (Kettinger and Grover, 1995; Karim *et al.*, 2016; Appelbaum *et al.*, 2012). Companies must define a suitable implementation strategy for the proposed change and share it with internal stakeholders in order to render sustainable the identified changes. Appelbaum *et al.* (2012) argue that many models lack empirical evidence to be proven effective, which is supported in Todnem's (2005) findings. It is therefore necessary to understand that such a process must be repeatable for each change project in order to produce reliable and sustainable results. Subsequently, employees acquire new knowledge, culture and skill sets to embrace new business processes and adapt to new ways of working (Kettinger and Grover, 1995; Zand and Sorensen, 1975).

1.3. Necessary Theoretical Considerations in the Context of Digital Transformation

Social Cognitive theory (Bandura, 1977) underpins the change analysed in the research (Appendix 2). This theoretical choice is justified by the human determinant of digital transformation that is quintessential in digital change management, and is integral in Bandura's (1977; Lowry *et al*, 2017) reflection on each individual determining his adoption of change within his environment.

Digital transformation also requires a holistic approach within a company's operations. It begins in the digitization of processes and its intensity is amplified through its adoption and understanding of cultural, managerial, procedural, and developmental changes within the organization as a whole (Delorme and Djellalil, 2015; Metais-Wiersch and Autissier, 2016).

1.4. Factoring in Self-Efficacy to Social Cognitive Theory

In the case of this proposed area of research, self-efficacy (Figure 1) is an essential consideration of the digital transformation of sales and marketing functions that participants adopt. As discussed in the study of Internet (Chapter 2, section 1), people have changed remarkably through rapid cultural and technological evolution in their beliefs, social roles, and behavioural styles. The human is designed to learn and adopt; they have a "plasticity of behaviour" (Eastin and LaRose, 2000). The belief in one's capabilities to organize and execute required digitalized actions is an important factor in efforts to close the digital divide that separates experienced Internet users from novices (Eastin and LaRose, 2000).

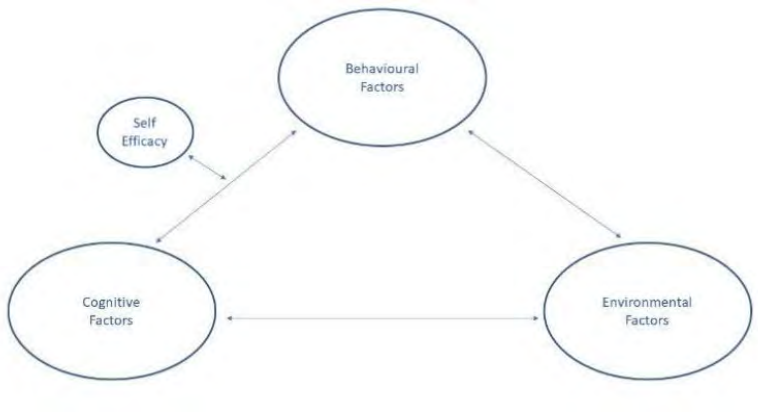


Figure 1. Bandura's Social Cognitive and Self Efficacy Model (author's illustration)

This essential aspect of the study is illustrated from identified generational differences in the adoption of Internet based technology (see Chapter 5 – Critical Discussion).

The resultant Social Cognitive and Self Efficacy model forms the conceptual framework for this research. Thus, triangulation of the literature, the analysis results of sales and marketing resource observation in the pilot project (Appendix 3) as well as company material and input from stakeholders during the study, will inform the model.

1.5. Research Objectives

The research problem is stated as:

As the B2B sector undergoes its own digital transformation, how can manufacturing SMEs integrate the impact it will have on the value proposition of their existing marketing and sales functions?

The consulting experience (outlined in 1.1) exposed a resistance to change in the company's adoption of digital technologies in their sales and marketing strategy. The observation of their

practices identified a gap in their understanding of how the digital transformation of these resources could build incremental value into their client focused activities. SMEs struggle with the deployment of digital marketing and literature ignores the key constraints of SMEs which are linked to time, human and financial resources (Pelletier and Cloutier, 2019). Although literature suggests that data should be controlled in companies (Kumar et al, 2018), a gap is identified as it does not explain how to categorise into distinctive values specific data emanating from client centric tasks. Through a classification and categorisation of data obtained from sales and marketing activities, these client centric functions can be optimised. A research project was therefore built on this gap in literature. The research aims to observe and analyse the behavioural adoption of digital technologies by sales and marketing resources. Subsequent guidelines are proposed to assist SMEs in their understanding of how data generated from internal client facing resources can impact their value proposition. More specifically, a client centric data value proposition is presented through a conceptual model (The Data Value Efficiency Model) that contributes new knowledge in how the optimisation of sales and marketing digital resources can impact SMEs' client-centric data exchange

It is important to note this profile of enterprise has struggled with the deployment of marketing (Pacitto *et al.*, 2002; Brooksbank *et al.*, 2003; Meier *et al.*, 2008) and therefore has favoured more traditional forms of interaction with customers (Gilmore *et al.*, 2001; Julien *et al.*, 2003). This last point is critical in the development of the research project because traditional SMEs are faced with the dilemma of maintaining their market position in a highly competitive environment (Gilmore *et al.*, 2001; Julien *et al.*, 2003; Meier *et al.*, 2008) with sales and marketing teams that have little proficiency in digital technologies (Taiminen and Karjaluoto, 2015; Wickramansinghe and Sharma, 2005). This often leads to a resistance to change and an ill-perceived view of how the digital transformation may impact the workforce (Taiminen and Karjaluoto, 2015). Employees fear that their limited digital competence coupled with the integration of digital natives into the workforce and new digitized tasks and procedures may devalue their core competence (Taiminen and Karjaluoto, 2015).

1.7. Specific research objectives

1. A critical review of contemporary professional and academic literature on B2B digital marketing and value perceptions in client focused functions.

2. Drawing from observations of sales and marketing activity and interaction with digital tools within the chosen SME, a conceptual model will be proposed based on the coding and analysis of identified skill sets.
3. A review of stakeholder academic and industry expertise and opinion will be critically discussed in order to inform the proposed conceptual model and definition.

The above research objectives will enable the identification of good practices to provide guidelines to manufacturing SMEs in the digital transformation of their sales and marketing functions and how they categorise and optimise data generated from client transactions. The managerial implications outlined will allow manufacturing SMEs to understand and optimise the data value proposition developed from digitally transforming their client facing expertise.

CHAPTER 2. DIGITAL TRANSFORMATION OF SALES AND MARKETING FUNCTIONS: A CRITICAL REVIEW OF INDUSTRY AND ACADEMIC THEORY AND PRACTICE

2.1. The Internet: An Historical Perspective

Literature witnesses how the Internet has been instrumental in the digital transformation of companies (Matt, *et al.*, 2015; Cuevas, 2018). Figure 2 represents a historical and also societal timeline of the Internet and contributes to current literature by exposing a societal evolution of the technology in parallel to recorded technological, economic or communicative evolutions that are incarnate in the history of the Internet (Internet Society organization, 2018: Pew Research Centre, 2002; Zimmermann and Emspak, 2017). The adjective “societal”, as defined by the Oxford Dictionary(2018) means: “of or relating to society, esp. human society or social relations”.

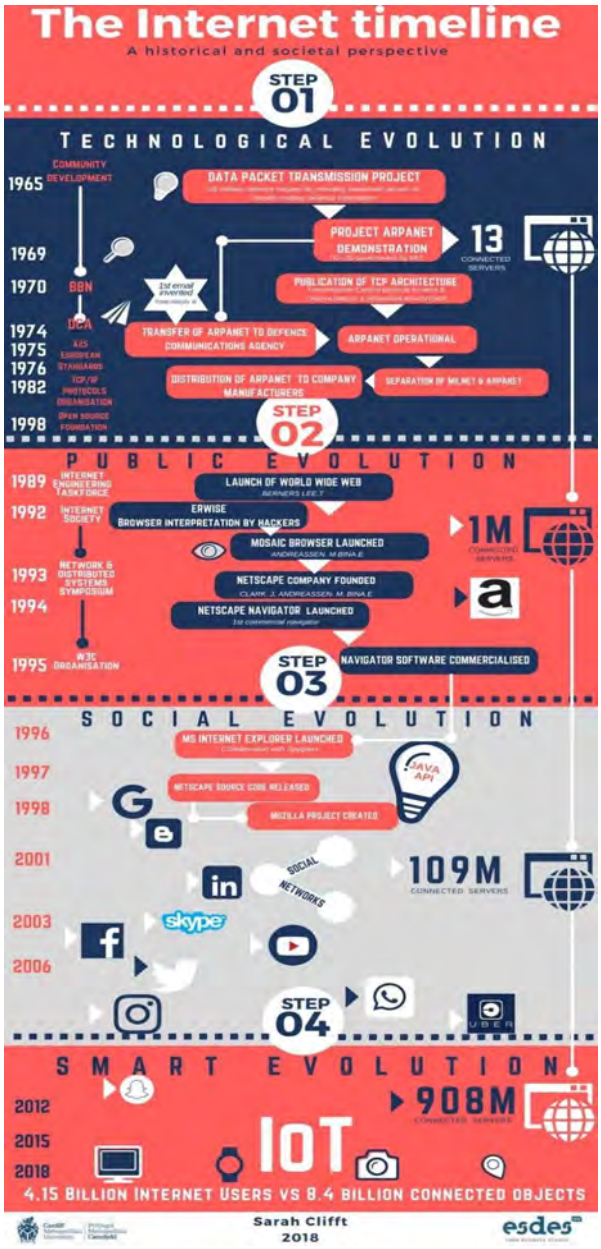


Figure 2. A historical timeline of the growth and evolution of the Internet and World Wide Web (author's own illustration)

This definition is essential in the construction of the change project as social relationships and interactions with technology form the basis of digital transformation (Schaub, 2014; Carnabuci and Diószegi, 2015; Themeco, 2016; Dubois, 2019). Figure 2 identifies three concurrent timelines. Firstly, a series of consortiums and groups that have formed over the last 30 years in the constantly evolving technological evolution of the Internet. These organizations govern the quality and adhesion of IT developers and their appliance of Internet standards. The second timeline builds a historical perspective of Internet technology and its evolution and finally, a third timeline records the societal uptake of Internet technology and its connectivity.

Four periodical steps in the Internet evolution are defined: technological, public, social and finally smart evolutions. This model differs in its analysis compared to other historical representations of the Internet (Internet Society organization, 2018: Pew Research Centre, 2002; Zimmermann and Emspak, 2017) because it differentiates between the various behavioural impacts that the Internet evolution has inspired.

For the purposes of the change project, an analysis of stage four of this periodical timeline is proposed (see Appendix 3 - 8001 literature review for the academic review of the four evolutions).

2.2. Societal Evolution of the Internet Through Smart Technology

The most recent period of the history of the Internet illustrated in Figure 2, is described as a smart evolution. The Internet of Things, machine learning and Artificial Intelligence have enabled an accelerated transformation of manufacturing processes (Le Clair *et al.*, 2015; Aalst *et al.*, 2018). Where some consider these technologies as a threat (Joy, 2000), value creation is their fundamental purpose (Woodcock *et al.* 2011; Themeco, 2016). Literature suggests that it is not possible to automate everything that humans do (Wilkinson, 2018). What is not exposed however, is the extent to which social relations, soft skills and dialogue will play an integral role in the adoption of digital platforms.

The smart evolution (Figure 2), demonstrates the rapid development of connected technologies within the last decade. This notion of connectivity has witnessed online conversations originating between people on platforms in the social evolution of the Internet history, to dialogic relations that now take place between connected objects, smart technologies and machine-based learning. The value of this data stemming from the interaction occurring between the billions of sensory captors will only be measured if companies understand that data analytics are an essential part of their strategy within this smart evolution of the Internet (Zaidi-Chtourou, 2018; Grover *et al.*, 2018; Lehrer *et al.*, 2018; Kitchens *et al.*, 2018). The principal challenge of this new technology is to understand clearly the mutation of dialogic relationships between objects and people sharing semantic information with packets of data flowing from device to data management information systems (MIS). This has been referred to as a new type of industrial assemblage (Delanda, 2016). The key consideration here is that during this smart evolution building multiple channels of data collection, there is a unique data collection experience as Hoffman and Novak explain (2018) between the data captured and analysed by

the smart object and the customized experience gained by the user. Companies need to consider the impact on skill sets required in order to manage and optimize the data traffic generation from each user experience, which will multiply endless data sets (Hoffman *et al*., 2018; Zaidi-Chtourou, 2018).

2.3. The B2B Data Value Exchange Economy: a theoretical perspective of exponential value creation

Research to date on the notion of value creation has attempted to explore direct and indirect value co-creation interactions from supplier to consumer, from initial information seeking to final experience sharing (Ulaga, 2001; Van Rensburg, 2012). Camilleri *et al.,* (2016) researched the notion of value co-creation and value co-destruction using Vargo and Lusch's (2008) Service Dominant logic approach. Service Dominant logic deifnes service exchange as an application of operant resources, and operand resources that require action to be taken upon them to "make them valuable" (Vargo *et al*., 2008; Vargo and Lusch, 2008). Hence, value could no longer simply be delivered to customers (Lusch and Vargo, 2011) but moreover an exchange of value propositions were needed from one actor to another in order to integrate their resources for economic, financial or social value, or a combination of all (Viio and Grönroos, 2014; Ulaga, 2001; Vargo *et al.,* 2008). Vargo *et al*., (2008) summed this up as the integration of resources and application of competences. This notion of value through co-formation is therefore meaningful in the context of this thesis. It aligns with the chosen terminology for this research project that builds upon a collection of terms (Appendix 2) linked to the recent disruption in traditional socio-economic models, known for many as the Sharing Economy (Camilleri and Neuhofer, 2017; Bouton *et al.,* 2016).

These terms have been identified to develop two further aspects of current research, namely control and deliverable content or information. It has been repeated in literature (Kumar *et al*., 2018; Francom, 2015; Rong *et al.*, 2018) that these are two fundamental aspects of the Sharing Economy DNA. Control and information enable an individual to make informed decisions. This compares favourably with the chosen theoretical lens (Chapter 1, section 1.2 SCT) and its view on how behavioural change through informed decision making contributes to a person's perceived self-efficacy and their subsequent behavioural change (Bandura, 1977; Lowry *et al*, 2017). Individuals remember a model or series of events and their outcomes and go on to replicate or adapt that model of behaviour accordingly (Bandura, 1977, 1986; Lin *et al*., 2018, Lowry *et al.*, 2017). This theoretical lens clearly identifies that maintaining control through

informed decisions is the stimulus behind how people think, feel and act (Bandura, 1977, 1986; Lin, 2018; Lowry *et al.*, 2017) and fully supports literature's (Rong *et al.*, 2018) identification of the Sharing Economy's DNA.

2.4. Value Repositioning within the Sharing Economy

Through the chosen theoretical lens, it has been possible to identify a gap in knowledge based on the exhaustive review of literature on the Sharing Economy (Appendix 2). Whilst its definition is adapted to consumption in a peer to peer context, it does not support the notion of value in a B2B environment that is drawn from information seeking and sharing behaviour (Camilleri and Neuhofer, 2017). A unique definition and renaming of the Sharing economy in the context of B2B is proposed below, where information is integral to efficiency gains.

B2B Digital Value Exchange Economy: Access to digitized resources that enable time, financial and information efficiency gains for clients and companies in a new triadic structure: the user(client), the service provider (company), the service enabler (internal digitized interface/platform). Value is unlocked through data generated from these three resource efficiency gains via the automation of specific client facing tasks and optimized redeployment of internal company resources for an improved client experience.

2.5. The Digital Transformation of Sales and Marketing in SMEs: A behavioural transition of practice

Developments in information technology (IT) and the Internet have influenced significantly the nature of selling and sales management (Mahlamäki *et al*., 2016; Matt *et al.*, 2015). Companies must establish management practices across all domains to govern these complex transformations (Matt *et al.*, 2015; Boneva, 2018). The fundamental importance of the digital business transformation is to improve performance (Wade, 2015; Boneva, 2018; Chaffey, 2015) and respond to the evolution in customer behaviour. E-marketing and e-sales (sales and marketing on the Internet platform) are therefore instrumental in the performance increase through digital transformation strategies (Matt *et al.*, 2015; Boneva, 2018; Buchanan; 2019; Cuevas, 2018). However, trust in the efficiency of these practices and their successful adoption are a considerable challenge for companies to overcome (Boneva, 2018; Wade, 2015; Cuevas, 2018) (Appendix 3).

And yet the digital transformation of business offers new opportunities to companies in an environment that is experiencing rapid development. It is preparing industry for new

procedures, functions and business models that did not exist five years ago (Dubois, 2019; Marrone and Gallic, 2018). However, whilst its implementation raises a number of questions regarding the creativity it offers, questions are raised on the uncertainty it creates (Baran *et al*., 2019; Pelletier and Cloutier, 2019; Dudézert, 2017). Digital culture in a company is a challenge as little time is available to evaluate the benefits of this transformation and to understand what type of change a company should undergo (HBR, 2019; Dudezert, 2017). Almost every company understands the requirement to adapt to the digital revolution but only 45% of companies are digitizing their sales and marketing functions (CEB, 2017). Above all, the biggest challenge for industry remains its people and their adoption of a digital culture. Digital leaders need to define and lead the transformation (PWC, 2015; Mergel, 2016) through a policy of change management to ensure that digital transformation can take place within a company.

2.5.1. The social media phenomenon and commoditized information

The changing face of the sales role (Appendix 2) has been a point of discussion for almost half a century (Marshall *et al*., 2013; Moore *et al.*, 2015). The effectiveness in the use of social media (SM) in B2B sales and marketing comes from the principles behind the tool's function: to share content and build a network (Rodriguez *et al*., 2012). The main SM platforms identified in B2B are LinkedIn and Twitter. Literature supports the argument of business potential obtained from customer insight via these platforms (Habibi *et al.*, 2015; Frankenberger *et al.*, 2013; Trainor, 2012; Agnihotri, *et al.*, 2012; Rodriguez *et al*., 2012; Cuevas, 2018). One of the main challenges in B2B sales is creating opportunities for prospecting (Rodriguez, 2012) which can be a timely and complex process (Hansen *et al*., 2011) that can be simplified by using social media (Booth, 2017; Schaub, 2014). Rodriguez *et al*. (2012) attempted to prove the effectiveness of social media in a B2B sales and marketing environment through an empirical study of sixteen hundred companies and their use of social media. However, in their study they refer to a linear sequence to the sales processes which the author contends, as client/ supplier relationships tend to evolve in loops of loyalty acquisition (Cuevas, 2018).

2.5.2. Social networks as a vehicle of trust

Professional buyers always refer to their professional networks to build trust and confidence in the purchasing decisions that they make (Schaub, 2014; Nobre and Silva, 2014; Percy *et al.*,

2010; Cuevas, 2018). The dialogic nature of this traditional peer to peer environment argues how trust becomes a commodity to the fast-expanding social networks (Schaub, 2014). Furthermore, since B2B buyers place substantial trust in their networks (Schaub, 2014) they can reduce the risk of complexity by practicing social buying (Habibi *et al*., 2015). This compares favourably with the IDC report (2014) which stresses the effectiveness of the network for supplier choice and reference checking. This concurs with the chosen theoretical lens' view on decision making being based on observed behaviour and trust of one's environment to make effective decisions. Likewise, the IDC (2014) goes on to underline how social media networks thrive on trust and confidence; human traits that reflect offline behaviour in mirroring social behaviours which build individual confidence (Bandura, 1977; Lowry *et al*, 2017) to ultimately adopt change.

2.5.3. The smart development of sales and marketing

The historical evaluation of the internet (Figure 2) capitulated with the evolution of smart technology. Industry has seen an exponential growth of smart technology (Roy and Sivakumar, 2007; Korn and II, 2011; Willcocks *et al.*, 2017; Aalst *et al.*, 2018; Ghosh, 2018; Hofmann *et al.*, 2019) and the adoption of this digital technology has also reached the B2B customer. Research has shown that a self-informative approach to customer decision making is now a general trend in the B2B sector (Cuevas, 2018; Sheth and Sharma, 2008; Dubois, 2019; Buchanan, 2019), and no personal interaction with companies occurs until they are at least 60% along their purchase decision making journey. In 2017 the Corporate Executive Board (CEB) developed a model to reflect the distribution of digital marketing sophistication in 22 large B2B companies spanning across 10 industry sectors and defined three distinct stages to a company's integration of digital strategies. This model was based on responses from fifteen hundred customer contacts that provided feedback on their behaviour. The report demonstrates and is augmented by extant literature (Cuevas 2018; Dubois, 2019) that B2B customers are increasingly adopting a self-diagnosis procedure when choosing a suitable supplier product offering. Price Waterhouse (PWC) (2015) argued that companies which were not implementing digital marketing strategies to support this new business behaviour were considered to be at substantial risk of losing business opportunities, credibility and industry mindshare. Consequently, the biggest challenge for industrial companies is not the technology as this is becoming more and more of a commodity; it is the people (HBR, 2019; MIT, 2011). PWC (2015) examines a company's Digital IQ and argues how this is the principal driving factor of

any digital transformation. The digital consultant Visiativ (2018) supports this idea in their five-axe approach to the Digital transformation in B2B. These axes are: creativity, conception, production, sales and customer relationship management. Furthermore, within these different axes human collaboration is central to the digital transformation (Figure 3). However, it is interesting to highlight that while two-thirds of the digital transformation of a company is not customer facing, when we cross examine this model with the CEB report (2017) we learn that 80% of companies' digital uncertainty lies in only one of the five axes within the digital transformation of a company: selling. This result is supported in a McKinsey Report on the digitalisation of industry (Bughin *et al.*, 2017).

Figure 3. The five axes of Digital transformation in B2B and human collaboration as a common denominator, (author's own illlustration)

Nevertheless, the digitalisation of sales and marketing functions in the B2B sector is an ongoing evolution as technology accelerates sales operations (Cuevas, 2018) Companies are challenged in their uptake of the latest range of technological sales solutions including Artificial intelligence (AI), Customer Relationship management (CRM), Sales force automation (SFA) and Enterprise Resource planning software (ERP) (Dubois, 2019; (Woodcock *et al.*, 2011; Mang'unyi *et al.*, 2017; Aalst *et al.*, 2018). 82% of leaders understand that the digital transformation in B2B is the potential vector of competitiveness and innovation (Berthinier, 2018) but in order to implement a digital policy within the sales and marketing functions of a company, an understanding of levels of digital competency are required. This is critical in the

sales strategy of a company as digitally guided selling is an interactive process. The digital interface guides the customer through an accelerated decision-making process to ensure customer and consequently, company satisfaction (Mahlamäki *et al.*, 2016; Dubois, 2019). Research into the smart evolution in sales and marketing has identified three groups of forces that affect selling and sales management and thus create the characteristics of modern selling: 1) behavioural forces, 2) technological forces, and 3) managerial forces (Mahlamäki *et al.*, 2016; Jobber, 2009). The behavioural forces refer to the customers, the buyers, and the marketplace in general, while technological forces refer to the evolution of IT and e-commerce, and managerial forces refer to the responsibility areas and duties of sales management. Sales force automation (SFA), is the main factor of the technological forces. "Sales force automation" is defined as the use of software and technology to automate the business tasks of sales functions, thus freeing resources to focus on client relationship management (Storbacka, 2012; Cuevas, 2018).

It is argued that SFA has a tremendous potential of increasing the productivity of a sales function (Storbacka, 2012; Mahlamäki *et al.*, 2016). This diffusion of new digital technologies into the sales process in industry creates new opportunities for digital innovation (Abrell *et al.*, 2016). Within the sales and marketing function this translates as a data collection of short term and long-term insights from customers in the purchase process and customers as users of product or service (Nylen and Holmström, 2015; Abrell, *et al.*, 2016). As illustrated in Figure 3, the co-development of value formation through intrinsic networks of relationships between customer and supplier using automated interaction mechanisms, ultimately should lead to time and financial gains (Cuevas, 2018; Dubois, 2019; Mahlamäki *et al.*, 2016.)

CHAPTER 3. CHANGE PROJECT METHODOLOGY

3.1. Introduction

The choice of methodology in research enables the researcher to build a comprehensive and reasoned answer to a research question (Peffers *et al.*, 2007; Flick, 2014; Mayer, 2015; Kumar, 2019; Saunders *et al*., 2009; Hesse-Biber and Leavy, 2011; Bryman and Bell, 2011). From the contextualization of the problematic and an exhaustive review of literature on key themes surrounding the latter, this chapter will now focus on the methodological approach to the chosen change project.

The aim of this research project is to evaluate and discuss how industrial SMEs can integrate the impact of digital transformation of sales and marketing functions into their value proposition.

The chapter develops the following constructs of research methodology:

- The philosophical underpinning to research
- The question of methodology
- Pragmatism, Mixed Methods and Grounded Theory

3.2. A philosophical perspective to research

The original reflection on choice of epistemology (Appendix 3 – 8003 Pilot Project) concluded that an interpretivist approach to the research project was relevant[1]. Subsequent reading offers Armitage's (2007) third way of Pragmatism as an attractive approach, which Johnson and Onwuegbuzie (2004) suggested has seen the day and also posited by others (e.g. Greene and Hall, 2010; Goldkuhl, 2012; Mackenzie and Knipe, 2006). The position of pragmatic ontology enables the choice of whatever method best suits the research question under study. The author's research is multi-dimensional as it aims to examine how SME's can integrate the impact of digital transformation on their sales and marketing value proposition. It therefore explores experiences, views and opinions of all stakeholders. These two points expose the breadth and depth of Armitage's (2007) approach.

[1] For the full initial approach see appendix 4.

Pragmatism defends mixed methods as underlined by Weber (2004). It argues the validity of plurality and choice being at its heart (Johnson and Onwuegbuzie, 2004; Armitage and Campus, 2007). This builds on Saunders (2009) notion of placing the research question at the centre with a focus on practicality, utility and the extent to which findings are useful in the real-world. Thus, they advocate combining inductive (theory creating) and deductive (theory testing) approaches with all methods perceived as equal and the researcher deciding what works best for the research task, question and goals.

3.3. The choice of methodological approach

3.3.1. Grounded Theory «discovering theory from data» (Glaser and Strauss, 1967)

The use of Grounded Theory is a pragmatic approach to social science research which supports the chosen epistemological stance, where empirical "reality" is seen as the ongoing interpretation of meaning produced by individuals engaged in a common project of observation. Much literature agrees that Grounded theory is a popular methodology within the fields of organization research, particularly in marketing and management research (Goulding, 2002; Barney and Glaser, 2012; Engward, 2013; Elliot and Lazenbatt, 2005; Coleman and O'Connor, 2008; Ghorbani *et al.*, 2015). Goulding (2002) further emphasized the relevance of Grounded Theory in research where the focus is on behavioural attitudes.

3.3.2. Abductive reasoning with Grounded Theory

Grounded theory is particularly applicable to the research project as it bases its findings on abductive reasoning of the analysis undertaken in the study. Through a cross-examination of data from the pilot (Appendix 4) and the inductive examination of individuals' behaviour to detect patterns, followed by deductive reasoning of the collected data (Glaser and Strauss, 1967; Bernard and Ryan, 2016), abductive reasoning concurs. It aims to discover theories, or causal explanations that are grounded in empirical data, about how things work (Bernard and Ryan, 2016). Glaser and Strauss' theory recognized the value of qualitative data for developing theory about social processes and human experience (Glaser and Strauss, 1967; Bernard and Ryan, 2016). Glaser and Strauss (1967) illustrated a systematic yet flexible method for collecting and coding data (Bernard and Ryan, 2016). Grounded Theory therefore has a clear creative component to it but it enables qualitative data to be treated as a serious source of scientifically derived knowledge about social and psychological processes. (Bernard and Ryan, 2016).

Grounded Theory applies an abductive approach to data analysis and reasoning in order to identify patterns of behaviour from the constant observation and development of explanations (Bernard and Ryan, 2016; Harris, 2015). Abduction in data analysis and theory building can be conceptualized as making guesses (Philipsen, 2018). In a theory building process there is a need to make guesses when a researcher makes observations, which are surprising in that they depart from existing theory (Suddaby, 2006; Charmaz, 2014; Barney and Glaser, 2012). Researchers (Philipsen, 2018; Bernard and Ryan, 2016) also consider the use of abduction to describe and understand theory building. The concept of abduction can contribute to understanding how theory is created in theory testing, theory development and theory creation, but focuses on theory building in both positivist and in interpretive research (Philipsen, 2018). It can be perceived that Abductive reasoning enables researchers a more thorough approach to data analysis of human behaviour but for it to be effective there needs to be a balance between the inductive data examination and subsequent deductive reason given to patterns developed. This will be attempted through the successful application of coding and theoretical sampling during data collection and analysis.

Abduction will enable a response to the second research objective through the development of a theory grounded in empirical data about how the value proposition of the digital transformation of sales and marketing functions is impacted through the categorisation and optimisation of data. Through the continuous observation of participants during an initial pilot phase (see Appendix 4), behavioural patterns in tasks performed are deduced and subsequent inductive reasoning is applied to develop coded digital transformations of these tasks. In order to demonstrate interaction between chosen theories and field observations made, the presentation of field observations to professionals and the recording of their input from a qualitative person-centred in-depth interview to explore, not to interrogate (Charmaz, 2014) will be undertaken.

The action of coding different qualitative data enables the researcher to develop categorical translation of human behaviour and identification of interaction symbols to form social meaning. Social Cognitive Theory underpins this methodological approach and is illustrated in the initial pilot phase observation (Appendix 4).

The key point of confusion in grounded theory research is the question of knowing when saturation has occurred during data collection (Suddaby, 2006; Easterby-Smith *et al.*, 2012; Malhotra *et al.*, 2007; Mayer, 2015; Harris, 2015). This is often considered its weakness in

literature (Goulding, 2002; Suddaby, 2006; Charmaz, 2014; Gummesson, 2002) because most submitted manuscripts using Grounded Theory as their methodology contain a statement that saturation of data has occurred. The fact that grounded theory research uses iteration and sets no discrete boundary between data collection and analysis, saturation is not always obvious, even to experienced researchers (Mayer, 2015).

3.4 Research Design

The research began with a quantitative approach through a longitudinal observation of sales and marketing resources. Three observation sessions occurred over a 6 month period.

Concurrently, the observations from the first three participants were analysed. Continuous comparison of data enables common patterns to be identified in a categorical translation of human behaviours (Philipsen, 2018). Informal discussions also took place with the participants following their participation in an attempt to create as accurate a recording as possible of the different actions (Charmaz, 2014)

Once the behavioural observation had been completed a subsequent multivariate analysis of the data captured examined relationships between the different outcome variables that were Grounded in the data (Werk; 2017, Charmaz, 2014)

Theoretical sampling was sequenced on three stakeholders to determine if the three overarching themes derived from the data analysis could inform the conceptual guidelines for the DVE model that would instruct the change project.

Upon modification of the overarching themes, theoretical sampling continued in the qualitative research. The internal stakeholders took part in semi-structured interviews to capture their insights.

The interview protocol was subsequently adjusted for the remaining participants.

CHAPTER 4. CHANGE PROJECT – DIGITALLY TRANSFORMING THE VALUE PROPOSITION OF SALES AND MARKETING FUNCTIONS IN INDUSTRIAL SMES

4.1. Outlining the Research Phases

Firstly, the literature review undertaken has fulfilled the first research objective by presenting an exhaustive critical review of current literature in B2B Digital marketing. This has identified five research questions:

- How will the marketing function need to evolve in order to assist the digital transformation of the client relationship in B2B?
- How is the use of smart technology instrumental in behavioural change of sales and marketing resources?
- Why can the adoption of social selling optimize internal client facing resources in B2B?
- To what extent is the digital transformation of SME sales and marketing resources linked to generations' reticence in adopting digital tools?
- How is the client experience instrumental in value proposition of SMEs?

Chapter 6 will critically discuss and provide a full response to each question.

Secondly, the pilot phase of the research has satisfied the second research objective (Appendix 4) through a behavioural observation and analysis of sales and marketing functions in their professional context within the designated SME. A recorded study of current time and resource allocation was undertaken and from there, hypothetical digital transformations were projected to evaluate resource efficiency gains in performing the same tasks. This pilot phase instructed an empirical examination through primary research of issues raised from the literature review. Through a multivariate analysis of observational data captured, the study measured relationships between the different outcome variables that were grounded in the data (Werk, 2017; Charmaz, 2014). The use of abductive reasoning enabled a deductive analysis of the participant observation and a subsequent inductive interpretation of these results. Through axial coding of the first-order categories, three overarching themes were derived (Table 1) from the analysis that would inform conceptual guidelines for the data value efficiency model to instruct the Change Project.

Outcome code
Information exchange
Skilled collaborative optimisation
Low skill time consuming task

Table 1. Overarching digital transformation themes drawn from the observational pilot study of the chosen SME's sales and marketing resources

Whilst literature aligns with low value actions being determinants in individuals' decision-making process (Grönroos and Helle, 2012), no direct references are made in literature to the themes of Skilled Collaborative optimisation and information exchange. However, it is possible to compare favourably these constructs with literature, which highlights the importance that data has in developing effective, collaborative relationships (Eid *et al*., 2006; Chaffey, 2010, Grover *et al*., 2018; Zaidi-Chtourou, 2018).

In order to minimize subjective theoretical interpretations, and in line with Grounded Theory methodology that argues how data analysis can evolve (Charmaz, 2014; Clarke, 2005, 2012) from social constructions, the theme **Low skill time consuming tasks**, was renamed as 'Resource inefficiencies' which is considered a more representative categorization of the data, since the latter encompasses time, tool and human resource inefficiencies in company operations, compared to the first proposal which was focused purely on the task itself. This was validated with the Managing Director from the participating SME and two qualitative researchers from emergent discussion. As Charmaz (2014) pointed out, standpoints and starting points matter and will likely shift during analysis in Grounded Theory.

To build upon the behavioural observation analysis pilot (Appendix 4) an investigation through application of a theoretical sampling procedure (Glaser and Strauss, 1967) was performed. Through the use of semi-structured interviews, insights were captured on participants' range of professional experience within SMEs and industry as a whole.

A series of semi-structured interviews were subsequently undertaken with stakeholders external to the SME. They were invited to participate through the Linkedin professional network, a regional industry body (www.medef.com) and direct external stakeholders of the observed company. The selection criteria for these interviews were based on participants having experience in all three of the following fields:

- B2B SME manufacturing experience (as an employee or as a supplier)
- Expertise in perception of Client relationship value proposition through a sales and/or marketing function
- Knowledge of and/or professional practice in digital Transformation of sales and marketing

The final phase of the research project therefore fulfils the last research objective through the analysis of the aforementioned stakeholder, academic and industry expertise and opinion. Chapter 6 will critically discuss the participants' feedback and triangulate results from the pilot and secondary company data (Appendix 8) in order to inform the proposed conceptual model and definition.

4.2. Sample Recruitment and Data Collection

This research used theoretical sampling, which involves the selection of participants possessing extensive knowledge on the researcher's topic (Strauss and Corbin, 1998; Charmaz, 2014). This is a common approach in marketing research (Johnson and Sohi, 2016; Tuli *et al*., 2007). In order for the research to reflect an accurate interpretation of the B2B sales and marketing environment, participants with purely B2B industrial experience in client facing roles were selected. Such precise participant inclusion criteria guaranteed pertinent perspectives of these roles by the nature of participants' own experience and involvement in this function. By contrast, sampling from those with sales and marketing experience outside of the B2B industrial sector may have resulted in a territorially-biased examination of the phenomenon. The participants were experienced (15 years on average) which compares favourably to other samples in B2B research (Do Cho and Chang, 2008; Guenzi *et al.*, 2009). Given that variety increases confidence in the data's credibility (Creswell, 2007) data was collected from participants in several manufacturing SMEs and industry bodies. Participants had worked in a spectrum of small (e.g. 10 employees) to medium (250 employees) sized companies, representing a diversity of company sizes. These sources of variation within the theoretical sample aligns with the practice of maximizing variance which was espoused by Glaser (2005) and subsequently applied in B2B research (Johnson and Sohi, 2016). Table 2 provides demographic data of the theoretical sample.

This demographic data includes the generational profile of each profile. This was deemed important as literature identifies a behavioural difference between generations (Taiminen and

Karjaluoto, 2015; Povolna, 2018). The definition of the different generational profiles was based on Mckinsey's (2020) referenced profiling and contributed to pinpointing specific discrepancies between the different participatants' behaviour within the observation and additionally from their responses during the semi-structured interviews. These areas of differentiation will be outlined in Chapter 5 of this thesis.

Participant #	Occupation	Relation to company	Professional Experience	Generation profile
INT1	Sales	Internal Employee	5 years experience	Generation Y
INT2	Company Director	Non applicable	25 years experience	Generation X
INT3	Regional Director	Internal Employee	25 years experience	Generation X
INT4	Manager	Internal Employee	25 years experience	Generation X
INT5	Company Director	Internal Employee	25 years experience	Generation X
INT6	Regional Director	Internal Employee	25 years experience	Generation X
INT7	Company Director	Supplier	25 years experience	Generation X
INT8	Company Director	Expert	25 years experience	Generation X
INT9	Marketing	Internal Employee	Junior	Generation Z
INT10	Company Director	Client	15 years experience	Generation Y
INT11	Company Director	Internal Employee	25 years experience	Generation X
INT12	Regional Director	Internal Employee	25 years experience	Generation X
INT13	Sales	Internal Employee	5 years experience	Generation Y
INT14	Academic	Academia	25 years experience	Generation X
IINT15	Academic	Academia	25 years experience	Generation X
INT16	Regional Director	Internal Employee	10 years experience	Generation Y
INT17	Company Director	Expert	10 years experience	Generation Y
INT18	Sales	Expert	25 years experience	Generation X

Table 2. Demographic representation of theoretical sample

Participant interviews were conducted over a four-week period and ranged in length from 50mins to 1hr 30mins. A semi structured interview guide consisting of a number of open-ended questions guided the interviews, followed by a series of structured questions, which were consistently used to probe participants (Bernard and Ryan, 2011; Charmaz, 2014) on their key insights in digital transformation perspectives. Participants were encouraged to discuss their experience in three areas: their own professional experience and industry knowledge, the customer relationship and finally the digital transformation of sales and marketing in industry. The interviews were administered essentially by visio-conference due to the strict global sanitary measures implemented during the COVID19 crisis in 2020. Participant interviews persisted until theoretical saturation was reached, which occurs when no new perspectives or insights emerge from the acquisition of additional data (Creswell, 2007). Saturation was reached at eighteen interviews, as the patterns that occurred within the data sets presented no new insights. This number of interviews almost aligns with the established guideline by Creswell (2007) who stipulates that twenty to thirty interviews enables the development of a well saturated theory. Since the subject area includes exploration of concepts that are relatively

recent in the SME manufacturing sector, i.e. digital transformation of sales and marketing, it was induced that saturation is reached more quickly due to the limited history and perspective that participants can provide. This compares favourably with Charmaz (2014) who supported the notion that research topics impact the sample size, although she goes on to say that a smaller sample size may generate themes amongst the common views of homogeneous participants, but does not command respect. Nevertheless, due to the recency of the phenomenon, a grounded theory study with a smaller sample size can nevertheless allow development of conceptual categories (Charmaz, 2014; Corbin and Strauss, 2008). Reynolds and Lancaster (2007) also observe that enlisting participation in business research is difficult, whilst Glaser and Strauss (1967) defend the argument that the number of interviews is dictated by the progression of theory development and not on statistical significance.

4.3. Data analysis and reliability

Participant interviews were first coded using in-vivo codes. The data from the interviews was analysed and codes developed based on the participants' language (Corbin and Strauss, 2008). The texts were examined and classified into higher order categories. To achieve this, the codes were organised into first-order themes reflecting the component code elements by using common threads connecting the initial codes (Charmaz, 2014; Bernard and Ryan, 2011). For example, the initial codes for Digital Transformation value proposition include performance, customisation, time efficiency. From here first order categories were axially coded and the data were classified to support the emergent conceptual model (Charmaz, 2014), based on the overarching themes from the analysis originally instructed by the pilot project: Information exchange, skilled collaborative optimization and resource inefficiencies.

To ensure maximal rigor in the analysis, prescribed guidelines were followed for qualitative examinations (Lincoln and Guba, 1985, Silvermann and Marvasti, 2008). These are often used in marketing applications (Friend and Maslhe, 2016; Johnson and Sohi, 2016). First, to ensure comprehensive data treatment (i.e. assurance data were examined thoroughly prior to drawing conclusions) the qualitative coding software NVivo 12 was used to methodically structure the data, which allows for maximal analytic ability. With this software all verbatim interview transcripts are first uploaded to the program. Subsequently, initial codes (see table 3, column entitled 'Initial codes') were entered into the software where they occurred in each participant transcription. These quotations were then aggregated using a tree-node structure in NVivo, permitting access to quotations across different respondents in a manner conducive to qualitative analysis (see Table 3 below). This structuring also allows for holistic data inspection

by considering multiple cases simultaneously. NVivo is commonly used in B2B research (Friend and Johnson, 2014; Terho *et al*., 2012) and as Hogan *et al*. (2011) argue is "a widely accepted analysis tool for qualitative research".

Initial coding	First order categories	Overarching themes
Administrative tasks take time	***Time and resource challenges***	**Resource inefficiencies**
Generational problems for adapting to technology		
Digitalisation helps us to better position us in the industry		
Availability of resources		
Data treatment distracts from human interaction		
Digital transformation creates data security issues	***Digital Transformation negative outcomes***	
Insecurity		
Performance issues with new technics		
Client evolution		
Time consuming		
Data quantity		
Resistance to change		
Impersonal		
Complex		
Industrialised		
Agility to react to market		
Team management		
The technical complexity of B2B sales		
Skill sets in sales		
Developing levels of trust		
Adaptability	***Human value properties***	**Skilled collaborative optimization**
Organisational skills		
Negotiation		
Availability		
Foresight		
Empathy		
Proactivity		
Business Acumen		
Professionalism		
Interpersonal skills		
Trustworthiness		
Active listening		
Innovation	***Digital Transformation positive outcomes***	
Cost effective		
Motivation		
Ease of use		
Communication		
Value added Experience		
Strategic repositioning		
Time efficiency		
Networking		
Quality of information		
Personalised		
Client Collaboration		
Performance		
Skilled human expertise		
Brand image	***Brand value differentiators***	**Information exchange practice**
Digital brand awareness		
Quality reputation enhances brand image		
Innovation		
Accompany Clients		
Technical Expertise		
Sales Competence		
Integral solutions		
Service guarantee	***Client relationship facilitators***	
Needs analysis		
Finding the right communication channel		
Problem solving		
Building customer value		
Maintaining loyalty and trust		
Focus on the service for clients		
The importance of human interaction		
Developing levels of trust		

Table 3. Overarching themes derived from in-vivo coding of interviews

Further validity to findings was sought through member checking and peer debriefing. Member checking involves "taking data and interpretations back to the participants in the study so that they can confirm the credibility of the information (Creswell and Miller, 2000; Charmaz, 2014). The observational results of the pilot project were summarised into key findings that were discussed with the participants and during the semi-structured interviews, these results were presented to obtain their critical appraisal of the data findings (Appendix 5). Peer debriefing was also obtained from five external subject matter experts to critically review the interview protocol and scrutinize the investigation's methods (Creswell and Miller, 2000). Consistent with recommendations to include a peer debriefing through the research process, two qualitative researchers in B2B sales and marketing were approached. These experts provided a validity check of the interview questions constructed, prior to the interviews taking place.

CHAPTER 5. RESULTS AND BEST PRACTICES

The findings provide a myriad of insights on the impact that digital transformation has on the sales and marketing functions' value proposition in manufacturing SMEs. Consistent with other qualitative studies in marketing (Povolna, 2018; Cuevas, 2018; Wellman, 2016) the findings are focused and organised around insights stemming from the extant literature review and subsequently the pilot. The literature review has helped to inform the three overarching themes produced from the pilot (see Table 1) and test the proposed conceptual Data Value Efficiency (DVE) model (Figure 4).

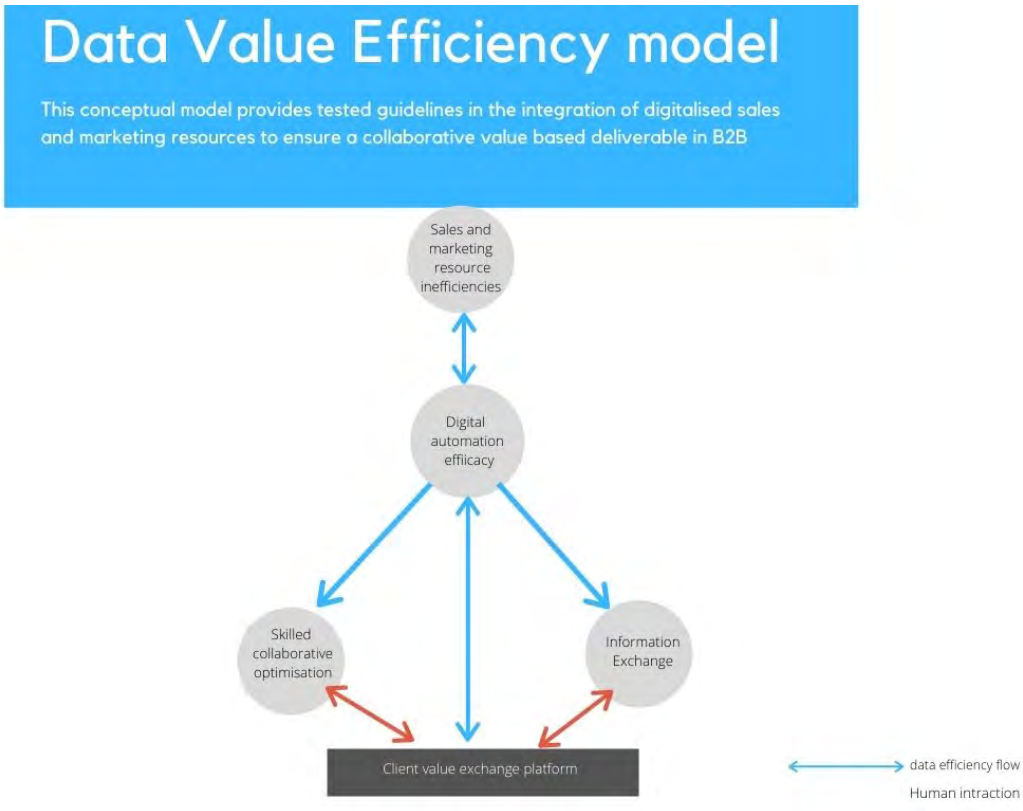


Figure 4. The Data Value Efficiency Model (author's illustration)

The model is designed to augment the theoretical underpinning of this study, namely Social Cognitive Theory (SCT) (Bandura, 1977). The behavioural observation's overarching themes instruct the three angles of the SCT model (Figure 1): Behavioural, Environmental and Cognitive factors. Behavioural factors are represented as Sales and marketing resource inefficiencies, Cognitive factors by information exchange and finally Environmental factors are represented as skilled collaborative optimisation. The DVE model will be validated through the analysis of the qualitative research that follows.

5.1. Sales and Marketing Resource inefficiencies

This first overarching theme is broken down into three subcategories, drawn from the NVivo analysis (see table 1). These subcategories are:

- Time and resource challenges
- Generational resistance to change
- Digital Transformation negative outcomes

5.1.1. Time and resource challenges

The results from the first part of the study reflect on the resource management challenges of manufacturing SMEs. Manufacturing companies are challenged by behavioural sets that are anchored in work methods and custom procedures that have not fully identified nor integrated the benefit of the digitalisation of client-oriented operations (Day and Bens, 2005; Weirsame, 2013; Evans *et al.*, 2012; Cuevas, 2018). As the pilot project illustrated (Appendix 4), these time-consuming activities do not deploy resources efficiently. The pilot project demonstrated that 37% of client relationship-based activity is dedicated to activities that require no further action and additionally, 50% of this time is spent on low skilled tasks. This augments literature' (Habibi *et al.*, 2015; Marshall *et al.*, 2013; Cuevas, 2018) observations on how salespeople and marketers need to audit and identify areas of high resource/low skilled operations in order to optimise critical resources. Interviewees expressed the logistical challenges that they face in their daily operations (INT4, INT 8; INT 10). The competitive nature of industry requires sales and marketing resources to have a holistic approach to their client relationship (Marshall *et al.*, 2013; Cuevas, 2018, Moore *et al.*, 2015). Interviewees felt however that this approach accumulates a number of repetitive and low skilled time-consuming tasks that detract resources from their fundamental client interaction. As INT1 witnessed: "*What is new over the last 3 years is the importance of strong administrative skills in order to answer the emails and to be responsive (which is what our customers expect from us). We have administrative obligations now*"

Although a consensus was reached in the importance of providing a reactive service to clients this was perceived as weighing down the efficiency of the workforce. INT3 and INT 11 expressed similar frustrations on the complexity of dealing with time consuming tasks, to the detriment of time spent on client facing functions and which, as INT11 stated, is '*neither commercial nor productive*'. This compares favourably with Aalst *et al's* (2018) observations

on how companies strive consequently to optimise costly, legacy systems in order to improve gain in resource efficiency. INT3 augmented this viewpoint by underlining the negative commercial impact that administrative pressures have had. In his opinion "*we have less time for networking. I've lost clients because of that.*"

Participants perceived the heavy focus on administrative tasks as detrimental to a client relationship As INT4 reiterated, the notion of Account Management concentrates on administration and "*focusing less on the client*". A general concurrence amongst participants (INT8; INT4; INT2; INT3; INT10) was about the importance of the human interface in the manufacturing sector. As INT4 resumed; "*Data treatment distracts from human interaction*". Needless to say that in complex B2B sales environments, the absence of this human intervention would be detrimental to the value proposition and unique customer experience proposed to customers (Camilleri and Neuhofer, 20018; Vargo *et al.*, 2008; Marshall *et al.*, 2013).

From the pilot observation results, the projected time savings were integrated into the main analysis and concur with one industry expert's viewpoint (INT17) on the need to categorise the inputs of each action in order to implement best practices. "*Low severity decisions can be managed automatically by tools weighting inputs and status vs internal processes, guidance and best practices*". This aligns with the proposed DVE model's automation efficacy input that would instruct data flows between required sales and marketing resources so that their time is used for qualitative information exchange and/or skilled collaborative optimisation, and thus enabling a relationship built on competence and empathic reactivity. The two-way flow of information between the three behavioural poles of the DVE model are supported by participants' insistence on human intervention to qualify data input. As INT3 stressed, "*if it (Digital transformation) reinforces activities, it's going in the right direction in relation to the information we put into it - but it still takes people to provide the data. It helps us to get ourselves known.*"

The literature study challenges the effective role of a service enabler in the DVE model and its capacity to determine the choice of communication used and the implication of the network of users (Rong *et al*., 2018; Camilleri and Neuhofer, 2017). The observational pilot and subsequent study project that a digital transformation of sales and marketing channels aligned with the DVE model proposed in this study would enable time savings of up to 37% on sales and marketing current client related activities. It is evident that before achieving these levels of resource efficiency, the cooperation and cultural change needs to be instigated. Gartner's forecast of only

30% of digital initiatives being successful in 2020 (Boneva, 2018; O'Connell *et al*, 2015) is a harsh reminder that without an established digital mindset, resistance to change (Cuevas, 2018; Yang *et al*., 20117) will mean that such efficiency gains remain hypothetical. It is nevertheless promising to witness that benefits have been identified by participants of the digitalisation to warrant a pursuit in its optimisation. As INT4 stated, "*It (ERP-Electronic Resource planning) reassures the customer because the quotes are the same regardless of the services. The company has become a major company through a positive change that has taken place.*"

5.1.2. Generational problems

In addition to the challenge of time and resource organisation, similarities appeared in participants' response to the generational problems that challenge and burden the digital transformation of their functions (INT9; INT6; INT3; INT7).

The literature review exposed the role of millennials in the digital transformation of sales and marketing in industrial SMEs because as millennials shy away from face to face relationships and older sales generations resist technological change (Povolna, 2018; Mckinsey, 2020; Taiminen and Karjuluoto, 2015), a company's brand notoriety is potentially at risk as customer's see incoherency in the client relationship model as INT7 highlighted; "*the client is also uncomfortable with managing the differences in the generations*".

Findings from the participants' interviews gave insights into the inefficiencies that pertain from generational resistance to digital transformation. One sales manager (INT6) clearly indicated how he still had difficulty in understanding "*what added value (it) brings to be honest.*" This resistance to digital tools was also perceived as unrealistic for manufacturing SMEs by a Regional Director with a Generation X profile (INT3). When asked if Artificial Intelligence has a place in heavy industry his answer was paramount "*It doesn't. In the movies it exists.*"

Time and resources inefficiencies are clearly accounted for by participants who recognise that the digital transformation installs two business ethics between Generation X and Y compared to the more recent Generation Z (Mckinsey, 2020). But difference should not be interpreted as incompatible; between two generations it builds a basis for communication as pointed out by one sales manager (INT6): *"I think it's positive - a case in point is my son and our CRM tool which he helped me with. But we have a lot of discussions. (My son) does business sometimes in a way I don't like and vice versa.*"

This compares favourably with the generation Z profile's opinion in the company (INT9) who validated the resistance pertaining to engrained behavioural habits: "*I think we're still not great at it. We've kind of stalled because from time to time we put different information on LinkedIn for example but we're not yet using it on a daily basis.*"

Surprisingly, the pilot observation demonstrated a more frequent, but irregular use of social media in daily activities by generation X profiles compared to generation Y and Generation Z profiles. However, this was contradicted by the potential limitation of the pilot that observed behaviour during office hours, and several participants (INT1, INT13; IN12) confirmed that the use of social media often took place on the way to or back from the office. The recording of their usage was not therefore an accurate reflection of their professional usage. An interesting observation (INT2) raised the issue of relevance. "*I'm not yet convinced of the relevance. But then we lack know-how - and when we lack know-how we say we don't have the time*". This directly augments literature (Taiminen and Karjaluoto, 2015) on time-constraints being an objection to digital transformation (Chapter 1, section 1.1 p. 9).

Internal frustration as a hierarchical implementation can be seen to ignore the need internally to be accompanied in the transformation and that strategic timescales are announced for full transformation which can build complexity into the perception of some participants as one Generation Y profile (INT1) observed "*For the company it's complicated because the boss wants to see less blocking or resistance and wants to put everything in place in 3-5 years.*" This is supported by INT15's viewpoint on how clarity and transparency top down is required to enable the effective adoption of digital transformation of sales and marketing functions: "*Many questions come from it. How quickly will it take to learn the apps? Some are perceived pressures.*" Participants generally felt that hierarchical imposition was not an effective way to build general consensus in change (INT8; INT4; INT7). This confirms the identified limitation to Self-Efficacy theory (Chapter 1, section 1.2) which exposes how hierarchical influence and obligation negates collective efficiency and is confirmed by the Managing Director's comment on digital transformation of sales and marketing resources by insisting that it is not possible to "*have (no) real fixed objectives. But more a real will to progress with the personnel buy in and make them more sensitive to the advantages and development of digital transformation of these functions. In order to gain buy in from everyone.*" (INT4).

Finally, general consensus was found on how digitalisation will inevitably bring together and unite efforts between generations in B2B. (INT12; INT8) "*The transition between generations*

from the present generation, which will pass on its know-how, to a new generation, which will need to be able to take over very quickly from the present one." (INT8). Similarly, the harmonisation of skills was reinforced as a means of bringing generations together in the digital transformation of sales and marketing resources (INT11; INT12). This augments literature on the challenges and constraints for manufacturing SMEs to implement a digital sales and marketing transformation strategy (Barann *et al*., 2019; Taruté *et al*, 2018; Pelletier and Cloutier, 2019).

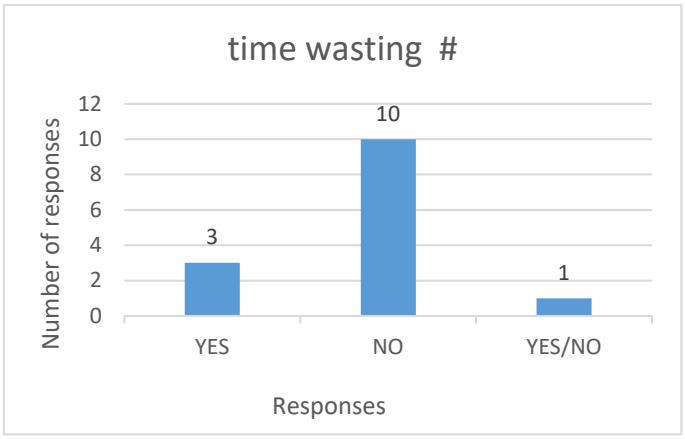
5.1.3. Digital Transformation negative outcomes

In addition to discussing generational constraints that lead to time inefficiencies, participants pointed out a number of negative outcomes in Digital Transformation which bring resistance to change. First and foremost, came the level of confidence that automation brings to sales and marketing functions Aalst *et al.* (2018) confirms it is essential to understand what is to automate and what requires human intervention, which aligns with INT1's viewpoint who expressed that *"(It) can help with decision-making, but you also have to put up with errors in data entry, due to human error*". Interestingly, INT4 raised the issue of cultural difference impacting the digitalisation of resources as he outlined how "*in France (and) there is a big difference between what is said and what is done. The people that are involved do not know where to start with this transformation. Digital is such a general term and we need to progress step by step*". This need to implement a structured and progressive gradual transformation is supported by other participants who fear the "digital taking the place of humans (INT11; INT3; INT2; INT6). Their apprehension lies in the difficulty for employees to understand how automation enables machine learning of human behaviours (Aalst *et al.*, 2018; Hofman *et al.*, 2019; CRM Magazine, 2018). Digitalisation, as expressed by INT11, means "*we are spending more time behind the computer instead of on the phone*". An opinion that was augmented by other participants (INT10; INT15) who concur on their views on time spent on data input, supported also by extant literature (CRM Magazine, 2018; Willocks *et al.*, 2017).

The participants also expressed concerns about performance issues with new technologies that are perceived to impact time efficiency (INT2; INT18; INT9; INT3). They perceived that computer-based relations are factual and although *their relevance will increase* (INT3) there are other areas of the client/supplier relationship that need attention. Such observations support the DVE model and highlight the need to filter non-factual interactions i.e: soft skills such as empathy, active listening. Personalised interactions for a unique customer experience are left

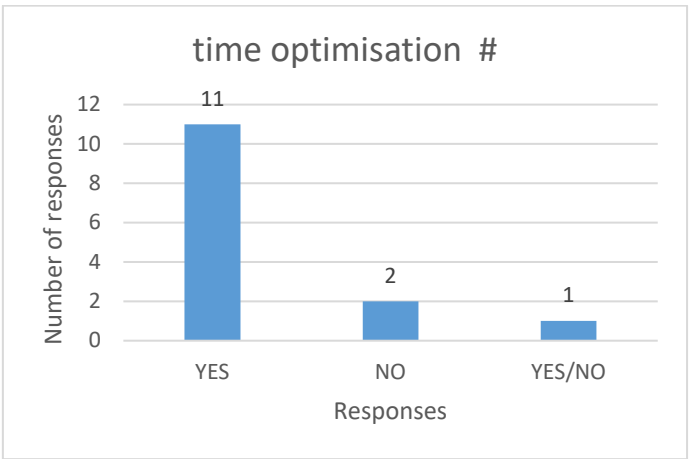
to skilled collaborative optimization, where targeted and qualified human expertise is essential to building the value proposition.

Interestingly, when participants were questioned on whether the use of digitals tools saves time, their response was categorically negative (see Graph1).



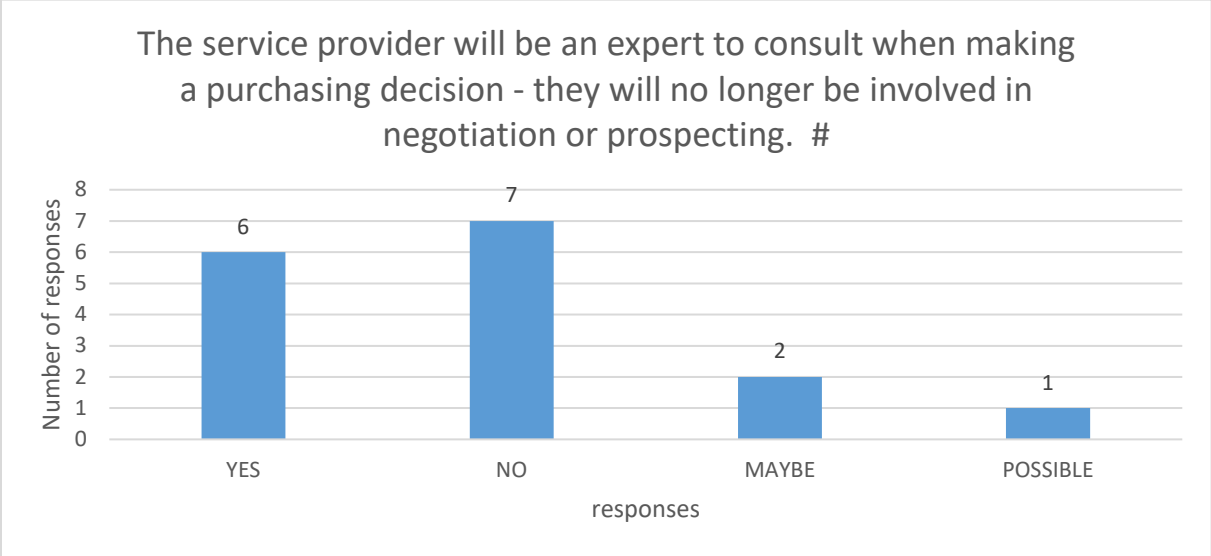
Graph 1. Participant response to whether digital transformation is perceived as time-saving

The results augment literature (Cuevas, 2018; Sharma and Syman, 2017) that espouses sales professionals as enablers of customer development through soft skills and not digital ones. Further questioning was used to drill down further to understand if this was a short- or long-term perspective that they gave. To this question, 61% of respondents agreed on the long-term time savings (Graph 2). This is backed by projections made in the pilot project (Appendix 4), demonstrating that a partial digital transformation of the customer relationship management in the company studied would lead to resource efficiency gains of 44%.



Graph 2. Participants response to whether Digital Transformation enables optimised use of time in the long term

An important issue raised in negative outcomes of digital transformation is that as the client evolves and the quantity of data increases, the notion of impersonal relationships is exposed by participants who feel that it will detract from their traditional approach and deter from trust levels being enhanced, a key factor of B2B client relationship management (Nobre and Silva, 2014; Percy *et al.*, 2010; Cuevas, 2018). INT2 identified the impact on customer loyalty and a "*fear of lack of loyalty if the digitisation does not work*". This viewpoint was supported by 40% of respondents who, when asked to project themselves into a future hypothetical sales and marketing function (Graph 3). They were unanimous in their objection of client facing roles having a passive expert role to play, which supports literature's (Willocks *et al.*, 2017; Mahlamäki *et al.*, 2016; CRM Magazine, 2018) questioning the complete replacement of humans by robots. The need therefore for information exchange and skilled collaborative optimisation validates the structure of the DVE model



Graph 3. Participants' response to the question of whether the future service provider will be an expert to consult when making a purchasing decision, who will no longer be involved in negotiation nor prospecting

INT14 and INT15 challenged the agility that encumbers many SMEs. Since many SMEs still operate in a short termism approach (INT14), the prospect of digital transformation is hindered due to financial constraints, which compares favourably with the proposed B2B Value Exchange definition. As INT14 stated "*How many 'smalls' of **S**MEs are lifestyle businesses for the owners? It is possibly due to the belief that it costs a lot to get an enterprise digital situation*".

The perception of traditional practices and change perspectives was recognised by the asa conflict between the "old" and the "new" (INT15) which is constantly challenged by established views and ways of functioning "*as offline is still big and habitual and a transformation is clouded by old views and practices*". A need to accompany this change is of absolute necessity in the long term, irrespective of the company's short-term operational approach.

However, this does not mean that agility is beyond the realms of industrial SME work practices. The recent COVID19 pandemic (2020) gave rise to a totally new adoption of technology and work practice, both within the studied SME and externally as reported by OECD(2020), which demonstrates an acceleration in digitalisation trends. Nevertheless, the need to communicate and overcome apprehensions on the use of technology remains essential (INT15). Providing an ongoing support mechanism in-house to demystify the complexity perceived from technology was, as INT15 expressed, a vital requirement of business practice. "*With technology it's always to do with Culture though and cultural change. And this has been proven with COVID19. Because there is a sudden increase in the number of people proclaiming to be experts on how to work from home and think they are gurus. When this is over some humans will go back to physical meetings and some people may forget what has happened. But that depends on senior management cos it's about leadership as well.*"

5.2. Information Exchange

This section discusses results pertaining to the overarching theme of Information Exchange. The participants in the study revealed the importance of building an effective channel of information with their clients to protect the brand image and enhance client loyalty through the valuable content pertaining to the clients' needs. The analysis from the study provides a myriad of insights that augment literature on the performance in sales and marketing via improved information channels (Matt *et al*., 2015; Boneva, 2018; Buchanan, 2019; Cuevas, 2018). It is apt to consider the research question asked on what are the key success factors for SMEs in the construction of the B2B Value Exchange Economy definition, and the following analysis of information exchange will contribute to fully defining this concept.

Firstly, information from a brand image perspective is a common theme that participants associate with information exchange (INT2; INT8; INT1; INT10). Clients rely on the quality of content provided by companies to feel a sense of reassurance in the guarantees that the brand will bring to their project. Information exchange also guides clients through the sales and technical expertise provided. Good practice and reputed competence form a considerable part

of the decision-making criteria that clients build and this is relayed pre and post project. As INT10 stated, "*Digitalisation creates more responsiveness and improves the brand image through documents that are much more presentable and easier to read.*" INT 5&6 opposed this idea however, and stated that the reputation of the brand itself sufficed in maintaining brand image and delivering quality content. As INT6 stated "*the company has been in business for a long time and for 40% of the customers that's important. We are a company that people feel comfortable with. We are one of the best in the business*" However as literature reminds us, media usage is determined by the efficiency of interactions with media (Alter, 2013; Eastin and LaRose, 2000) and the facility of human-to-information behaviour has a substantial impact on information exchange (Lin *et al.*, 2018).

Participants also expressed views on how Information Exchange guides clients through the sales and technical expertise provided. Good practice and reputed competence form a considerable part of the decision-making criteria that clients build (Rensburg, 2012; Leek and Christodoulides, 2012). As INT 7 stated, "*I measure (the capacity to accompany clients) it in relation to the feedback we get on certain activities. Feedback from reviews and especially word-of-mouth feedback from the trainees. This gives us the possibility to report what people have experienced - they experience the training, they don't follow it, they live it.*" This was supported by INT10's comments "*After validation of the technical and quality aspects, the relational aspect accounts for at least 50% of the decision-making process. A partner who will accompany them throughout the process.*"

The quality of this accompaniment comes at a price and participants elaborated clients' selection criteria as they are well aware that technical and commercial expertise in information exchange needs to be validated, as this reputed value lies at the heart of every economic and cognitive transaction (Rensburg, 2012). As INT1 confirmed, "*You need to be technically competent in order to be invited to the table!*"

Participants also identified client relationship facilitators as contributable components to information exchange. Information needs to be specific and timely but delivered in the most effective format to avoid industrialisation of information exchange. Interestingly, INT14 pointed out that this timely delivery of information "[…] *is very much a face to face interaction. The fact that the question uses the word client, means it is a consultative role. Another critical moment is when the supplier demonstrates they have done something that creates real value. You've helped us, we won't forget that*". Indeed Rensburg (2012) reminds us of the special

characteristics and skills of SMEEs who constantly look for opportunities and innovation in delivering value, despite having far fewer resources than larger B2B brands. As INT12 reiterated, "*I'm always thinking about creating a network that I feed permanently. Helping others to do business provides a lot of feedback and is very effective.*" This networked value chain will be discussed further in Chapter 5, section 5.3. (Skilled Collaborative optimization). The point to reinforce here is the continuous reflection on delivering timely service which is backed up by INT18's viewpoint. "*80% of our resources are focused on delivering service and a desire to know and understand the client*".

These arguments reinforce findings on the timely injection of information exchange into client relationships, identifying this as a key success factor for the digital transformation of sales and marketing resources. (Matt *et al*., 2015; Rensburg, 2012). Findings from the pilot project (Appendix 4) proving that 13% of the time observed can be automated using artificial intelligence, notably using Robotic Process Automation (RPA) are also supported. Close alignment is identified with the Pareto distribution model (Aalst *et al.*, 2018) arguing that in 20% of studied scenarios, RPA smart technology can replace humans for frequent, repetitive tasks. Less frequent tasks are not considered because automation becomes too expensive to implement.

Another key success factor identified as a means of implementing effective information exchange is the ability to offer integral solutions. As INT1 suggests, "*we know how to deliver the solution but our explanation of it must bring added value. we are able to respond to any type of project with full support throughout.*" This viewpoint was confirmed by INT3, INT5 and INT7, who emphasized the importance of "*extending the life cycle*" (INT5) through continuous research in what INT7 called "*a contact of discovery*".

The need for polyvalence, and a holistic approach to building the sales and marketing value proposition within the digital transformation is confirmed (INT7; INT4; INT10) and support Mahlamaki *et al*'s (2016) views on management practice of transformation complexity.

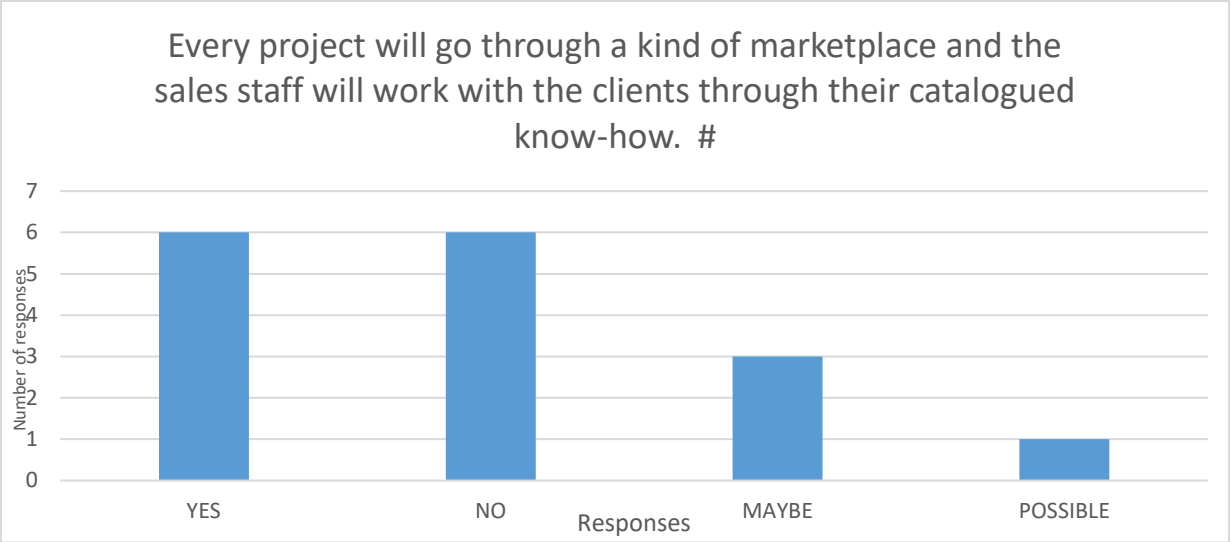
In conjunction with integral solutions it was also demonstrated through the interviews how information exchange needs to integrate a process of needs analysis of clients. The efficiency of organisational capability (Maklan and Knox 2009; Cuevas, 2018) is reiterated as a fundamental criterion in gleaning client insight and effectively understanding their requirements. From the pilot (Appendix 4) it was deemed possible to build time savings of

approximately 20% through the replacement of paperwork, email in the needs analysis function, using artificial intelligence which supports industry studies (CRM 2018). As INT2 expressed, sales resources "*have to be constantly questioning their needs; when we go looking for information relevant to their needs.*" In support of INT2's comment, INTO13 highlighted a priority "*to be responsive during the quotation stage and to understand the urgency of the customer*". Similarly, this was confirmed by 1NT10. "*We have to transform the customer's need into feasibility and then into a viable affordable proposition*."

The choice of communication channel is also identified as essential for effective information exchange. Being able to centralise through a channel that guarantees consistency and pertinence to each customer is a key criterion to factor into the value proposition of digitalised sales and marketing functions (Buchanan, 2019; Cuevas, 2018; Matt *et al.*, 2015). The participants suggested that the over use of physical meetings can lead to a potentially negative outcome with a client. As INT1 expressed, "*We communicate much more with the client, but not directly. Today's customer wants a single point of contact throughout the project which can last 4-5 months on average.*" The idea of a single centralised point of contact was regularly confirmed (INT6 and INT7) and consequently contributes to the validation of the proposed B2B Value Exchange Economy definition.

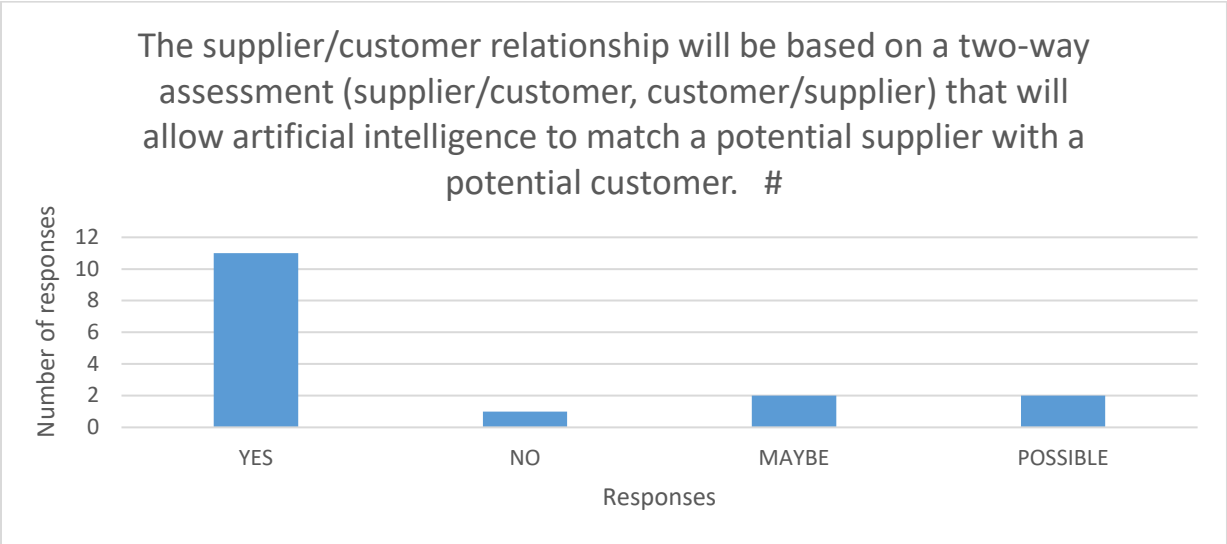
A final consideration for the theme of information exchange is the importance of building customer value into each communication. Participants stressed the strategic importance of value and how to build it. Central to this is optimizing client interactions. The Digitalised element of this interaction needs to be balanced so that a client receives value from all parts of an organisation. INT 14 supported Rensburg's (2012) view on value through process including digitalised processes. As INT14 relayed, "*At the heart of what the business model ought to be and being able to provide a deep understanding of customer value. How value is created for a customer by working in a combination with sales and other teams to produce research propositions.*" Both INT15 and INT17 support the visionary process required of digitalisation to provide value in customer experience.

With these different considerations in mind, participants were asked to respond to specific future scenarios in the digital transformation of the client relationship that could be perceived as value driven transformations of sales and marketing functions (Graph 4).



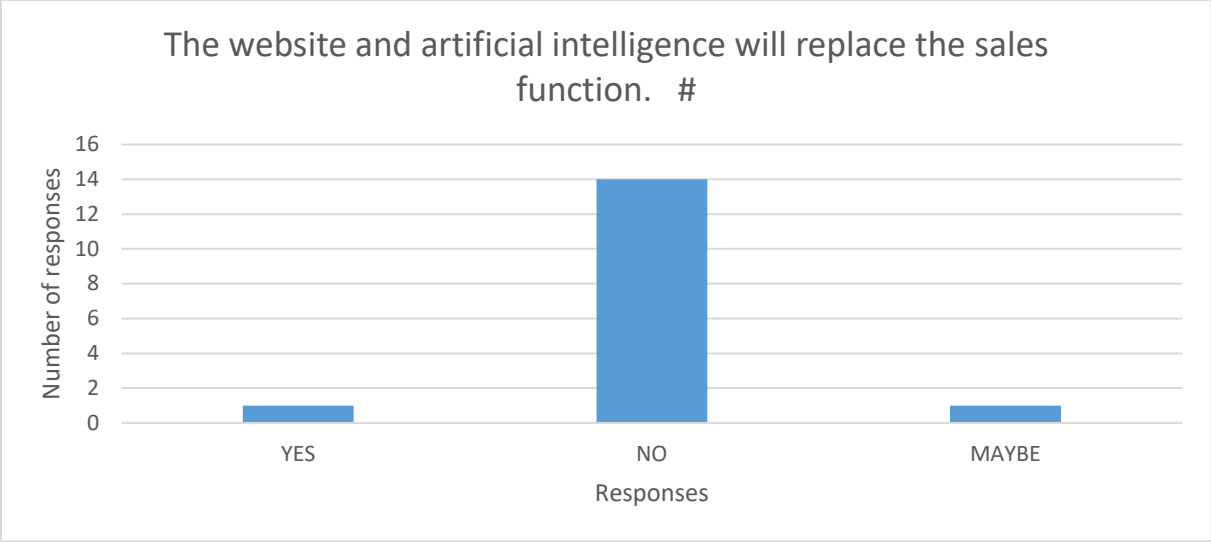
Graph 4. Participants response to the proposed scenario that every project will go through a kind of marketplace and the sales staff will work with the clients through their catalogued know-how

The participants were divided in their responses to this scenario. It can be induced from this result and through a cross examination of participants' comments (INT9; INT6; INT7; INT12), that the sales teams need to have a more personable approach to each customer and that during the client relationship at the project definition stage, digital transformation of client/supplier exchanges is considered to be too industrialised to maintain trust and brand loyalty (INT2; INT3; INT18). This result is compared with the results to a subsequent question on artificial intelligence in the supplier/client relationship:



Graph 5. Participants' response to the suggested scenario of the supplier/customer relationship being based on a two-way assessment (supplier/customer/supplier) that will allow artificial intelligence to match a potential supplier with a potential customer

The responses illustrated in Graph 5 are far more significant and contribute to the validation of the proposed B2B DVE model. The use of artificial intelligence in the identification of client requirements in the presale stage of the relationship is considered as a more effective transformation in the digitalisation of sales and marketing and supports literature's findings in the evolution of the 'informed 'client in his decision-making journey (Choudhury, 2012; Matt *et al.*, 2015; Cuevas, 2018; Delorme and Djellalil, 2015; Metais-Wiersch and Autissier, 2016). It is possible to validate therefore that the value proposition resulting from the digitalisation of information exchanges in sales and marketing resides in the informative process of clients' decision-making journey and not in the final decision-making process.



Graph 6. Participants response to the question of whether websites and artificial intelligence will replace the sales function

Finally, participants felt that although their function had a consultative function (INT15; INT7; INT1; INT4), it was not a passive role and that interaction using fundamental sales and marketing soft skill sets were essential in strategic stages of the client/supplier relationship, confirming literature's observations (Aalst *et al.*, 2018; Cuevas, 2018; Eid *et al.*, 2002). These stages, from a majority of participants' viewpoint, could not be digitalised, as illustrated in Graph 6.

5.3. Skilled collaborative optimization

The insights gathered from the qualitative study enable the development of the third overarching theme that is integral to the development of the DVE model. Whilst extant literature has advanced the requirement for a number of soft skills sets to be inherent in the role

of sales and marketing resource in the client relationship (Cuevas, 2018; Marshall *et al*, 2013; Moore *et al*, 2015) the participants in this study identify a number of elements that inform the theme of skilled collaborative optimization particularly in association with the digitalization of resources. The results confirm that value is at the heart of B2B relations where value of experience is the new norm for business to business relations

The first of these elements is foresight. With foresight, the supplier can build an improved value proposition for their clients (INT7; INT12; INT14). Foresight enables a shared experience to become instrumental in the co-construction of projects and future collaborations. The Digital transformation of sales and marketing capitalises on this foresight to build a more performant interaction between client and supplier, as explained by INT7:

> "*You must use your personal experience in different fields to capitalise on this experience and adapt it to the client's problem. Any situation experienced in a work context will generate a very personal analysis. We all experience a situation differently. The difference is in our ability to analyse a situation from different angles. This allows us to shed light on the problem or situation, exhaustively or differently. Also important is our ability to think outside the box*".

With foresight, the point of conjunction between human and digital intervention is in the proactive analysis that human intervention can provide as INT7 went on to confirm;

> "*It's not just about making a phone call to talk about the weather, it's about constantly bringing something to the relationship.* […] *It's more an exchange of ideas to try to understand and offer solutions to them. The difference is in our ability to analyse a situation from different angles. This allows us to shed light on the problem or situation, exhaustively or differently. Also important is our ability to think outside the box.*"

Skilled Collaborative consumption also requires a strong level of interpersonal skills as INT7 and INT12 pointed out. This interpersonal skill set necessitates experience in order to view the client/supplier relationship in a holistic manner (Rodriguez, 2012; Mahlmaki *et al*., 2016; Cuevas, 2018). The following excerpts from three participants demonstrate how the evolution of the client relationship is enriched by human intervention and not machine. Machine intervention needs to be previously defined into client data analysis functions which support the expertise and human interface for this advanced level of relationship. This argument supports the proposed scenario of projected digital intervention from the pilot results (Appendix 4), which could induce time and resource savings of up to 20%. Firstly, INT1 identified that, "*You must have experience in different fields in order to be able to develop solution strategies –*

It is a close relationship, where listening is important because we come back to this notion of seeing things differently; while at the same time keeping a distance between us - it's paradoxical." This was backed up by INT14 who suggested, "*But if you go up a level you go beyond routine interplay. Client means something more other than processes. It talks about humanness rather than mechanical interaction. It's vital to have rational and less rational discussion but you can't ever escape from emotion and nostalgia.*" Finally, INT18 confirms the hierarchical privilege of man over machine, "*It is a must and will always remain a must simply because a fully automated decision-making process will always and ultimately be driven by humans irrespectively of the level of automation.*"

Graph 6 reinforces participants' confirmation of the irrationality in completely digitalising sales and marketing functions in a client relationship.

The participants also impressed upon specific Human Value properties in the construct of skilled collaborative optimization. Amongst these, active listening is a recurrent soft skill that forges client/supplier relationships where human intervention is essential (INT7; INT10; INTO3; INT13). As literature reminds us, value is a fundamental stimulus in the selling process going forward and is a principal differentiator in the clients' decision-making process, which is often sparked by client triggers interpreted by the human eye and not machine learning (Cuevas, 2018; Habibi *et al*., 2015; Marshall *et al*., 2013). This compares favourably with participants' confirmation that the boundaries of digital are met when the client's sensitive issues are exposed and 'gut reaction' is induced based on non-verbal signals from the client. As INT3 impressed, "*the digital stuff is good, but I have great relationships with my contacts. Digital is not where the industry is at - when you see someone you have to know how they feel*". This was backed up by INT7 who said, "*it is the ability to listen and make meaningful proposals and to find solutions. It is a close relationship, where listening is important because we come back to this notion of seeing things differently; while at the same time keeping a distance between us - it's paradoxical.*" INT 13 insisted on the importance of proximity to build an empathic reaction; "*To be available – to listen – to understand the problem – to be responsive during the quotation stage and to understand the urgency of the customer*." Whereas INT10 impressed upon empathy and active listening being traits needed to build an exact solution to the client's problem; "*after all, the client/contact comes to us when he has tried everything and found nothing. You have to be a good listener and then convert this listening into a proposal.* […] *We have to transform the customer's need into feasibility and then into a viable affordable proposition.* […] *We need*

to understand them, know how to interact and then know how to respond, and face-to-face is a key factor for this."

Additionally, literature Davenport and Schmidt (2020) reiterates how empathy is a human value property that participants describe as a key component to the role of sales in particular. This compares favourably with participants' opinion (INT3; INT13) that empathy enables a relationship of trust to be established that, in the minds of certain participants (INT6; INT7; INT3; INT13) can to an extent be conveyed through digital communication tools, in particular social networks, but the basis of this empathy comes from the dialogical relationship that is founded between client and supplier.

Finally, trustworthiness was exposed as a core component of the Skilled Collaborative optimisation theme. Trustworthiness is man-made and has yet to be replicated in digital format (INT4; INT15). Davenport and Schmidt (2020) reinforces the precarious nature of trust means that a balanced relationship is central to preserve it. A suggested digital transformation of this aspect of the customer experience was negated by participants. As INT4 insisted, "*customer relations are very important. It is an exchange with an occasional balance of power that you have to relax in order to build trust. «It's about the relationship but it's random – you can come across a buyer who dismisses you so quickly that he or she can quickly put you in your place.* […] *When the customer contact changes, if the decision-maker changes, you have to start over.*" This viewpoint was supported by INT14 who said, "*first of all, from a sales perspective it's tempting to go the 'roller desk' approach as I call it – you know like in the 1980s when you had a roller desk in your office where you wrote all your contacts. So, then you typically go to people you know. Ease also means contacting people before building a value proposition. The relationship means dialogue and trust between you and people in your own organisation and the customer organisation.*"

The final construct of Skilled Collaborative optimisation is the Digital Transformation positive outcomes. By means of a structured and audited implementation of digital transformation the tools that can be put into use can develop a suitable level of personalisation in the development of client relationships and the value proposition that entails (CRM, 2018; Buchanan, 2019; Dubois, 2019). Participants proposed varying priorities to this theme. INT9 stated "*for me the most important element is to have a presence on the Internet – as soon as we want to find out something we go on Google – if a prospect doesn't know a supplier he'll search for one on Google*". As a Generation Z profile, their viewpoint on the positive use of Digital

Transformation confirms literature's observation of the Millennial online behaviour (Choudhury, 2012; Cuevas, 2018; Povolna, 2018). Whereas INT2 and INT7 focused more on the optimisation of experience through digitalisation of sales and marketing functions. Further insights from the study identifies the importance of choosing the right digital tool that fits the organisation in order to build a performant collaboration with the client. As INT17 pointed out, "*it is important to make a distinction between intelligence/data driven rationales and its interpretation in the context of the client relationship. It is a must and will always remain a must simply because a fully automated decision-making process will always and ultimately be driven by humans irrespectively of the level of automation.*" This argument supports literature's recommendation on the positioning of digital tools (Cuevas, 2018; CRM, 2018) as a sales enablement and not a sales encumberment. INT14 clearly identified the advantages of Data management using AI "*that will play into marketing automation; messages, workflows dependent on response systems, campaigns and technology pretending to be human. Improved flagging of sales information. AI scanning sales reports to flagging one instance and therefore picking up on deeply embedded hard to see signals and trends.*"

The above insights support the results of the pilot (Appendix 4) concerning the need for data management skills. Consequently, this affirms literature's position on the role of marketing in the acquisition of data management skill sets in order for companies to elaborate engagement strategies with the evolving customer and user communities. As literature also confirms (Zaidi-Chtourou, 2018; Grover *et al.*, 2018; Lehrer *et al.*, 2018) rich market data sets need to be analysed by qualified data experts in order to benefit from the accelerated data optimization that digitalization provides.

A final component of skilled collaborative optimization is the Human expertise skills set. INT18 notes the digitalisation of sales and marketing must be integrated as a support mechanism that will leverage internal company skills to develop an optimal community collaboration. "*It is more of a service in propagation that enables to structure the know-how and expertise of an individual or a company. (Digitalisation) will be a support, a means of acquiring clients and managing the community – it's not a perfect process yet – far from it.*"

This idea is supported by one INT8, who underlines the effectiveness in resource gains but that the underlying relationship between client and supplier needs to be driven by the human skill set.

The final stage of this research stems from secondary data captured from an analysis of social media use by sales and marketing resources during the pilot (Appendix 8). This analysis attempts to develop a response to the research question on social media usage as a facilitator in B2B to enhance a two-way value construct between supplier and customer. Literature also asks how essential is the customer's voice in defining the alignment of social media in the customer relationship model (Marshall *et al*., 2013; Habibi *et al*., 2015; Cuevas, 2018; Rodriguez *et al*., 2012). The pilot observation of social media usage focused on observing frequency of use by sales and marketing resources of the company LinkedIn page. This observation, whilst enabling an analysis of frequency of use, did not define the type of use. As such, four usage types are available on social media: posting, liking, sharing, and commenting. This can be applied to internal collaborators' content posted and external collaborators content (within a company's or a user's own network). In addition, all commented and shared content can be enhanced with the use of a hashtag[2] and a keyword in order to increase visibility on the Internet. In the Digital transformation change project for the SME studied, the subsequent study of social media usage demonstrates a more detailed level of analysis. In alignment with the participants' (INT7, INT1; INT19) remarks on the importance of pertinent dialogical interaction with digital tools, the change project implemented two training sessions on social media usage within a six-month period. This period was determined sufficient to watch behavioural adaptation to using the platform. Since the company operates on four business quarters and two major holidays interrupting activity at six months apart (Christmas and summer), it was deemed necessary to factor these elements into the training delivery times to have an equal period of behavioural adjustment by participants between sessions.

The results provided substantial insights that inform the DVE model. The training took place in March and October of 2019. The group consisted of sales, marketing and Director level resources. Focus was paid to the sales and marketing resources and their behavioural change on the social media platform LinkedIn. The company has had a LinkedIn page since 2016 and currently 580 people follow this page (November 2020), 43 of which are company employees.

From the analysis (Appendix 8) it was possible to confirm that there was a 100% increase in social likes made by the employees who followed the page. This level of activity continued for two months post training before incurring a gradual drop in their activity. It was observed that

[2] A word or phrase preceded by a hash sign (#), used on social media websites and applications, especially Twitter, to identify messages on a specific topic.

there was a significant difference in the use of the platform between marketing resources and sales resources. The sales team had a high level of external activity, liking their networks' content compared to marketing resources who were consistent in their liking of internal company and employee posts. It is induced from the analysis that sales activity on social networks reflects the soft skill 'networking' used to engage with their contacts and interacting with them to build empathy. Marketing's internally focused behaviour reflects their activity of promoting the company and its expertise. This supports literature's findings on customer insight being accessible using Social Media (Habibi, *et al.,* 2015; Frankenberger *et al.,* 2013).

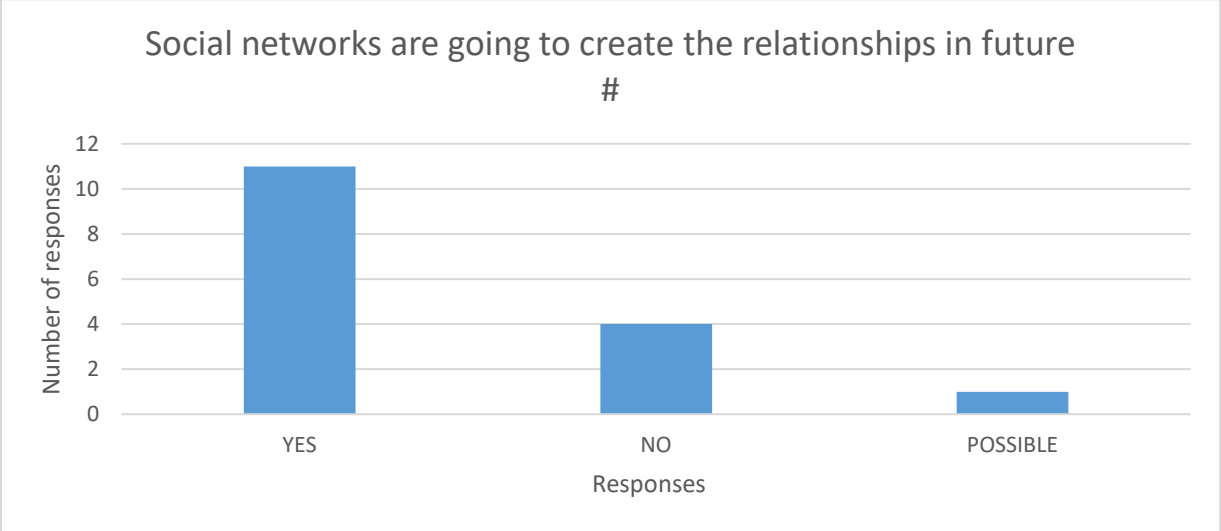
After the first training session on optimising social network usage, the sales resources produced more content linked to the company but they did not use the company @identity in their post. Interaction from followers during this period remained constant at an average engagement level of 9.5% (Engagement being the different types of actions taken from the 4 social behaviours listed). The click through rate (CTR) on the post content was 3.5%; which represents the proportion of all members who saw the post on their timeline, clicked on the post, or a link in the post, or the picture in the post. This contracts with industry standards (LinkedIn, 2020) that sets an average CTR at 4.1% and augments that gap identified in knowledge on hierarchical influence on change strategy despite collaborative resistance. Just because the Managing Director is an active user of the social network and champions it, does not mean that the other stakeholders perceive this to be the right behavioural change for them.

Following the second session there was a 200% increase by sales and marketing teams in the interaction with company posts and in addition a 35% increase in the number of company-posts that were shared by these same resources on their own LinkedIn page. This can be perceived as a natural reaction that participants have immediately following any type of instruction. The consequence of this increased activity led to a CTR of approximately 5.5%, exceeding the aforementioned industry standard on CTR.

Marketing shared all company posts proceeding the second sales training contributing to the overall CTR of 5.5% on average. Their use of the company hashtag was null, which can be explained by INT5's opinion on the current deployment of digitalised resources. "*Today we have a number of tools to collect client data, from the ERP that has enabled us to build a database of our clients and also to manage projects to social networks for communicating. We are still not sufficiently equipped. But it is interesting to observe the changes taking place* […] *it is a profound mutation. It means a behavioural change in the way we work. It will enable us*

to free up time to be allocated to other tasks. But it is a transformation that is complemented with human interaction."

Social dialogue reflects the overarching theme of skilled collaborative optimization and supports literature's arguments (IDC, 2014; Nobre and Silva; 2014; Schaub, 2014) on the way Social Media contributes to the expansion of sales and marketing functions. After the second social media training session that was performed in a consultative role (and not as a research exercise) there was an immediate increase of 95% in comments and dialogue which led to offline conversations with customers. However, this behaviour did not continue past two months. It can however be induced that social dialogue through digital channels is a relatively new phenomenon for industrial SMEs. A gap in knowledge is exposed in social dialogue and sustaining the social conversation which requires a full examination. Nevertheless, in contrast with literature's view of social media (CRM, 2018; Cuevas, 2018; Dubois, 2019), when participants were directly asked about the future use of social networks in client relationships, Graph 2 illustrates their near unanimous opinion that social networks will drive professional relationships from the onset of the sales process.



Graph 7. Participants response to the question of whether social networks in the future will drive from the onset all client relationship development through social dialogue

A final observation of the skilled collaborative optimization overarching theme, is that posts on LinkedIn pertaining to regional projects carried out by the company, led to not only a higher impression rate through the use of choice keywords but also a substantially higher CTR of 7 – 24%. This confirms the importance of quality content that enhances brand image, as identified in the analysis of the information exchange overarching theme (Chapter 5, section 5.2.)

CHAPTER 6. DISCUSSION AND RECOMMENDATIONS

This research advances understanding of the digital transformation of manufacturing SME sales and marketing functions (Pelletier *et al,* 2019; Barann *et al*., 2019; OECD, 2018; Rakheja, 2018; Eggers *et al.*, 2017) by examining its impact on these functions and by building a categorisation and optimisation of data exchange in their client/supplier interaction. In this effort, the initial pilot project (Appendix 4) identifies three dimensions of a proposed Data Value Efficiency (DVE) model: resource inefficiencies, information exchange and skilled collaborative optimisation. The subsequent research project validates the proposed DVE model by bringing fresh data from the research analysis to instruct the different elements of this model. Collectively, the study responds to multiple calls to further understand how to manage and optimise the digital transformation of sales and marketing functions in order to enhance value propositions that these resources provide to the client experience (Day and Bens, 2005; Eid *et al*., 2006; Nobre and Silva, 2014; Schaub, 2014; Habibi *et al.*, 2015; Themeco, 2016; CRM, 2018).

By providing an extensive analysis of behavioural change within the chosen SME and a subsequent analysis of internal and external stakeholder opinion on the digital transformation of manufacturing SMEs, the study provides new knowledge in the optimisation of digital resources that can be integrated into the client decision making journey. Firstly, the model instructs companies in understanding the three sales and marketing interaction types. These interaction types are: marketing and sales resource inefficiencies; information exchange between internal and external stakeholders and finally, skilled collaborative optimisation in client relations. Secondly by applying the DVE model to their sales and marketing operations, SMEs will understand how data categorisation and optimisation can develop time, financial and information efficiency gains. By understanding what type of information flow between client and supplier can be automated, projected savings of 37% of overall time and resource efficiency can be achieved. Such a saving in resources would be achieved through the automation of low skilled tasks and therefore would enable valuable sales and marketing resources to be redeployed to skilled collaborative optimization of expertise with clients and external stakeholders.

The results and analysis from this research allow for a critical examination of the five research questions.

6.1. The role of marketing in the acquisition of data management skillsets

Naughton (2016) described the internet as a platform that enables community development via a network of connected users to develop authority. This argument supports the results of the change project in so far as it identifies three cornerstones of the Digital transformation of sales and marketing functions: the platform, the network of users and the development of authorised knowledge.

This compares favourably with Tuomi's prediction (2002) about the fusion of humans and computing Information Technology to form a platform of highly processed data. We can compare this with the feedback provided by the study which formalises the proximity of these two resources in accurately optimising the client experience and decision-making journey (INT8; INTO15; INT7). In his additional remarks Tuomi (2002) examined the correlation of innovation and social practice to build a powerful publishing medium. Power can only come however from pertinence of the information provided. Similarities can be construed with Nietsche's interpretation of fact (Sturge and Bittner, 2003), arguing that "all things are subject to interpretation". It is therefore deductible that whichever interpretation of data prevails at a given time, becomes a function of power and not truth. Similar opinion is found in participants' feedback on the importance of data quality and its pertinence to enable a better interpretation of client requirements (INT7; INT10; INT1). Yet with the influx of information and the reduced resources in SMEs, the need to categorise all information is essential in order to better interpret client requirements and situations in their decision-making journey, as well as freeing internal resources from unnecessary labour-intensive tasks (Habibi *et al.*, 2015; Marshall *et al.*, 2013; Cuevas, 2018) references.

To further advance this argument, McNealy's adage[3] (1995) that the network is the computer and that society is entering the age of participation still stands true despite the test of time. McNealy was indeed pointing out that the Internet, up until 1995, had been a public broadcasting system where information could be posted and or sought. With the onset of the World Wide Web (WWW), collaborative two-way development of data had incurred and would evolve rapidly as the participative society had access to technology, enabling the free flow, creation and exchange of information. This is a noteworthy contribution to writings on the exchange mechanism of the WWW, and supports findings from the study of how the internet enables a vector of dialogue in the co-development of information (Hoffman *et al.*, 2018;

[3] Scott McNealy, CEO Sun Microsystem. Plenary speech at Java Consortium, Paris 1995

Lanier, 2011). As the study clearly highlights, SME sales and marketing functions need a mechanism to filter the data into categories of information that they can exploit as data execution channels. With this in mind, it is recommended that the DVE model includes an understanding of 'type of data' that is being fed into the model, in order to perform efficiently against client expectations. This advances initial contributions by Habibi *et al*. (2015) on the data auditing by companies.

From the analysis it is possible to determine that there are three types of information transactions which are either unskilled, sales-centric or technically expert. The observational analysis of sales and marketing operations and subsequent stakeholder interviews have enabled the deduction of four types of data classification: Automated, Designated, Co-Created, Generated. As a result, it has been possible to adjust the initial DVE model (Figure 5) from the pilot (Appendix 4) to introduce the four data classifications, the flow of each type of data and how the data pertaining from each information source are exploited

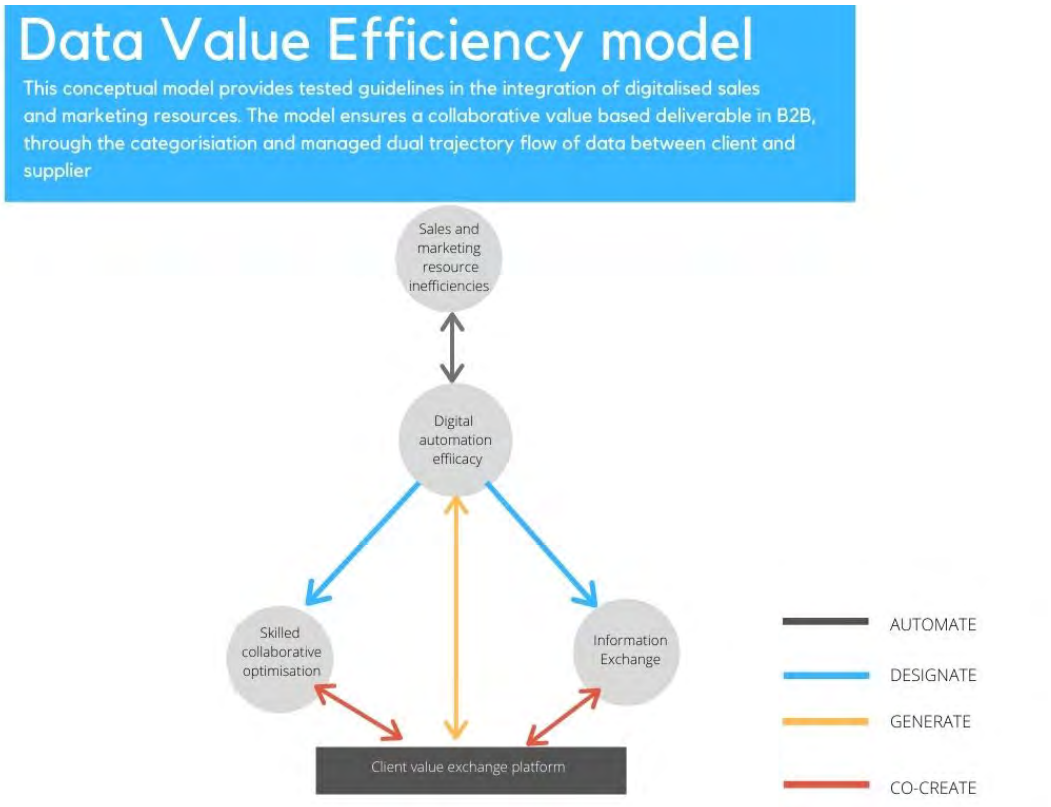


Figure 5. The Data Value Efficiency model revisited (author's illustration, 2020)

These findings enable an improved value chain through pertinent and timely delivery of the classified information. They support Shafer's (2016) views on the role of the Internet and how the "information society" would develop new business models from old (Kaun, 2014; Schafer

and Thierry, 2016). The comparison between literature (Zaidi-Chtourou, 2018; Pelletier, 2019; Cuevas, 2018) and the research positions marketing as a central role in the acquisition of data management skill sets in order for companies to elaborate engagement strategies. Clearly, the new model proposed supports Delanda's (2016) reference to an industrial assemblage of data. Once information has been classified, marketing can transfer to sales the relevant filtered information to allow a unique data collection experience (Hoffman and Novak, 2018) that in turn will be gained by the client.

6.2. Artificial intelligence and the smart evolution of the sales and marketing functions

Another relevant contribution provided by this research is that Artificial intelligence will support and enhance the sales and marketing function through time-savings in automated actions as proven in the pilot observation (Appendix 4). However, it is negated that AI will ultimately replace sales and marketing functions as the results from the qualitative analysis clearly show that human soft skills, in particular empathy, are still fundamental requirements to engage and maintain client loyalty (INT15; INT7; INT1; INT4). The DTVE Model integrates human interaction through the validation of information flow and considers that whilst clients seek a single contact within an organization, their varying levels of information required can be satisfied by automated responses and managed, timely interaction. Cuevas (2018) argued that sales people were the primary source of customer knowledge. In order to align with the more informed buyer (Ulaga, 2001; Ulaga and Eggert, 2006; Cuevas, 2018) an integrated automation of sales actions can be organized to give a more novel and unique customer insight (Marshall *et al.*, 2013; Cuevas, 2018), and further enhance the value proposition offered to the customer. The advantage of artificial intelligence using for example RPA, is the capacity to respond to requirements that differ between transactional selling and consultative selling (Cuevas, 2018).

The study also confirmed the use of AI in the development of proactive information that can be delivered in a timely manner to the client. With identified potential time savings of up to 37% related to client-oriented actions, the model aligns with literature and participants' opinions (Aalst *et al.*, 2018; Hofmann *et al.*, 2019; INT9; INT1) that redeployment of resources is possible through automated tasks of low skilled functions and particularly those that require no further action. What is essential in the implementation of the DVE model is to thoroughly understand what constitutes low skill information. Through the content analysis of the study it has been possible to categorize the different times of action outcomes that can be classified in this category and what action needs to be taken.

The observational analysis enabled the study to project how RPA integration as an automation solution can reduce the use of human interaction by just over 8 hours, which represents a 10% time-efficiency gain. Of that, 18% of overall processing of paperwork could be economised using smart technology with RPA. Since many organisations are looking to cut costs, particularly of legacy systems (Aalst *et al.*, 2018; Hofmann *et al*., 2019; Stein Smith, 2020) the results of this analysis suggest that this type of smart technology can contribute to resource efficiency gains that are beneficial to SMEs which are often reported as lacking infrastructure and resource to optimise certain internal procedures (Hannon, 2012; Karjaluoto *et al*., 2015).

6.3. Optimising resource through the Digital Value Exchange Economy in B2B

An initial definition of the B2B Digital Value Exchange economy was developed from gaps in literature on the Sharing Economy outlined in the literature review (Chapter 2 section 2.4) The research enabled a revision of this definition as follows: "*A digitized, collaborative process that enables time, financial and information efficiency gains for customers and companies in a new triadic structure: the user (the stakeholder), the service provider (company), the service enabler (digitized interface/platform). Value is unlocked from the automation of specific client facing tasks and the optimized redeployment of internal company resources for an improved client experience.*"

The proposed theoretical definition is based on a review of previous literature that evaluated how web-based applications were enabling users the possibility to project their daily tasks into a network of like-minded users (Schafer, 2016; Lorenzo-Romero *et al*., 2014; Kaun, 2014). In B2B, the enterprise becomes the service enabler and needs to determine its choice of communication used and the implication of the network of users. Time, resource and information efficiency gains have been confirmed by the study which conforms to this definition. Much like in the B2C space, the research shows how a market-place platform could be envisaged that would enable B2B clients to select companies based on a catalogue of core skills and expertise. Although certain catalogues of B2B expertise exist already (INT18), the interface between the client and designated supplier is yet to be integrated which is the core element of market-based collaboration.

In addition, the research developed the intricate, holistic nature of sales and marketing functions as their traditional methods evolve in B2B (Cuevas, 2018). The boundaries between sales and marketing fusion even further in order to respond efficiently and in a timely manner to the

informed client. The definition finally defines the need for the reallocation of resources to enhance the client experience. As the study identifies, the client experience is transforming into a value-based exchange where traditional roles are evolving. The sales role focuses in a holistic manner on internal and external resources and marketing becomes a closer client agent, through automated, pertinent exchanges and through the diffusion of tailored information gathered from sales (Kotler and Pfoertsch, 2007). One cannot function without the other.

6.4. Overcoming resistance to digital change of sales and marketing in industrial SMEs

The study clearly demonstrates the importance of managerial and stakeholder adoption which compliments Rodriguez *et al*'s affirmation (2012) in the choice of strategy implementation. The majority of issues related to resistance came from senior profiles within the company who consider time constraints and impersonal implications from the digitalization of their role. Many of these concerns came from a preconceived view of digital technology such as social media developing impersonal practices, and also an 'over-digitalization- of certain procedures internally that require the use of multiple digital tools (INT11; INT2; INT2; INT6; INT10; INTO15). The observation undertaken in the study reiterates the requirement for a full understanding and accompaniment of stakeholders to adopt a behavioural change in their activity. This aligns with literature (Aalst *et al.*, 2019; CRM, 2018; Hofmann *et al.*, 2019 which stresses the need to identify, test and implement digital transformation with dedicated IT resources. Despite the resistance that exists, the majority of participants understood the natural tendency and requirement to evolve to more digitized processes. This contrasts slightly with literature (Pelletier *et al.*, 2019; Cuevas, 2018) which takes more of a pragmatic viewpoint, focusing more on the structure of change rather than stakeholders' perception and experience of this inevitable change. The observational analysis of social media usage does demonstrate that a guided integration of such tools can ease the risk of resistance to change becoming problematic and compares favourably with literature's observation of the application of a consultative approach to social media adoption (Cuevas, 2018; CRM, 2018; Pelletier, 2019). Since the future sales professional will be faced with new generations of B2B buyers, the change is inevitable (Povolna, 2018), but a structured implementation is essential in order for stakeholders to understand the real benefits and value proposition of this aspect of digital transformation in their roles. Cuevas (2018) detailed the transformation of professional selling and how a shift of mindset does not necessarily mean inconsistency but more an embrace of change (Smith *et al*., 2016; Trevino *et al*, 2000). The need for a more consultative approach to selling can be extended through digital transformation without negatively impacting sales and

marketing resources because as the results showed, the time redistribution enables sales resources to be in a more face to face role. As Cuevas (2018) underlines, the role of sales professionals is to enable customer development. By optimising information access (Sheth and Sharma, 2008) the pursuit of customer value and contribution to that value can be managed in part by the specific task automation (Marshall *et al*., 2013; Aalst *et al*., 2018; CRM 2018) so that client facing resources are perceived as knowledge brokers (Verberke *et al*., 2011; INT1; INT7; INT12) and thus optimizing customer insight. Technology is therefore the value enabler and sales and marketing become value brokers. The pilot (Appendix 4) records that 65% of a sales person's time is dedicated to client relationship management. Additionally, the pilot projected efficiency gains of 44%, enabling sales resources to provide incremental value using their skilled expertise through digital transformation, and consequently encouraging stakeholder buy-in to digitalization as their core skill sets would be optimized. As Vargo *et al*. (2008) summed up, the integration of resources and application of competences would be augmented.

6.5. Value of experience in B2B. Client relationship management with social media and the revision of digital currency

The research project introduced the notion of data being the new digital commodity (Hanna *et al.*, 2011; Karjaluoto *et al.*, 2014). and emphasized the competitive advantage of companies who adapted to the digital transformation of industry and invested in the digital digitalisation of their activity. However, this idea does not wholly demonstrate the competitiveness of businesses as the results of the research clearly shows that the incumbent nature of data can effectively deter from the performance of sales and marketing in SMEs in their client facing roles. The study exposes how value of experience is integral in the new norm for business to business exchanges in the proposed Data Value Efficiency model and once value of experience is understood by stakeholders (internal and external) only then can data be the currency of exchange (INT2; INT9; INT7). The study identifies how digitized intervention needs to be categorised into 'client data analysis functions' which enable a valuable exchange of expertise and therefore enhancing the client /supplier experience. Extant literature espouses the notion of sales and marketing teams working together in customer and internal team focused activities to develop customer value creation (Johnson and Sohi, 2016; Raja et al, 2020) but this study argues how customer data qualification through digital intervention could induce time and resource savings of up to 20% on the dialogical relationship with customers and consequently enhancing the value of experience that they perceive. This in turn enables a response to be given

to the question of the Voice of the customer in B2B CRM. Since the study exposes the importance of empathy and active listening as key success criteria in the customer relationship, the customer's voice is definitely essential in defining the alignment of social media tools. This supports literature's findings (Cuevas, 2018; Marshall *et al.*, 2012) on such tools generating novel and unique customer insight and thus contributing to the value proposition of digitized sales and marketing functions. This has been proven within the study to be integral in the development of the customer relationship model. SMEs need to embrace what Rodriguez (2012) considered to be the principal function of social media usage in B2B sales and marketing, that of networkable content. Extant literature supported Rodriguez's examination of social media becoming a building block in business potential through the customer insight it provides (Karjaluoto *et al.*,2015; Habibi *et al*., 2014; Booth, 2017; Schaub, 2014), but focused specifically on this business potential from a supplier perspective. The qualitative study performed on a cross section of stakeholders in industry and industrial SMEs exposed the strategic role of the customer in enhancing the digital client/supplier relationship through the integration of social media as the future platform for client prospection. Social media becomes a strategic tool in the evolution of manufacturing SME sales and marketing resources but only if SMEs understand the difference between the roles of marketing and sales on these digital platforms (Cuevas, 2018; CRM, 2018; Marshall *et al.*, 2018). Sales functions are the source of field information, through their own network (online and offline) they provide the insights and pertinent information exchange that Marketing subsequently transforms. As literature concurs (Cuevas, 2018; Verbeke *et al*., 2011; Sharma and Syan, 2017), through an organisational review of technology implementation, the facilitation of customer experience and interaction can be achieved as marketing data is effectively channelled into the sales efforts. As the results clearly show from the behavioural analysis performance on social media, 62% of stakeholders foresee that the value of client relationship development ultimately will come from the adoption of these platforms. Consequently, following the recommendations from the research project, the studied SME has evolved its own value proposition to a company that proposes integral solutions for industrial flooring and end to end customer satisfaction. The proposition has moved from a product focus to a customer centric experience - words such as integral solutions and collaboration underline this transformation and are reflected in the integral use of digital resources focused on the customer experience (eg a new fully interactive optimised website based on the guidelines and DVE conceptual model developed in this thesis)

6.6. Managerial implications

Therefore, how do industrial SMEs prepare for the Digital Value Exchange Economy in B2B? Extant literature appears to question who should be responsible internally for a digital transformation strategy (Matt *et al*., 2015). The study exposes that whilst a partial digital implementation by manufacturing SMEs of their operations has already been undertaken (Barann *et al*., 2019; Chong *et al*., 2010; Cuevas 2018) the requirement to digitalise client facing interfaces of their operations still remains a challenge. This is because of the proximity of this digitalisation with their strategic revenue stream i.e.: the customers. The study clearly exposes the need for the decision maker to lead the behavioural change in client facing activity. As sales and marketing resources are integrated into the company's digitized network they can visualise the top down adoption of digitized practice and witness its performance. Self-efficacy is therefore achieved in the actions and behaviour that they themselves duly adapt. As INT10 stated "*it is important we know how to transcribe these skills internally for a standardised implementation thanks to a library of operation methods*". The ultimate ambassador of the Digital Transformation in SMEs is the decision marker. Through social media usage linked to website content, the decision maker is perceived as a value broker for the enterprise. A simple analysis of content performance when the decision maker of the studied SME shared the company's content on his own network, compared to his sales and marketing resources, demonstrates a 40% larger network reach of his posts. This does not in any way detract from the importance of stakeholder adoption of social media but it does compare favourably with literature (PWC, 2015; Mergel, 2016) by manifesting the value of experience from this leadership adoption.

A Digital Transformation of sales and marketing is a revolution for many manufacturing SMEs (Hofmann *et al.*, 2019; Matt *et al.*, 2015) and with every revolution there are victims (Boneva, 2018; O'Connell *et al*, 2015). We are all subjects of self-efficacy as shown from the behavioural analysis of social media usage within the studied SME (Appendix 8), and its adoption by a leading position within an SME's organisation accelerates and optimises the collective adoption within a team.

With data generation on the rise in the smart internet age (Zaidi-Chtouorou, 2018; Aalst *et al.*, 2019), automation through AI is fundamental in the quest for value added information exchange (Aalst et al, 2018; Hofmann *et al*., 2020). Industrial SMEs have implemented automated processes in their production line; the study further validates that sales and marketing data generation is ultimately another production line that requires a quality control system. According to the study, such automation reduces the time/labour intensive low skilled tasks that

dominate 37% of sales and marketing functions. To achieve this, the study recommends the development of industry specific digital value brokers who can be sourced from a combination of Generation Y and Generation Z professional profiles both internally to an SME or externally. These Digital value brokers have the foresight to adopt the DVE model in order to build categories of automated data channels, transform client / supplier interaction into information exchanges and optimize skilled collaboration through designated expertise selection within the SME. This continued accompaniment will build a holistic approach to client relationship management and its consequent value proposition as the client gains a two-way informed development of its decision-making journey via the classification and optimisation of data exchange. Its current self-informed approach (Boneva, 2018; Povolna, 2018) could potentially be minimised to build interaction at an earlier stage in the relationship and therefore moving the information power shift back to a more equitable distribution between client/supplier.

Social media, RPA and smart websites are at the heart of the digital transformation of sales and marketing functions (Storbacka, 2012; Cuevas, 2018; Mahlamäki, 2016; Abrell *et al.*, 2016) in manufacturing SMEs and informs the DVE model developed in this study. As this research shows, their combined investment provides for a performant collaborative platform which positively impacts the value proposition of manufacturing SMEs when a data classification audit is implemented from the beginning. The first angle of attack in this transformation is social media as the study demonstrates how closely social behaviour codes are reflected in these platforms in the early and middle stages of client relationships. In effect, social media companies are investing in the refined vision of interaction to enable the integration of key human interactions such as empathy, appraisal, questioning, disapproval which represent the core traits of active listening in skilled collaborative optimisation between client and supplier. A social 'Like' now has evolved on LinkedIn to a thumbs up, a clap of appraisal, an emotional surprise emoticon, or a disapproval emoticon[4]. These adjustments enable clients to express their reaction to supplier development and subsequently permits suppliers to build insight that can be adopted in their foresight of what content to network, which images, information and experiences can be published to build customer engagement. Although this does not align wholeheartedly with participants' views on their adoption (INT2; INT3; INT11) it does inform the proposed data categories of "Co-created" and "Generated" (Chapter 6, section 6.1). As Bandura's (1977, 1986) SCT exposed, through Self-Efficacy and understanding of what makes

[4] LinkedIn applied these variants on a standard like in 2019 and Facebook in 2016.

people react, stakeholders will build an understanding of the value proposition associated with the Digital transformation of sales and marketing.

Companies must also make an informed choice into the social media that they chose to build their digital identity and whilst the last few years of social branding has impressed upon multiple platforms being adopted by companies, this is not a realistic option for SMEs due to their time and resource constraints. INT9 impressed the continuous "always-on" approach of these tools requiring therefore a full-time resource committed to their management. This compares favourably with literature evoking the challenges of running multiple social media platforms (Pelletier and Cloutier, 2019; Lindmann, 2013). The study showed how concentration on one social media platform has developed a community growth of 25% year on year over three years. Whilst industry literature stipulates the need for multiple social media presence to enhance visibility on the web (Pelletier and Cloutier, 2019; Marshall *et al.*, 2013; Habibi *et al.*, 2015) – the future will require a more qualitative take that reflects the behaviour of our day to day interactions (Marshall *et al.*, 2013; Habibi *et al.*, 2015). It can be deduced therefore that the pressure will be applied to optimize rather than quantify exchanges. A strategic choice of platform enables clients to have one point of interchange and as this study exposed, the single point of contact is a client behavioural evolution enabling focused qualitative exchanges between client and supplier. In conjunction with this consideration is the carbon footprint of excessive data production (Computerworld, 2019) will become a factor in determining which social players succeed. LinkedIn has maintained a constant evolution aligns with consensus (INT7; INT9; Frankenurger *et al.*, 2013; Cuevas, 2018) on its respect of the professional community requirements. Its adoption of social symbols and interaction features means that the DTVE model can begin with this platform's integration into a supplier's automated client engagement construct. This supports the argument that having multiple social layers for an SME is not a viable strategy in their client relationship strategy because of the time and information constraints that it imposes (INT9; Hanna *et al.*, 2011; Karkaluoto *et al.*, 2015).

Automation is the second phase to implement in the DVE model. As SMEs are now becoming rehearsed in the use of social media, data amplification requires automation to optimize sales and marketing investment in the early relationship construct with prospects and clients alike (Aalst *et al.*, 2018; Ghosh, 2018; Lehrer *et al.*, 2018; CRM, 2018; Hofmann *et al.*, 2019). RPA is the "new kid on the block" that is receiving increasingly positive justification in the time and resource efficiencies that are critical to the evolution of manufacturing SMEs. By applying the DVE model data categorisation, a projected 44% of resource inefficiencies can be resolved

using RPA. Through a top down recognition of the efficiency gained through RPA implementation, SMEs can change their perspective of the administrative burden of their daily tasks and the dissatisfaction that this generates. A total of 83% of participants agreed on the time optimization that digital transformation of their tasks can potentially enable.

The final phase of the DVE model is the CRM platform that an SME requires to build the optimised skilled collaboration between suppliers and their stakeholders. The study augments extant literature's recommendation to adopt these technologies (Boneva, 2018; Chaffey, 2015; Cuevas, 2018) with quantitative justification in its deployment enabling time and resource efficiencies of 26%. However, what the study does expose as a gap in literature is that the current configuration of CRM tools is limited to a supplier driven function of the tool. It is recommended that such tools need to evolve into a value exchange platform which enables a two-way input for both client and supplier in order to develop the value proposition of industrial SMEs and build levels of trust and exchange that reflect the proposed Uber Economy definition. As literature confirms (Habibi *et al*., 2015; Marshall *et al*., 2013), value is a differentiator when it is true value perceived by the client. If the client therefore is an actor in the construct of this value exchange, then the information power balance remains equitable and optimized collaboration augments the value proposition.

This study contributes to practice by projecting a quantifiable impact of the value proposition to be gained in terms of time, resource and information gains from Digital Transformation of sales and marketing resources. The contribution to knowledge is made with the proposal of the DVE definition and the DVE conceptual model, which provides guidelines to practitioners in manufacturing SMEs on how to gain value from data classification and optimisation, via the integration of digital sales and marketing resources. This was achieved through the accomplishment of the three research objectives:

- A critical review of contemporary professional and academic literature on B2B digital marketing and value perceptions in client focused functions.
- Drawing from observations made in a pilot project on sales and marketing activity and interaction with digital tools, a conceptual model will be proposed based on the coding and analysis of identified skill sets.
- A review of stakeholder academic and industry expertise and opinion will be critically discussed in order to inform the proposed conceptual model and definition.

CHAPTER 7. RESEARCH LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The author is mindful of the limitation of relying on a single company informant in the construction of the research project. This effectively has created context specificity. Data has been collected from longitudinal observations made within a traditional industrial SME in the flooring sector which makes the findings hardly generalizable across wider populations. However, in Grounded theory case study research, generalizability is not an aim, as the purpose is to understand a phenomenon in the context in which it occurs. Focusing on a particular case does however enable the discovery and refining of generalizable concepts and frameworks (Yin, 2008). This study has sought to gain an understanding of the impact on the value proposition of sales and marketing functions in their digital transformation which makes an in-depth understanding of the research problem more relevant than through a more generalised approach. A good descriptive analysis by which important characteristics can be grasped offers substantial possibilities for generalization (Gummesson, 2000).

A number of opportunities have been opened up for future research that should extend on this initial report. Firstly, testing the model on other SMEs within varying industry sectors to validate its structure and performance could be an interesting project to build an economic consensus.

Secondly, identifying and validating the key success factors for implementing the model could build more dependability to the model.

Additionally, a valuable contribution to research into the digital transformation of B2B sales and marketing practice would be a longitudinal study on the implementation of digital sales and marketing tools by stakeholders to quantify the time efficiency of the adoption of new tools compared to previous practices.

Finally, a more in-depth study of the paradox that often underpins the transition from one practice to another would be very beneficial. By this it is implied that despite efficiency gains being possible, what are the initial resource impositions to successfully implement the transformation over time.

One final recommendation on future research stems from the given rise in society's acceleration of environmental change following the 2020 COVID19 sanitary crisis. The results of this change project underline the already overwhelming amount of data that companies need to

manage on a daily basis. Recent studies have exposed the substantial carbon footprint of data management. Future research could quantify how the reduction in choice of the myriad of digital platforms available, could enable economies of scale in the environmental impact of the current data exchange. The question is also raised on the societal impact of the value proposition in the adoption of the DVE model by industry.

The overall challenge of this study is the "chicken *versus* the egg" paradox that faces future subscribers to the DVE model. It has been stated from the onset that time constraints are a formidable challenge for SMEs and whilst the sample SME benefits from a consultative accompaniment in the Digital transformation of their sales and marketing strategy, this is not the case for many SMEs whose resistance to change is largely due to time constraints. However, the paradox of time is not only created from the implementation of the strategy, but also from the outcomes generated through increased visibility and more qualified customer interest, which therefore could have a potentially adverse effect on sales and marketing resources which are already suffering from lack of time (INT3; INT4; INT5; INT12; INT10)

CHAPTER 8. CONCLUSIONS

This thesis questions how industrial SMEs integrate the impact of the digital transformation on the value proposition of their marketing and sales resources. From its onset, the research addresses the need for successful change management to be clearly understood by each and every individual impacted by the change (Appelbaum, 2012; Delorme and Dejellalil, 2015; Metais-Wiersch and Autissier, 2016). It is through this sense-seeking that behavioural change can be observed (Bandura, 1977, 1986, 2009; Lowry *et al*, 2017). The focus on SMEs was a conscious choice since extant literature ignores the challenges that these company profiles face in embracing change brought about by Digital Transformation (Gartner, 2017). With 75% of companies expected to have implemented a digital transformation in this year 2020 but only 30% of them successfully (Boneva, 2018; O'Connell *et al.*, 2015), it is ever more essential for SMEs to understand fully how to optimize the Digital transformation of their sales and marketing functions in order to increment their value proposition (Cuevas, 2018; Matt *et al*., 2015; Marrone and Gallic, 2018).

The first research objective involved an extensive literature review of the smart evolution of the World Wide Web (Meyer, 2016; Hofmann *et al*., 2019), as an instrument of behavioural change in the digital adoption by sales and marketing resources in the B2B sector (Ceuvas, 2018; Delanda, 2016). The evolving Internet Economy has moved the professional digital transition to a smart application of technology (Aalst *et al.*, 2019). A smart method is defined as an automated process of producing results that replicate human behaviour[5]. Whilst this may seem relatively unsurprising, research to date has been limited to a hypothetical perspective of the benefits to be gained from such advances in technology (Dubois, 2019; Marrone and Gallic, 2018). However, the research illustrates that for SMEs, the lack of quantifiable evidence to justify investments in such transformations has delayed their adoption of technology in client facing roles due to behavioural resistance and mistrust (INT4; INT6; INT11). Consequently, after observing behavioural adoption of digital technologies in a client facing role, the second research objective provides convincing evidence of its impact on client facing value propositions through smart automation, or Artificial Intelligence. The main highlights of this analysis demonstrated substantial time and resource savings of 44% based on the existing behavioural characteristics of client facing roles. Firstly, the analysis confirmed that the main interactions in client facing roles are active listening, display of empathy as well as sales and

[5] Oxford DIctionary definition – 2018.

technical expertise and that clients opt for a relationship built on competence and empathic reactivity. And although skilled collaborative consumption and information exchange are the most important types of outcome from these interactions between client and vendor, 18% of client facing resource time is spent on actions which require low skill time consuming actions. Similarly, the report illustrates that 37% of the overall time dedicated to client relationship management is spent on functions that require no further action. Recommendations include a partial digital transformation of the client relationship management to enable the projected efficiency (time, financial and resource) gains of 44% through the implementation of Artificial Intelligence. As confirmed within the third research object, the adoption of social media will optimize these identified internal resources during the customer/supplier relationship. Such a transformation aligns with the proposed B2B Digital Value Exchange Economy definition. The report makes further recommendations that SMEs should seriously consider the strategic importance of the implementation of RPA technology to alleviate these substantial resource commitments, in particular the 18% of resources spent on low-skilled, time consuming tasks. This would not only improve internal perceptions of the advantages to be gained by their internal stakeholders, but would also diminish the impact of resistance to change (Povolna, 2018; McKinsey, 2020; Taiminen and Karjuluoto, 2015) also contribute to a power shift in the information gathering process of clients who currently spend two thirds of their current decision-making journey autonomously collecting data online (CRM, 2018; Boleva, 2018., 2019; Aalst *et al.*, 2019). Using artificial intelligence to respond to initial information requests, the SME can play a more active role in guiding the early stages of client prospecting (Aalst *et al.*, 2019). Consequently, this research objective validates the role of trust in the digital optimisation of the client relationship.

The report demonstrated a categorisation of actions undertaken from client/supplier interactions (Appendix 4). The three categories developed were resource inefficiencies, information exchange and skilled collaborative optimization, thus contributing to knowledge. This categorisation enabled the research to enhance its findings via a collect and analysis of insights from stakeholders in the SME and in the manufacturing sector. This holistic view informed the research in how to enhance the impact of the value proposition from the digital transformation of sales and marketing functions. This is achieved with the proposed Digital Transformation Value Exchange Model (DVE). The model contributes to practitioner knowledge by providing guidelines into the optimised integration of digital sales and marketing tools, to ensure an effective collaboration and exchange mechanism between stakeholders. The DVE Model

integrates human interaction via the validation and optimization of information category and flow. The model integrates the change project's findings that demonstrate clients' requirements to collaborate with a single point of contact in an organization (INT1; INT4; INT7). An automated initial interface enables a client/supplier interface which satisfies B2B customer expectations (Buchanan, 2019; Cuevas, 2018; Matt *et al.*, 2015; Boneva, 2018) to respond to the varying levels of information required, in a more managed and timely fashion. Consequently, a projected 36% of valuable internal resources can be deployed to optimize skilled exchanges and thus enabling the development of relationships based on expertise, technical reputation and trust (Schaub, 2014; Nobre and Silva, 2014; Cuevas, 2018). This research objective provides a satisfactory definition to how value creation can be created despite existing resource constraints.

By informing the initially proposed model with categorized definitions of information collected, i.e.; automated data, generated data, co-created data and designated data – the DVE model guides SMEs in understanding what actions can be undertaken in the treatment of the customer and company generated data. The need therefore to audit data generation aligns with literature's confirmation that the qualification of data and its intricate relationship with sales and marketing resources (Eid *et al*., 2006; Chaffey, 2010; Grover *et al*., 2018; Zaidi-Chtourou, 2018) is the key critical success factor in the digital transformation of SME client relationship management strategies. As the Managing Director of the studied SME concluded "*But the results reflect a general reflection that I have on our future activity and where I want to take the company. The importance of experience, resource optimisation and collaboration are key elements in my opinions that contribute to the Digital Value Exchange Economy in B2B. They reflect my own idea of the value proposition of the company*".

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APPENDICES

Appendix 1. SME 2020 business strategy

Appendix 2. 7001 The context of change

Appendix 3. 8001 Preparing for change Literature review

Appendix 4. 8003 Methodology and Pilot project

Appendix 5. 7001 Reflective presentation

Appendix 6. 8001 Reflective Presentation

Appendix 7. 8003 Reflective presentation

Appendix 8. Social Media Behavioral change analysis

Appendix 9. Research information sheet for change project

Appendix 10. Participants information sheet for change project

Appendix 11. Ethics approval form for pilot project

Appendix 12. Ethics approval form for change project

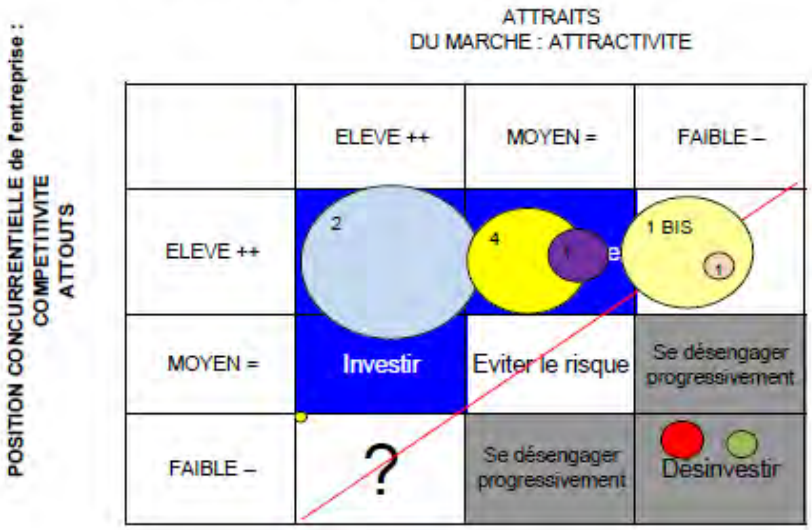
Appendix 1. SME 2020 business strategy

DOMAINE ACTIVITE STRATEGIQUE	PRODUITS SERVICES	POUR	MARCHE TYPOLOGIE CLIENTS	Besoins à satisfaire	FCS globaux	FCS SPECIFIQUES								stratégie générique : VP/BO ou SFD ?
DAS 1 REGION ELASTIQUE DALLAGE PLANCHER STANDARD **POUR** INDUSTRIE CENTRE COMMERCIAUX IMMEUBLE LOGEMENT	DALLAGE PLANCHER RADIER STANDARD PLANCHER BUREAUX	pour	Entr G.O. contractant général architecte bureaux d'étude promoteur	bas prix forte réactivité acceptation de toutes les contraintes du chantier accepte tous les risques techniques sans analyse pas de contrôle	1/ MAITRISE CDR : a) Adapter très largement les formules béton // CdC. b) Taille critiquer par le volume : levier béton faire plus de 30% du volume régional c) Faire appel à la sous-traitance portuguaise d) Tolérance de réalisation 8/10% 2/ 3 experts capables de mesurer le risque et de prendre la décision OUI ou NON 3 / Former le personnel à comprendre que sur ce segment le délais de réaction est de 3 jours 4/ Cadeau client requis type voyage									VP/BO
DAS 2 REGION NON ELASTIQUE DALLAGE PLANCHER STANDARD **POUR** INDUSTRIE CENTRE COMMERCIAUX IMMEUBLE LOGEMENT														VP/BO
DAS 2 DALLAGE INDUSTRIEL DECORATIF ET ECOLOGIQUE **POUR** SURFACE DE VENTE INDUSTRIE SOUHAITANT UN SOL ESTHETIQUE BUREAUX	DALLAGE FINITION BETON POLI		DISTRIBUTION INDUSTRIEL AYANT BESOIN DE FAIRE VISITER SON USINE DE SE DIFFERENCIER BE ARCHITECTE CONTRACTANT GENERAUX INGIENERIE	Esthétique durabilite conseil dimensionnement Participe à une démarche écologique au quotidien	1 outils marketing 2 formationdu personnel au produit 3 mise en place d'un réseau de prescipteur 4 réalisation de chantier référence visitable par des prospects 5 assurer la promotion du produit									SFD

DAS 3 DALLAGE RADIER HAUTE PLANIMETRIE **POUR** INDUSTRIE A FORTE VALEUR AJOUTEE PHARMACIE ELECTRONIQUE	DALLAGE RADIER HAUTE PLANIMETRIE		INDUSTRIEL CONTRACTANT GENERAUX BUREAUX D ETUDE INGIENERIE ENT GO GRAND COMPTE ARCHITECTE	permettre l'installation d un process a faible tolérance permettre la circulation de chariot automatique fiabilité conseil compatibilité avec les derniers systemes concus contact avec fabriquant materiel contact avec bureaux de contrôle garant du bon fonctionnement de l'installation etablir les calculs dims et plans SAV	1 notoriété reconnaissance par les installateurs et distributeurs de process 2 notoriété réputation par bouche a oreille presse Viadéo face book Google 3 savoir recruter et former des ca selon le profil type établit Rh 3 référencement 4 références développer et maintenir à jour un book de référence 5 respect du cadre technique défini 6 contacts avec les fournisseurs de process de chariot 7 perception par l'acheteur comme l'entreprise capable de réalise 8 maitrise du cdr									SFD
DAS 4 DALLAGE TECHNIQUE **POUR** SOLUTION SPECIFIQUE	DALLAGE HAUTE PERFORMANCE DALLAGE AGRO DALLAGE SANS JOINT		INDUSTRIE LOURDE BE INGIENERIE LOGISTIQUE AGRO CONTRACTANT ENT GENERALE	prise en compte de besoinspécifique apport de solution technique spécifique dédiée respect des délais dimensionnement SAV PRIX	1 notoriété réputation par bouche a oreille presse Viadéo face book Google 2 processus de formation interne visant à faire passer du niveau 1 au niveau 3 d'expertise 3 savoir recruter et former des ca selon le profil type établit Rh 3 référencement 4 références développer et maintenir à jour un book de référence 5 respect du cadre technique défini 6 contacts avec les fournisseurs de process de chariot 7 perception par l'acheteur comme l'entreprise capable de réalise 8 maitrise du cdr									SFD
DAS 5 REVETEMENT RESINE POUR INDUSTRIE AGRO	REVETEMENT INDUSTRIE AGRO		INDUSTRIE AGRO CONTRACTANT ARCHITECTE INDUSTRIEL BE INGIENERIE	Conforme aux normes en vigueurs sécurité hygiène agrément CRAM (subvention) durable réparable facilement sans arret de prod facile entretien pas cher	1 cout d achat MP optimise 2 référencement sur liste CRAM 3 prescription par fabriquant 4 expertise technique 5 qualifiquation salarié 6 référence 7 perception comme acteur crédible 8 prix									SFD
DAS 6 REVETEMENT ANTI ACIDE POUR LOCAUX DE CHARGE	REVETEMENT ANTI ACIDE		INDUSTRIELS BE CONTRACTANT GENERAUX ARCHITECTE	bas prix forte réactivité acceptation de toutes les contraintes du chantier accepte tous les risques techniques sans analyse pas de contrôle	1 cout d achat MP optimise 2 communication percutante 3 mo a faible cout et forte productivtée 4 souplesse sur les conditions d'intervention horaire décalé, week end									vp/BO

DAS 7 REPARATION APRES SINISTRE **POUR** INDUSTRIEL ASSURANCE	REPARATION APRES SINISTRE		INDUSTRIEL EXPERT ASSUREUR INGIENERIE ECONOMISTE BE ARCHITECTE	prise en compte du contexte spécifique d'intervention maintien actIvité planning bonne expertise technique référence assurance solution éprouvée dimensionnement SAV	1 notoriété reconnaissance par les gestionnaire sinistre des assureurs et les Experts 2 notoriété réputation par bouche a oreille presse Viadéo face book Google 3 savoir recruter et former des ca selon le profil type établit Rh Permettant de définir le cadre technique la durée de l'intervention de concevoir des solutions uniques intégrant la prise en compte de l'ensemble des paramètres touchant directement ou indirectement nos réalisations en amont pendant et après notre intervention 4 référencement 4 références développer et maintenir à jour un book de référence 5 respect du cadre technique défini 6 respect du planning 7 perception par l'acheteur comme un choix sécuritaire lui garantissant la réussite de l'aboutissement du projet dans le cadre défini budget planning									SFD
DAS 8 REPARATION ENTRETIEN MAINTENANCE DES SOLS **POUR** INDUSTRIELS GESTIONNAIRE DE PARC	REPARATION ENTRETIEN		INDUSTRIEL EXPERT GESTIONNAIRE SCI PROPRIETAIRE	prise en compte du contexte spécifique d'intervention maintien actIvité planning bonne expertise technique référence assurance solution éprouvée dimensionnement SAV PRIX	1 notoriété réputation par bouche a oreille presse Viadéo face book Google 2 savoir recruter et former des ca selon le profil type établit Rh 3 référencement 4 références développer et maintenir à jour un book de référence 5 respect du cadre technique défini 6 maitrise des couts 7 souplesse d'intervention 8 MO Qualifiée									SFD
DAS 9 REVETEMENT RESINE POUR INDUSTRIE	REVETMENT RESINE		INDUSTRIEL ECONOMISTE ARCHITECTE CONTRACTANT GENERAUX ENTREPRISE GENERALE	prise en compte de besoinspécifique apport de solution technique spécifique dédiée respect des délais prix	1 notoriété réputation par bouche a oreille presse Viadéo face book Google 2 savoir recruter et former des ca selon le profil type établit Rh Permettant de définir le cadre technique la durée de l'intervention de concevoir des solutions uniques intégrant la prise en compte de l'ensemble des paramètres touchant directement ou indirectement nos réalisations en amont pendant et après notre intervention 3 référencement 4 références développer et maintenir à jour un book de référence 5 respect du cadre technique défini 6 respect du planning 7 perception par l'acheteur comme un choix sécuritaire lui garantissant la réussite de l'aboutissement du projet dans le cadre défini budget planning _ maitrise des couts									VP/BO

Matrice de Mac Kinsey date 20 oct 10



DAS 1 ET 1 BIS DALLAGE PLANCHER STANDARD
DAS 4 REVET AGRO
DAS 2 BETON POLI
DAS 4 DALLAGE TECHNIQUE
DAS 5 REVETMENT RESINE POUR AGRO
DAS REPARATION APRES SINISTRE
DAS 8 REPARATION ENTRETIEN
DAS 9 REVETEMENT RESINE POUR INDUSTRIE RENO

DAS 1 REGION ELASTIQUE DALLAGE PLANCHER STANDARD **POUR** INDUSTRIE CENTRE COMMERCIAUX IMMEUBLE LOGEMENT	DALLAGE PLANCHER RADIER STANDARD PLANCHER BUREAUX	VP/BO	4,5	26,01%	0	0%
DAS 1 BIS REGION NON ELASTIQUE DALLAGE PLANCHER STANDARD **POUR** INDUSTRIE CENTRE COMMERCIAUX IMMEUBLE LOGEMENT	DALLAGE PLANCHER RADIER STANDARD PLANCHER BUREAUX	VP/BO	7	40,46%	8,4	21%
DAS 2 DALLAGE INDUSTRIEL DECORATIF ET ECOLOGIQUE **POUR** SURFACE DE VENTE INDUSTRIE SOUHAITANT UN SOL ESTHETIQUE BUREAUX	DALLAGE FINITION BETON POLI	SFD	0,3	1,73%	11,6	29%
DAS 3 DALLAGE RADIER HAUTE PLANIMETRIE **POUR** INDUSTRIE A FORTE VALEUR AJOUTEE PHARMACIE ELECTRONIQUE	DALLAGE RADIER HAUTE PLANIMETRIE	SFD	0,7	4,05%	2,8	7%
DAS 4 DALLAGE TECHNIQUE **POUR** SOLUTION SPECIFIQUE	DALLAGE HAUTE PERFORMANCE DALLAGE AGRO DALLAGE SANS JOINT	SFD	3	17,34%	8	20%
DAS 5 REVETEMENT RESINE POUR INDUSTRIE AGRO	REVETEMENT INDUSTRIE AGRO	SFD	0,7	4,05%	2	5%
DAS 6 REVETEMENT ANTI ACIDE POUR LOCAUX DE CHARGE	REVETEMENT ANTI ACIDE	vp/BO		0,00%		0%
DAS 7 REPARATION APRES SINISTRE **POUR** INDUSTRIEL ASSURANCE	REPARATION APRES SINISTRE	SFD	0,2	1,16%	1,2	3%
DAS 8 REPARATION ENTRETIEN MAINTENANCE BEDOUC **POUR** INDUSTRIES SECTEUR APRES [illegible]	REPARATION ENTRETIEN	SFD	0,4	2,89%	4	10%
DAS 9 REVETEMENT RESINE POUR INDUSTRIE EN RENOV	REVETMENT RESINE	SFD	0,5	2,89%	2	5%
			17,3	100,00%	40	100%

Appendix 2. The context of change

DOC 7001

The Context for Change

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INTRODUCTION

This chapter sets the professional context and change which underpins the rationale of the research, explaining how the context has evolved, from observations made in my own professional and academic experience. It also sets the aim and objectives of the research.

Its organization is as follows:

- The research problem – a personal and technological retrospective
- The research rationale – a professional context
- Digitalisation as an instrument of change - an examination and proposal of models of change
- Research objectives

Firstly it is important to state the context of change in this thesis:

The digital transformation of the economy has radically impacted how companies market and sell in the B2C service sector. As the B2B sector undergoes its own digital transformation how do traditional SMEs prepare for the impact it will have on their existing marketing and sales functions?

1.1. The research problem – a personal and technological retrospective

1.1.1. 1990-1993 Professional context part 1: supply-driven strategy

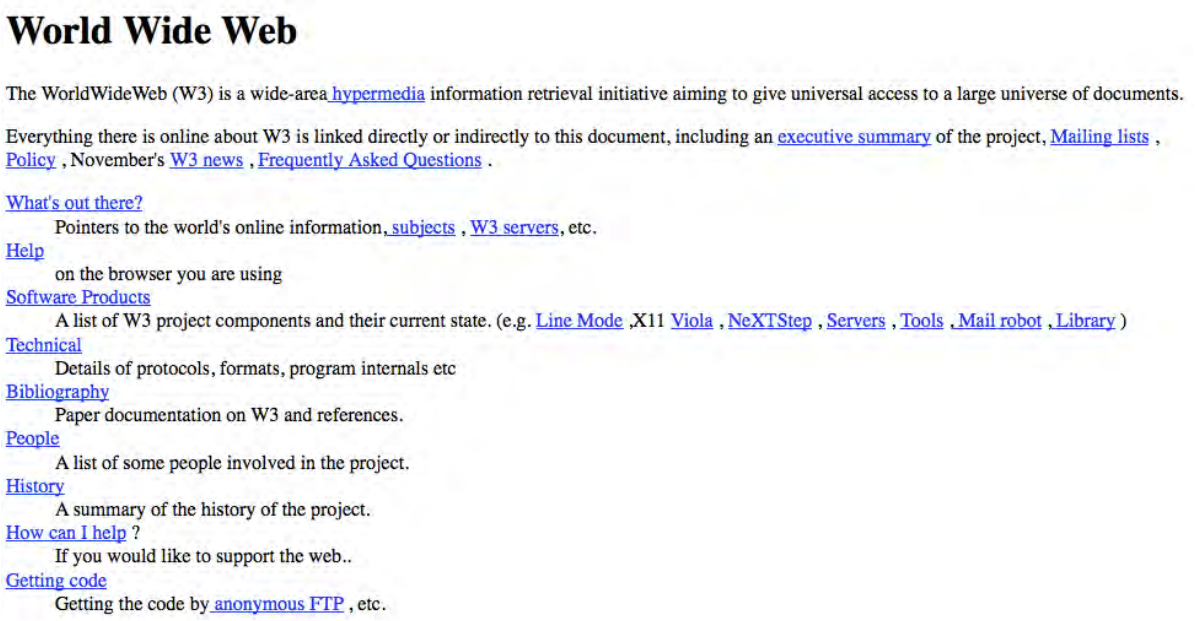
After leaving Lancaster University in 1990 I embarked upon a career in the information technology sector with the UK operation of VOTEK Automation Systems UK Ltd, a small Canadian start-up company selling Voice over IP (VoIP) automation systems to large corporate enterprises. As Marketing Communications Coordinator this gave me a first introduction to the role of marketing in a very heterogeneous B2B environment. At the time Marketing was very much considered a back office function to organise sales seminars, trade show stands, create company brochures, technical documents or sales presentations. Above all this resource was managed by the sales team's demand.

At Votek the sales function represented a significant proportion of the company's overheads, with 75% of the workforce positioned in customer facing resources. This was a common model within SMEs generally as B2B customers expected significant personal interaction with suppliers due to the complexity of their product offering. At the time I was the only resource allocated to Marketing in the UK operation and discovered from this first professional experience that unlike the B2C sector, SMEs' perceived marketing as a tool which merely responded to the sales teams' demands. Marketing within SMEs was limited to a supply driven

approach to the market, thereby moulding customer demand to what manufacturing was capable of producing at the time (Lambin, 2008) rather than addressing customers' needs with the firm's creative competencies and needs analysis skills to adapt supply to the expectations of demand. Votek and similar companies believed they could continue to meet needs profitably (Keller, 2006; Kotler *et al.*, 2006) by leaning towards the traditional marketing concept of building their firms' product orientation in close proximity to their customers. The notion of developing a marketing strategy based on market research was ignored by many companies at the time. During a survey which enabled Deshpandé, Farley, and Webster (1993) to develop a customer orientation scale, 138 Japanese executives were asked "How *has marketing been changing in your company in the past three years?"* their reply was often along the lines of "[...] *that depends upon what you mean by marketing*" (Webster *et al*., 2005).

1.1.2. Technological context part 1: Internet enters the stage

In 1990 the Internet was still in its preliminary stages of development as a globally distributed communication tool and the World Wide Web was just being launched (1991) by Tim Berners Lee who introduced this revolutionary network as 'The information sharing application'. His definition reflected historical literature which defined a network as a mechanism for building ideas through linking up sources (Atkinson, 1989; Engelbart, 1968; Nielsen 1995). Companies were at the cusp of discovering the full potential of its economic capacity, as the architecture was still in a very limited research development stage. Marketing and sales were very detached from the future commercial potential of the Internet as only one internet web site had been published at the time, by Tim Berners Lee for his World wide web project. This site went live on August 1, 1991.



World Wide Web

The WorldWideWeb (W3) is a wide-area hypermedia information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an executive summary of the project, Mailing lists , Policy , November's W3 news , Frequently Asked Questions .

What's out there?
Pointers to the world's online information, subjects , W3 servers, etc.
Help
on the browser you are using
Software Products
A list of W3 project components and their current state. (e.g. Line Mode ,X11 Viola , NeXTStep , Servers , Tools , Mail robot , Library)
Technical
Details of protocols, formats, program internals etc
Bibliography
Paper documentation on W3 and references.
People
A list of some people involved in the project.
History
A summary of the history of the project.
How can I help ?
If you would like to support the web..
Getting code
Getting the code by anonymous FTP , etc.

Figure 1. The First Web Site developed (1990).

- *Source: Info.cern.ch.*

1.1.3. 1993-2007 Professional context part 2: breaking marketing and sales barriers

I pursued a career opportunity in 1993 in the Sun Microsystems' European sales development group in the UK and France. At the time the company was one of the major US companies listed on S&P500 index and it was one of the industry's top five companies amongst IBM, DEC, Unisys and Hewlett Packard. Sun Microsystems became a fast growing international company that was present in over 100 countries, employing more than 13000 employees with a share value of $100. 1995 saw the introduction of Sun's Java Technology which gained huge market adoption as the company's slogan 'the network is the computer' reflected the future potential of this innovative technology.

The size of the company operation meant that the marketing and sales departments became two predominant entities within the organisation. The 500 man UK operation comprised 50 marketing resources to cover the different product lines. Whilst I moved into a sales development function I was nevertheless able to witness a new evolution in company market strategies whereby market orientation tried to cut through the dogma of a purely sales driven strategy. However even within this configuration the sales marketing divide was not clear cut which supports Kotler, Rackham and Krishnaswamy (2006)'s argument that *"All too often,*

organizations find that they have a marketing function inside Sales and a sales function inside Marketing."

1.1.4. Technological Context part 2: The Java revolution

The 1990s witnessed a rapid development in IT innovation with distributed systems, networked Information Technology structures (IT) architectures and computer data systems. As the world opened up to a globalised stage, technological foresight was a key success factor to the rise of computer savvy companies. Sun Microsystems was a strategic player in the development of the Internet Society. The 'Age of Participation' was a term coined by Scott McNealy the former co-founder and CEO of the American computer manufacturer Sun Microsystems, whose Java technology was developed with the sole purpose of providing a collaborative architecture to enable communities to build applications and software that would run on multiple platforms and was not proprietary to a single operating system. 'Write once run everywhere' became the Java tag-line and this technology was at the forefront of providing solutions to customers based on their own business strategies (Curtin, 1998). Forums, developer communities and user groups were established to customize and develop software applications using the programming language for a multitude of platforms and devices. This engineering innovation has been used in the development of many of today's commercial applications and devices that we use in our daily lives and the 'right once, run anywhere' concept of Java technology is clearly applied to consumers' and businesses' adoption of multi-platform technology.

1.1.5. 2015-2017 Professional Context part 3: marketing at the forefront of a competitive digital landscape

As a Digital Marketing Consultant based in France and head of Marketing programs at ESDES Business School in Lyon, the 15 years of sales and marketing experience gained in international B2B environments has enabled me to build a portfolio of digital marketing professional advice to two SME industrial companies since 2015. I was approached initially by a French SME based in Lyon. They asked me to be project leader for a student audit project to analyse and amend their quasi inexistent marketing communications strategy. From this study it was apparent that the company drastically lacked resources and skills in sales and marketing to understand and explore the digital transformation of their market. BIG France (formally SIB Bordas) was struggling to find a brand positioning in an increasingly competitive market. The company's owner and Managing Director commissioned me to implement a marketing strategy which

would enable the brand to develop its notoriety and presence. The context for change became apparent after working with the company for 15 months, as it was evident that not only did the company lack resources to develop a digital presence, but the strategy put forward to develop a modern image of the company exposed the limitations of the company's sales and marketing resources. BIG's 11 man sales team includes 4 employees that have been exerting their function for almost 20 years and their sales techniques have not evolved since the professional context of supply driving customer demand discussed previously in this chapter. A digital illiteracy within the company has led to lost sales and missed business opportunities in the light of strong competition over the last three years.

1.1.6. 2004-2017 – Technological Context part 3: the social revolution – digital power to the digital customer. "context is worth 80 IQ points." (Alan Kay, 1990)

The last decade has seen a global explosion in the rise and adoption of digital technologies. In 1995 1% of the global population was connected to the Internet. Today nearly 40% of the world's population is online (Internet World Stats, 2018). As this figure continues to grow digital technology continues to evolve and adapt to the new social rules applied to a digitalised landscape. Internet users continue to embrace internet technology across PC and more predominantly mobile devices. This has led to an extended scope of choice for users and with that a more complex decision making process (Watson *et al.*, 2013). New communication channels such as social networks and instant messaging have empowered the customer in their quest for information and companies have been obliged to integrate these new channels into their marketing communication strategies to maintain their brands' notoriety. Digital marketing represents over 30% of marketing budgets in a world where paradoxically over one third of digital adverts are never viewed. And yet search engine robots continue to detect the number of impressions of these adverts in order to determine the credibility of a brand. Research has shown that only 13% of mobile users click on ads, yet 98% of the same sample claimed their top activity on mobile usage was to look for information. This clearly highlights how the internet user is now influencing brands' implementations of digital marketing strategies (Watson *et al*., 2013). Generation Y in particular is a principal stakeholder in the evolution of digital marketing (Lenhart *et al.*, 2010). This generation is already dictating the use of social networks as a communication tool between brands and consumers; customer satisfaction is demonstrated by the use of emoticons (Kyung Park and Shyam Sundar, 2015) and product knowledge and choice is acquired by the increasing rise of influential Youtubers, Instagrammers and bloggers. Since

mobile video has become the fastest growing video consumption type (IAB, 2016), clearly the notion of connectivity to content and its context are essential elements in brands' interaction with consumers (Lenhart *et al.*, 2010).

1.2. The research rationale – a professional context

1.2.1. 2017 – The Digital landscape

The digital landscape has seen exponential growth over the last 5 years (Dassault, 2015) and will continue to grow at an exhilarating rate as 2.8 zettabytes of data are now generated in the world every year. A significant point to note is that 33% of this data could have incremental value if it were correctly analysed (Forrester, 2104). The following figures extracted by Forbes (2018) bear witness to the digitalisation of the global stage:

- 450 billion transactions in B2C or B2B will take place every day in 2020
- 2 million google searches are made every minute
- 500 million Tweets are posted on Twitter every day
- 144 billion emails are sent every day
- 26 billion connected objects will generate data permanently in 2020

If we consider this last point, we can deduce that 15% of all 'objects' will be connected in 2020 and an estimated 30 objects per household will be connected. Two thirds of Generation Z wishes to own a connected device compared to 54% of Generation X. New distribution channels such as pharmacies, sports shops and DIY stores will develop and represent 40% of the sales of connected objects in the B2C sector by 2020 (Xerfi, Gartner, IDC, 2014).

The world is not only becoming connected with 3 billion Internet users, it is increasingly mobile and the mobile Internet will be responsible for the next billion Internet users (Internet Society, 2015). The rapid evolution of mobile technology over the last 20 years has responded to the growing Internet consumption of Generation Y and Z that we reviewed in the last section. In 2007 mobile technologies saw further development with the introduction of the Apple iPhone, which although not the first smartphone, paved the way for smartphone development that would combine Internet access and telephony in a pocket sized form. Smart devices also include computing technology and voice recognition that have thus enabled their usage to replace up to 13 other individual devices (ex: torchlight, Dictaphone, computer, television, radio, CD player, gaming devices and cameras).

The introduction of the Apple Store and Apple applications in 2008 marked a further step in mobile dominance of the Internet. End users were able to access services and functions

previously inaccessible, enhancing even further the mobile smart device with fuller and richer features. By 2014, 86% of users' time on mobile devices in the US alone was spent on apps: the remaining 14% on the mobile web. (Flurry Apps, 2014).

It is important to consider the impact of social media in Internet use over the last 10 years and its integration into the mobile space. Among the 3.7 billion Internet users, 2.78 billion are social media users. Additionally, there are more than 8 billion mobile subscriptions worldwide. The number of mobile social media users has risen to 2.58 billion in 2017 (Pew Internet, 2017), which confirms the new mobility of customers worldwide. This last point means that the digital consumer has access via social media to companies as they develop a new type of customer relation, one of instantaneity. By this we can deduce that new uses of Internet technology are communicated back to the whole world in real time. Consequently, the timespan between the processes of learning by using and producing by using is extraordinarily shortened (Castells, 2010). This factor is integrated into the development of social and mobile platforms and their subsequent usage.

Although Facebook clearly dominates the social media landscape with an active 1.8 billion users, Instagram outstrips all other social media platforms from a user engagement perspective as its users interact up to 70 times per post, per 1000 followers (Smartinsights, 2017). Despite WeChat's penetration in China and its popularity, the platform is beginning to weaken in adoption compared to Snapchat and Whatsapp new profiles.

These last points confirm a digital consumer behaviour that is tending increasingly towards instant access to information and also to visual content. With an estimated 84% of internet content being visual in 2018 it is no wonder that the four fastest developing social media platforms are Youtube, Instagram, Snapchat, and Tumblr. Nevertheless, the social media landscape is plateauing in its uptake for Generation X, Y and Z users. Only the Over 60 yr old user base is seeing an increase in adoption of the platforms (predominantly Facebook). This tells us that social media is at a mature state and the next focus will be on enhanced mobile user experience, richer features and cross platform interaction.

1.2.2. 2017 – The B2B Digital Landscape

This adoption of digital technology has also reached the B2B customer. Research has shown that a self-informative approach to customer decision making is now a general trend in the B2B sector, and no personal interaction with companies occurs until they are at least 60% along their

purchase decision making journey (CEB, 2017). The Corporate Executive Board developed a model to reflect the distribution of digital marketing sophistication in 22 large B2B companies spanning across 10 industry sectors and defined three distinct stages to a company's integration of digital strategies. This model was based on responses from 1500 customer contacts that provided feedback on their behaviour. The report demonstrates that B2B customers are increasingly adopting a self-diagnosis procedure when choosing a suitable supplier product offering (CEB, 2017). Price Waterhouse (2015) argued that companies which were not implementing digital marketing strategies to support this new business customer behaviour were considered to be at substantial risk of losing business opportunities, credibility and industry mindshare. The biggest challenge for industrial companies is not the technology as this is becoming more and more of a commodity; it is the people. Price Waterhouse (2015) examines a company's Digital IQ and argues how this is the principal factor of any digital transformation. The Digital transformation in B2B has a five axe approach: creativity, conception, production, sales and customer relationship management (Visiativ, 2018). Within these different axes people are central to the digital transformation (see illustration 1). However, it is interesting to highlight that while two-thirds of the digital transformation of a company is not customer facing, when we cross examine this model with the CEB report (2017) we can see that 80% of companies' interaction with customers is focused on only 1 of the five axes within the digital transformation of a company: selling. This result is supported in a McKinsey Report on the digitalisation of industry (Bughin, LaBerge and Mellbye, 2017).

From this last analysis it is possible to build a first hypothesis in our research which is the following:

Hypothesis 1 - companies believe that their Digital transformation starts with sales

Figure 2. Digital transformation B2B Illustration. Sarah CLIFFT (2018).

The digitalisation of the B2B sector is an ongoing evolution for companies with a 5 year investment uptake now being recorded. 82% of leaders understand that the digital transformation in B2B is the potential vector of competitiveness and innovation (Berthinier, 2018) but in order to implement a digital policy within a company, an understanding of levels of digital competency are required. The digital transformation illustration (figure 2) aligns with and reflects digital industry trends (Internet Society, 2015):

- Smart data driven manufacturing
- Customer centric production
- Predictive production and resource optimization
- Digital culture

1.2.2.1. Smart data driven manufacturing

Industry 4.0 is now a reality of the B2B digital landscape (Internet Society, 2015). For many large industrials digital investment is at the heart of their strategy and their research. Manufacturing is examining a wealth of opportunities to optimise their production with digitally enhanced applications including sensors and 3D printing, computer powered processes, intelligent algorithms and ‘internet of things’ (IoT). All of these tools and applications provide an extensive amount of Big Data and companies that are exploiting such data are experiencing the ability to make decisions 5 times faster than their competitors and 2 times more likely to take positive managerial decisions based on Big Data than companies not analysing their Big Data (PwC, 2015).

Smart data driven manufacturing is however a challenge for companies to manage. The automated processes are one aspect of this technological drive, but the capture and analysis of data that computer powered operations produce means that managers must review their resources to understand the potential that the data can provide. Most of projected digitalisation within industry will be within the product development and engineering, with companies expecting to double their digitalisation by 2020 (PwC, 2015). Areas of focus include customised product development and the automated transfer of product data to connected planning and manufacturing systems. 4% of the survey population within industry (PwC, 2015) already are in a position to forecast revenue and cost reduction gains of 30% through the digital transformation of their company within the same time frame.

The French industrial sector is very much behind that of its geographical neighbours, Germany (Mouly, 2015). In 2015 the French Government put in place the "Industrie du futur" (translation: the future industry). The project included a program to guide and accompany industrials towards their digital transformation. The program elaborated the inclusion of IoT in the production chain to create intelligent and connected factories. The Government budget for this program was 3.4 billion euros of public finance to add to the 1.47 billion of public funding already injected. However, Germany has a similar program in place since 2012 (Mouly, 2015).

The automobile industry is one sector that is taking advantage of data analytics. 50% of automotive manufacturers surveyed (Mouly, 2015) confirmed that data and analytics are increasingly important to decision-making and 84% agreed that it will be of high importance in 5 years' time. Digital technology has transformed not only the car but also its usage (Delsol and Ducamp, 2015). The car is now a connected object (IoT) with a completely different economic model (car sharing, vehicle exchanges), its industrial process has been revolutionised (crowdsourcing and fab-labs) and its commercialisation has been revisited (marketplaces, leasing). Companies such as AXA, Pernod Ricard, Sanofi France,
Schneider Electric have also taken strategic measures to focus on the digital transformation of their manufacturing procedures (Metais- Wiersch and Autissier, 2016).

1.2.2.2. Customer Centric Production

The digital transformation of B2B companies is also seeing the eradication of traditional models of product development. No longer will companies push product out to the market; customer pull with companies involved in a more collaborative relationship with customers, will be the future model. This new business model will allow industrial companies to grow the customer

relationship, in a more hostile environment where the fight for customer retention will be more aggressive. 3D printing has been identified as a powerful tool for building proximity with customers and production. This technology will enable greater individualisation and customisation of products (PWC 2015). Co-creation which involves the active participation of customers in the process of new product and service development has been identified as a means of competitive advantage. However, its implementation still remains a challenge to B2B customers. The web 3.0 has contributed to this new era of customer empowerment; customers who are not only well-informed, as previously mentioned in various industrial reports (PwC, 2015; Dassault, 2016; Forrester, 2014) but they have a clearer conception of which products or services they are looking for (Lee *et al.*, 2012; O'Hern & Rindleisch, 2001). Digital integration is therefore a means to bring production closer to the customer. The opportunity it presents will enable companies to be more flexible and also to anticipate and optimise demands, and help the customer move ahead in its decision making process in a more predictive manner. Price Waterhouse Cooper (2015) reported that three-quarter of its interviewees expect that the use of data analytics will substantially improve customer relationships and customer intelligence along the product life cycle. Other customer-centric collaborative opportunities were identified for B2B manufacturers including the opportunity to assist customers in value-chain planning, and building efficiency in their operations.

1.2.2.3. Predictive production and resource optimization

B2B companies that have already integrated the use of Big Data in their digital strategy are 3 times more likely to put into place predictive production measures according to Dassault Systems' survey (2015). Digital solutions including ERP (Electronic resource planning), DMS (Document Management Systems) and CRM (Customer relationship management systems) are now present in 1 company out of 3 as companies understand the productivity gain that is obtained by instant file access and resource planning. However, the ECM whitepaper (2015) stated that 57% of companies observed a difficulty in collaborative work and that the use of all the functionalities of these digital tools for 48% of them was rarely implemented. Nevertheless 91% of companies in the next three years will invest in a collaborative tool, and over 80% will focus their investment on input management systems and file archiving automation tool. In a similar survey entitled 'Optimization of processes and use of dematerialised solutions (CXP, 2015) a third of the companies interviewed expressed intention to automate their company procedures (62% of them in the short term).

1.2.2.4. Digital Culture

From a recent report by Dassault Systems (2016) it was reported that 85% of Fortune 500 companies are still not in a position to create commercial benefit from their Digital Transformation, however companies that have implemented a digital strategy understand its capacity to build incremental value in four key business activities (Gualtieri and Yuhanna N, 2014; Rifkin, 2016):

- managerial decision making, through the control of trustworthy data and indicators as well as the possibility to gain access to advanced analytics of that data
- Human Resources Management, with the optimisation of resource management, the accurate detection of talent and collaborators internally, and the mobilisation of internal resources
- Marketing through the personalisation of user experience, access to predictive information and the enhancement of product offering
- Finance, with the management of trustworthy financial data and indicators, a better quality of data and optimised regulation.

In a competitive environment companies need to respond to three strategic challenges in order to survive: accelerate innovation, improve client and stakeholder proximity and thirdly the mobility of those stakeholders.

The Digital transformation opens up substantial new opportunity to companies in an environment that is experiencing rapid development. It is preparing industry for new procedures, functions and business models that did not exist five years ago. (Dudézert, 2015; Marrone and Gallic, 2018) Its implementation raises a number of questions regarding the creativity it offers and the uncertainty it creates (Dudézert, 2015). Digital culture in a company is a challenge as little time is available to evaluate the benefits of this transformation and to understand what type of change a company should undergo. Almost every company understands the requirement to adapt to the digital revolution but only 40% of companies are digitized (CEB, 2017). Research made by McKinsey & Company on “The Case for Digitalisation” clearly outlines that “tightly integrated digital strategies will be the biggest differentiator between companies that win and companies that don’t, and the biggest pay-outs will go to those that initiate digital disruptions.” It continues by explaining that companies who focus their digital culture on the optimisation of their operations and of their organisation will closely follow. Operational excellence would necessitate an increase in digitized supply chains, but more than 49% of companies are focusing their digital efforts on marketing and distribution (Bughin, LaBerge and Mellbye, 2017). One could argue that this decision is pertinent based on the significant uptake of e-commerce in the B2C and B2B sector, where three quarters of consumers confirm that they would return to a supplier’s website that was simple and intuitive

to use (Accenture, 2014). Nevertheless, companies would be overlooking emerging opportunities, such as those that are prevalent in supply chains as these have been identified as areas with a potentially major influence on future revenues and profits (Bughin, LaBerge and Mellbye, 2017). The study further indicates that resource reallocation may be required to create more value and deliver higher returns to shareholders. This supports the PwC Global Industry 4.0 survey (2016) which reports a potential increase in enterprise efficiency of 4.1%.

The PWC report goes on to discuss the biggest challenge for industrial leaders which is the people and their adoption of a digital culture. As previously mentioned Digital leaders need to define and lead the transformation (PwC, 2014; Mergel, 2016). This implies a policy of change management to ensure that digital transformation can take place within a company.

1.3. Digitization as an instrument of change - an examination of models of change

Change Management is defined as the process of effectively moving an organization and its employees from one state to another when the goal is to improve business performance (Ketting and Grover, 1995; Karim *et al.*, 2016; Appelbaum *et al.*, 2012). Effective methods are required for managing change for Project Managers, Change Management Consultants and project team members. Companies must define an implementation strategy for the proposed change and share it with internal stakeholders in order to make the changes sustainable.

Various different frameworks, models and people considerations must be considered when selecting or designing a Change Management process. Appelbaum *et al.* (2012) argues that many models lack empirical evidence to be proven effective, which is supported in Todnem's (2005) findings. It is therefore necessary to integrate that such a process must be repeatable time after time for each change project in order to produce reliable, efficient results leading to a change that is sustainable by way of employees acquiring new knowledge and skill sets to embrace new business processes and adapt to new ways of working. (Ketting *et al.*, 1995; Zand and Sorensen, 1975)

According to Anderson (2015) there are eight relevant and popular models and theories of Change Management in use in industry today:

- Kotter's 8-Step Process for Leading Change
- Carnegie People Capability Maturity Model
- PROSCI's ADKAR Model
- McKinsey 7-S Framework
- Lewin's Change Management Model
- Lippitt's Change Theory

- Social Cognitive Theory
- Appreciative Inquiry and 4-D Change Management Model

Brief descriptions of each of the models follow along with a proposed Change Management approach for a digital business transformation project.

1.3.1. A Comparison of the Change Models and Theories

Anderson states that there are slight variations and/or perceived differences between the different change theories "depending on the use or organizational outcomes desired" (2015). Anderson goes on to define each model:

1. **Kotter** (Appelbaum *et al.*, 2012; EBA, 2018) recommends an eight-step process to change: create urgency for change, build a team, create a vision, communicate, empower, identify short-term goals, be persistent, and make the change permanent. Kotter supports his model with 6 Change Approaches that deal with the four types of resistance to change (self-interest, misunderstanding, low tolerance, differing assessments).
2. **Carnegie People Capability Maturity Model** (Curtis *et al.*, 1995) is a 5-tier, long-term approach to establishing Change Management and in comparison to Kotter, focuses more on improving culture change within an organization. Through use of Carnegie's PCMM workforce practices, the organization matures through increasing alignment with its business objectives, performance, and changing needs. This model stresses the importance of an agile workforce which has the knowledge and skills to make rapid adjustments and the willingness to acquire new competencies. For this reason, it is not considered to be a suitable model to apply in the scope of this research as one of the fundamental issues that builds resistance to the digital transformation of our SME focus is the limited digital competence of long-term employees and their resistance to adopt new methods.
3. **ADKAR** (Hart, 2006) focuses on employee buy-in and acknowledges that successful change happens when both the business dimension and people dimension of change occur simultaneously. Contrary to Kotter's and Carnegie's models, the ADKAR model is used to help prepare people for change, determine any resistance they may have to change, build a transition plan and to measure change performance of the company, pinpointing any gaps in performance and areas of improvement in real time, within the five phases of the model.
4. **McKinsey's 7-S (**Peters and Waterman, 2011) approach focuses on the seven factors that must be coordinated equally for lasting change to occur: shared values, strategy, structure, systems, styles, staff and skills. This aligns with Carnegie's model in its priority given to shared values being a central point to bringing about a change strategy.
5. **Lewin's Theory of Change** (Zand and Sorensen, 1975) is a 1940 authored psychology theory of change using "unfreeze, change, freeze" steps. It has a planning-oriented approach that works in theory however it does not take into account the feelings of different segments of employees. Those in charge of the change may be enthusiastic and plan according to their perception of jointly embracing the change. However, segments of those most impacted by the change may not have their feelings taking into consideration during process assessment phases which may undermine the change effort through subconscious or overt resistance. This last fact disassociates this theory with

the four previous models (Kotter, Adkar, McKinsey and Carnegie) in that it pinpoints process as the predominant agent of change.

6. **Lippitt's phases of change theory** (Mitchell, 2013) is similar to Lewin's model, with the exception that the focus is on the agent of change and not the change specifically. Organizations bring in external change agents who have the experience and knowledge to effect the change, then the change agent relationship ends and the foundation for change is implemented to move forward. However, Lippitt's theory of change is not often cited in industrial change projects.
7. **Social Cognitive Theory (**Bandura, 1977, 1986, 2009) demonstrates that cognitive processes play a predominant role in behavioural change and that employees who intrinsically want to make the desired change have the confidence and ability to take that action, and will persist in implementing it and not deviate from the change. Contrary to Lewin's (Zand and Sorensen, 1975) and Lippett's (Mitchell, 2013) theories, Bandura's angle is very much on the employee being actor of change and guarantor of that change once he has considered all elements relating to the proposed change.
8. **Appreciative Inquiry** (Cooperrider, 2005; Hubbard, 1998) is imagining and enacting a better future for an organization by capitalizing on what already works well. The 4-D's of Appreciative Inquiry include: discovering what already works well, dreaming of new processes that would work well in the future, designing planning and prioritizing processes that would work well, and destiny/deploy implementing the proposed design. This last model aligns itself with Lewin's model as its focus is very much about auditing process and developing change around those existing processes.
9. A final behavioural model of change which can also be considered in the context of digital transformation is included in PriceWaterhouseCooper's Strategy and Management policy (2014). This model identifies a two-step approach to accompanying a company in its future strategy by the introduction of new behaviours and the rejection of old ones. This simplistic view has its merits in the scope of an examination of the Digital transformation of companies as it highlights specifically on the transitional approach to change and its continuous evolution.

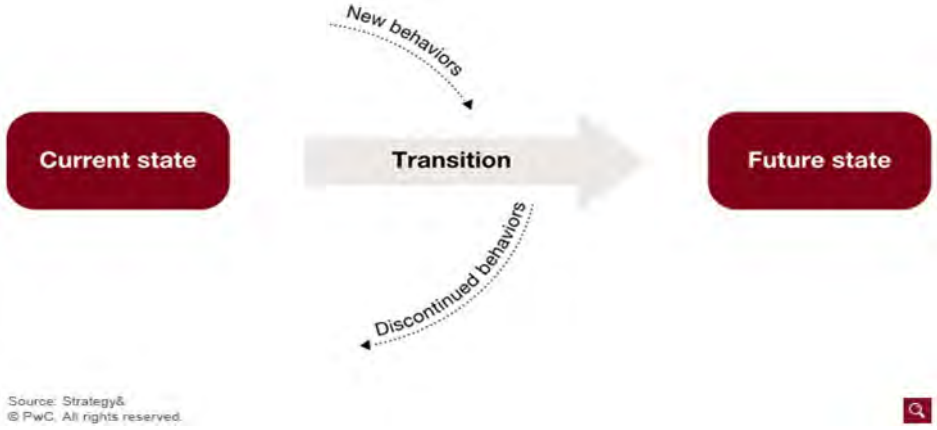


Figure 3. PwC strategy and management transitional change model, 2014.

1.3.2. Necessary considerations for choosing a Change Management Model

There are a number of different frameworks, models and people considerations that must be considered when selecting or designing a Change Management process. Appelbaum *et al.* (2012) argues that many models lack empirical evidence to be proven effective, which is

supported in Todnem's (2005) findings. It is therefore necessary to integrate that such a process must be repeatable time after time for each change project in order to produce reliable, efficient results leading to a change that is sustainable by way of employees acquiring new knowledge and skill sets to embrace new business processes and adapt to new ways of working. (Kettinger *et al.*, 1995; Zand and Sorensen, 1975; Sirkin, 2005). The choice of change management model for this particular research project needs also to integrate the current rate of technological advancement that will require a continuing need for change in the future (Armanakis et al; 1993). This aspect will enable an elimination of particular models that ignore this business phenomenon.

The best models for Change Management use a structured process that reduces employee discomfort and resistance, sets realistic goals, measures progress and keeps people informed throughout the transition (Anderson, 2015; Beer and Nohria, 2000; Higgs and Rowland, 2000; Hirschhorn, 2002; Knodel, 2004; Kotter, 2008; Whelan-Berry and Somerville, 2010). Best methods take into account that change process is not linear and that sometimes employees relapse to existing or pre-change behaviours, and that segments of employees may subconsciously or overtly resist change and undermine change efforts if their feelings are not considered or acknowledged (Kotter, 2008; Sirkin, 2005; Bandura 1986, Zand and Sorenson, 1975) Other factors for choosing a Change Management model include a review of past change management processes: How have people reacted to change in the past? After presenting a basic idea such as new and improved business processes, what is the reaction by employees? If there is little resistance to making the changes, then the selected change management model should focus on implementation rather than preparation (Denton, 1994; Peters and Waterman, 2011). If there is resistance to making changes, then the change management model selected should prepare employees for the changes ahead.

Digital transformation is a holistic approach to move organizations from simple digitization efforts to cultural, managerial, procedural, and developmental changes of the organization as a whole (Delorme and Djellalil, 2015; Metais-Wiersch and Autissier, 2016). Digital transformation promotes the idea that organisations can and will thrive by understanding their customers, being data driven, and using fit-for-purpose methodologies in their work. The principles of Lean-Agile are key to the performance of digital organisations, but their purposes are quite distinct:

Lean is used in environments where the work is predictable and repetitive, and where waste is minimised (Metais-Wiersch and Autissier, 2016), and performance maximised through

efficiencies of scale and production. This can be applied to the industrial sector where process and procedure are key components of the productivity of industrial players.

Agile on the other hand, is used in complex environments where the outcome is not clear, and where experimentation is required to test and validate approaches (Metais-Wiersch and Autissier, 2016). Knowledge is key to Agile organisations, which must engage in iterative learning cycles and be able to adjust rapidly as they learn (Makoto Higuchi and Noboru Nakano, 2017; Delorme and Djellalil, 2015). This notion is relevant to the Digital transformation of SMEs which must enable their employees to acquire new knowledge in the development of innovative processes, whilst adapting in real time to business demands.

Whatever the context, being digital requires a focus on the transformation that is required at all levels of an organisation, so that sustained change can be achieved, and that the necessary culture of learning and adaptation can prevail (Delorme and Djellalil, 2015; Metais-Wiersch and Autissier, 2016). Challenges facing organisations today include managing and sustaining innovation, while at the same time meeting industry compliance requirements. Significant investment is required in adapting to new technology. Another predominant issue facing any digital leader is how to embrace and implement innovative change, while at the same time ensuring that core business is not jeopardised.

For the purposes of this thesis we will map ADKAR's theory of change with Social Cognitive theory. Our arguments for this choice are supported by observations in previous sections of this thesis on Digital culture in organisations being a fundamental element to a successful digital transformation. The first focus for over 80% of B2B companies in the 5 step transformation process (figure 1) is on the sales process and its associated resources. This human factor is therefore quintessential in the Change model proposed

1.4. Research aim and objectives

Drawing together the different elements of the context for change for this study, the main research question of this Professional Doctorate is stated as follows:

As the B2B sector undergoes its own digital transformation how do industriall SMEs prepare for the impact it will have on the value proposition of their existing marketing and sales functions?

The aim of this research is therefore to observe the digital transformation of sales and marketing in heavy industry and its impact on the value proposition of SMEs in order to propose guidelines

for successful implementation in this sector. It will highlight and analyse the resistance to change within their human resources because of digital illiteracy. The decision to focus on SMEs stems from gaps in literature and industry reports which tend to focus on Fortune 500 companies, or companies generating revenues of over $1 billion (Gartner, 2017). It will propose guidelines to assist in the understanding of the impact on their value proposition through an effective digital transformation of their sales and marketing strategies.

It is important at this point to determine the definitive definition of an SME that will be the focus of this research. SMEs are the backbone of the economy (OECD, 2017; European Commission, 2017). Literature defines 3 distinct SME profiles (Simin Lin, 2010; Bocca 2010; Brooksbank, *et al.,* 2003). This is supported by industry definitions from the European Commission (2017) and OECD reports (2017) which identify Medium sized enterprises as having turnovers of less than EUR 50 million, small enterprises not exceeding turnovers of EUR 10 million and micro firms not exceeding EURO 2 million. For the purposes of this study the focus will be on medium enterprises. This decision stems from findings by the European Commission (2017) that although 9 out of 10 people are employed by SMEs in Europe, and that 1.4% of incremental value in the economy in 2016 was generated by SMEs, the medium size industrial enterprise is struggling to perform as a future employer compared to other industries (2017). The findings go on to show negative trends in employment growth despite a positive 2-year outlook for economic added value from SMEs. Companies were selected based on the French SIRENE listing of industries, with a regional selection being prioritised to facilitate data capture. It is also important to note that this profile of enterprise struggles with the deployment of marketing (Pacitto *et al.*, 2002; Brooksbank *et al.*, 2003; Meier *et al.*, 2008) and therefore tend to favour more traditional forms of interaction with customers (Gilmore *et al.*, 2001; Julien *et al.*, 2003). This last point is a critical point in the development of the research.

In order to fully understand the scope of this research aim it is important to consider the following point: traditional SMEs are faced with the dilemma of maintaining their market position in a highly competitive environment (Gilmore *et al.*, 2001; Julien *et al.*, 2003, Meier *et al*., 2008) with sales and marketing teams that have little proficiency in digital technologies (Taiminen and Karjaluoto, 2015; Wickramansinghe and Sharma, 2005). This often leads to a resistance to change and an ill-perceived view of how the digital transformation may impact the workforce. Employees fear that their limited digital competence coupled with the

integration of digital natives into the workforce and new digitized tasks and procedures may devalue their core competence.

1.4.1. Specific research objectives

1. Firstly, a critical review of contemporary professional and academic literature and theoretical frameworks will provide an updated understanding of what has been recorded in the chosen area of research around the digital transfformation of industrial SMEs and its impact on marketing and sales functions. It will also raise a series of questions from exposed gaps in current literature which will be integrated into the subsequent empirical study. The choice of methodology used in the research to carry out this pilot project will be founded on the theoretical underpinning from the literature review, focusing on incremental value perceptions in sales and marketing functions from digitization of their activity.
2. Secondly a pilot project to develop and test an information exchange conceptual framework for the successful digital transformation of industrial SMEs' sales and marketing functions. The results of this pilot will then be critically analysed and reviewed by a carefully selected group of industrial SMEs whose feedback will be analysed and evaluated for integration into the adjustment of the proposed model in order to gather opinions from key figures within these organisations into the perceived shortfalls of the proposed framework.
3. Finally based on the results, good practice and guidelines will be proposed for the development and implementation of effective digital transformation strategies for sales and marketing functions. These guidelines will provide a better value proposition and improve the performance of their existing stakeholders through the development of digital practice.

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Apendix 3. Preparing for change Literature review

8002 LITERATURE REVIEW – PROPOSING CHANGE

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2. INTRODUCTION

This chapter develops theoretical ideas that are relevant to the research project which will proceed. From this literature view it will be possible to identify any gaps in literature and will enable the development of a number of research questions that will underpin the empirical study.

Its organization is as follows:

- A historical and societal timeline of the Internet 1.0 to the smart web
- B2B marketing in a data driven society
- The Uber Economy: Customer Centricity and the repositioning of value
- Digital culture and social selling - a vehicle of trust?

2.1. A historical and societal timeline of the Internet 1.0 to the smart web

Numerous articles and works have been written to record and detail the history of the Internet and the World Wide Web (Tuomi, 2002; Hoffman *et al*, 2018; Rogers, 1998; Naughton, 2016; Castells, 2002; Lanier, 2011; Metais-Wiersch and Autissier, 2016). Aside from academic interpretations of the Internet's development, the founders of the core technology that forms the architecture of the Internet in its original form (ARPANET), have also recorded their perspective of the evolving technological landscape (Anthes, 1994; Leiner and al, 1997; Kleinrock, 2002,). Based on the aforesaid sources and for the purposes of this research project, the author has developed an infographic to represent a historical and also societal timeline of the Internet (Figure 4). This interpretation stems from gaps identified in academic references which focus wholly on the technological, economic, or communicative phenomenon that are incarnate in the history of the internet, but do not examine the societal evolution.

The Oxford Dictionary definition (2018) of the adjective 'societal' is: "of or relating to *society*, esp human society or social *relations*".

This definition is essential in the construction of our research project as social relations and interactions with technology form the basis of the pilot project. The infographic in figure 4 has three timelines. Firstly, on the left, a series of consortiums and groups can be observed that have formed over the first 30 years of the Internet (the community), spanning from x25 data switch standards, to Internet societies and Transfer protocol consortiums. These organizations govern the quality and adhesion of IT developers who create applications which have been integrated into the Internet architecture. In the middle lies the development of different technologies spanning from the TCP architecture to smart technology in 2016 (technology). Finally on the right the author has included the development of society's adoption of the Internet, ranging

from limited access points via 13 connected servers in the 1970s to over 900 million servers connected in 2017 (society). The infographic is divided into four major periodical evolutions: technological, public, social and finally smart evolutions. This model differs in its analysis compared to other historical representations of the Internet (Internet Society organization, 2018; Pew Research Centre, 2002; Livescience, 2018) because it differentiates between the various behavioral impacts that the Internet evolution has inspired. This evolution based on behavioral change has its roots in theories of social behavior. Social cognitive theory defines behavioral change being made possible by a personal sense of control (Bandura, 1977, 1986) and the theory of self-efficacy which demonstrates that instrumental change builds commitment (Bandura, 1977). These two theories will be examined subsequently in the section "*Customer Centricity*" of this literature review.

2.1.1. The four stages of the Internet

Technological evolution

The initial ARPANET project was essentially a US military collaboration with the Massachusetts Institute of Technology (Hoffman *et al*, 2018; Rogers, 1998; Naughton, 2016; Castells, 2002; Lanier, 2011). This collaboration stemmed from growing concerns around Russian intelligence informing of a potential attack on critical US defense data. Following the Sputnik launch and the increasing concerns in the US about such intelligence attacks from the former USSR, a military initiative was launched based on ongoing studies around the transfer of packets of data from one server to another, compared to circuits of data funneled through slow dial up communications. It was not until 1989 that the platform was opened to commercial contributors and became known as the Internet. "The World" was the first Internet service provider launched in 1989 (Lanier, 2011) followed by an opening up of the network to fully commercial traffic. In parallel to this technological evolution the development of standards and consortiums was critical in order to preserve the Internet architecture. Literature supports the idea that a common acceptance of the Internet was accorded through the development of standards around network protocols to enable inter-device communication (Castells, 2002; Hoffman, 2018; Leiner *et al*., 1997). The creation of these groups reinforces the opinions of Harvard Law Professor Lawrence Lessig, who argued the advantages of an Internet with unique and total equality control, with no governance and which anyone can modify. Using his theory of Universal standing (i.e.: that anyone has access), Lessig explained that such access to the

Internet should not be interpreted as one with no authority; rather that those who develop a community with the network subsequently develop authority (Naughton, 2016).

The development of the Internet had to be put into the hands of academics (Lacklider, 1960; Hoffman, 2018). Academics' implicate involvement meant that the Internet could develop and be accessible to other non-military-based markets "crossing the boundaries between science and society" (Rogers, 1998). This idea is supported by Abbate's (1999) writings which stated that society should reject the notion of a technological determinism in the Internet, as technology cannot be considered independently of its social context. This argument is further backed up by Abbate's emphasis on technology's importance as a 'material culture'; a culture that focuses on specific social processes related to the technological paradigm (Metais-Wiersch and Autissier, 2016). This also reflects Tuomi's (2002) prediction that humans and computing machines will be coupled together tightly and will offer a platform of data processing never before matched.

Public evolution

The second stage of the Internet timeline as illustrated by the author, examines the public release of the internet. This is compared to the Economist Intelligence Unit's brief history of the internet (2003) that broke down the Internet history into three stages: before the beginning, the Internet age and the Web age. The public evolution reflects the web age as being the focus of man's desire to build communication across geographical territories. This supports Abbate's (1999) interpretation which considered the late 1980's as being the moment that the computer, a once standalone device, was reborn to define the new means of communication. Castell (2010) defined this as a network that had to be invented and reinvented at the same time as technology. The author considers Naughton's support for the requirement to keep ecommerce and freedom of access out of the control of the GAFAM market dominance (Google, Apple, Facebook, Amazon and Microsoft). It could be agreed that the public aspect will be destroyed as the cyberspace "conceived at birth" (Naughton, 2016) is not the same as the one that is available today (Vardi, 2018; Castells, 2010). This observation is reinforced by the WWW founder Tim Berners Lee who, in 2017 stated that "the (Internet) system is failing".

Rogers and other experts argued that putting the Internet into the hands of Academics meant that the Internet could develop and be accessible to other non-military-based markets and thus "cross the boundaries between science and society" (Rogers, 1998; Lacklider, 1960; Hoffman, 2018). This idea is supported by further literature (Hoffman, 2018; Tuomi, 2002; Naughton, 2016) which defends the idea of social practice change stemming from innovation (Tuomi,

2002). The Internet has become therefore a powerful medium to pull customers to it and enable a global free publishing environment (Naughton, 2016). Much literature supports the idea that such an initiative would not have been possible had the technology been developed by powerful multi-national institutions (Naughton, 2016; Tuomi, 2002, 2011; Lanier 2011; Vardi, 2018). Naughton goes on to argue that the free exchange of data and content, as well as a network without central control would not have been supported by commercial organizations. Castell's comments (2010) on the success of the Internet and its evolution being based on individual users' ability to shape the network to meet their objectives reflects the Sun Microsystems mantra of 1995 during the launch of the Java technology, which was "The network is the computer" (McNealy, 1995). This interpretation of the network mirrors writings that view the public evolution of the web as one that shapes a world of economic dimming and diminishing classes supported by the artificial mechanism of social media as an exchange communication and an unprecedented communications model (Lanier, 2011; Hoffman, 2018; Briggs and Burke, 2010).

Social evolution

The third stage of the Internet evolution has been identified by the author as a social evolution. Much of literature to date referred to the technological evolution of this period (Matais-Wiersch and Autissier, 2016) and insists on the performance of the network to provide accessibility to data and content. Schafer (2016) however takes a different standpoint and considers the web at this point to be a content publisher and that its users are more interested in the content and not the actual technology which delivers the content. This approach is backed by further literature that develops the focus of content and the adoption of social behavior as being the new technological advancement that accompanies this next stage in the Internet timeline (Kaun, 2014; Miller and Prior, 2010; Flichy, 1999; Schafer 2016). In the Internet timeline we can witness the reduction in the numbers of organizations and consortiums who were formed to protect the architecture of the Internet, as the infrastructure reached a peak in its performance, where the only things that would hinder even faster growth, were price and bandwith (Lanier, 2011). Social media entered the Internet stage with force and the years between 2000 and 2010 saw an exponential growth of social media which meant that the communities that were being developed were no longer "tech savvy" but "content savvy" (Lorenzo-Romero *et al.,* 2014; Schafer, 2016; Hanna *et al*., 2011). What emerged during this period were a series of consortiums to develop Internet governance and protect the core element of its existence; free public access and exchange (Internet Society, 2018).

At the turn of the millennium, social media innovation instigated a societal revolution. Literature witnesses the exponential growth of these platforms in the 10 years that followed (Hansen *et al*., 2011; Harris 2009; Anderson and Wolff, 2010) which brought about a significant development in human interaction (Garretson, 2008; Ricadela, 2007; Schafer, 2016). Schafer (2016) refers to the technology enabling human connectivity and not just computer connectivity, which he further develops by expanding on how social behaviors have been replicated onto the various social platforms that have launched since release of the first browser navigation tool in 1995. What followed were the rapid development and deployment of web based applications (Schafer, 2016; Garretson, 2008; Lorenzo-Romero *et al.*, 2014; Kaun, 2014) that gave users the possibility to project their daily tasks into a network of like-minded users (Schafer, 2016). Schafer goes on to explain that this technological innovation enabled the development of a participatory culture which Scott McNealy also referred to in the mid-1990s. This notion of participation has raised various issues concerning the Internet including quality and credibility of data generation. However, Shafer (2016) raises one of the most poignant views by claiming that the Internet "can be seen as a collective production of knowledge". He goes on to say that this new "information society" would bring about the collision of "old business models with new practices". This critical element contributes to the theoretical underpinning of our empirical study which explores the impact of the digital transformation on fundamental business practices. User participation is a common element developed in literature around the Internet history (Garretson, 2008; Lorenzo-Romero, 2014; Kaun, 2014) and develops the idea of a behavioral shift in the way that communities now develop, how our day to day communication has been transformed, the impact on our working habits and our knowledge building and sharing capabilities (Hanna *et al*., 2011; Kaun, 2014; Schafer, 2016).

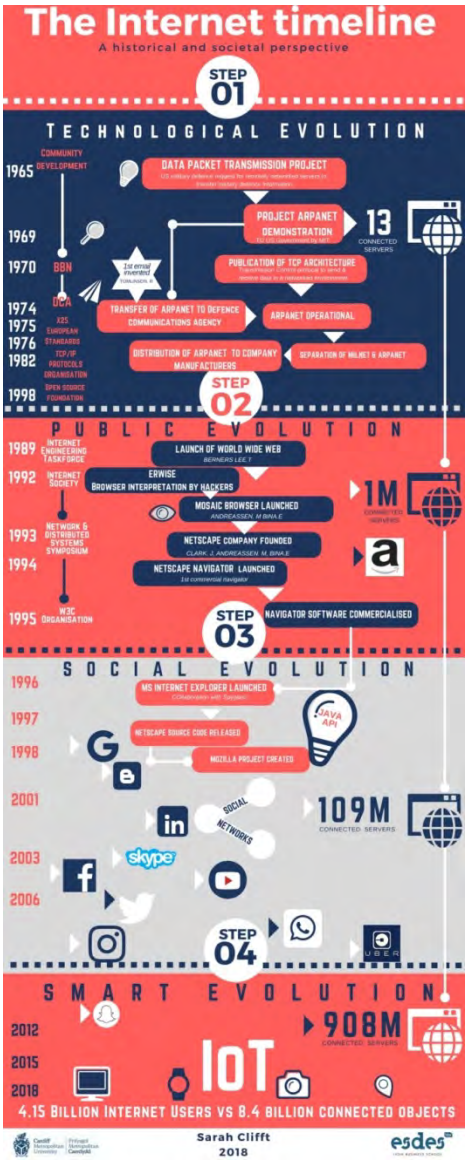

Figure 4. Infographic timeline of the Internet – created by Sarah Clifft, 2018

In our understanding of this behavioral shift we can further outline the increasingly important role of the user in the social evolution of the Internet. Hanna *et al*. (2011) develop the notion of the social user's role as a marketer and how he is at the forefront of marketing strategies. The social evolution of the Internet has transformed the consumer and user into active recipients in marketing exchange processes. Hanna *et al*. (2011) discuss the introduction of social media as the introduction of platforms of influence. Andersen and Wolf (2010) would argue that the adoption of mobile applications is an essential argument in the uptake of these hundreds of social platforms that have been born from the Internet technology. In order to benefit from this notion of influence it is necessary to have instant access (Andersen and Wolf, 2010). In our understanding of the notion of influence, Hanna *et al*. (2011) describe the social user's role as a marketer and how he is at the forefront of marketing strategies. The social evolution has

therefore meant a shift in the ecosystem of influence (Walmsley, 2010). This is further backed by an opinion from LinkedIn's co-founder and chairman Reid Hoffman, who stated that leveraging relationships will become "one of the most transformative uses of the Internet" (Ricadela, 2007).

In 2011, Hanna underlined the massive adoption of social media sites accounting for 75% of views in the US. The interactive social element of these sites has meant that a non-stop collaborative world has now developed, giving empowerment to users. Hanna goes on to develop the idea of spheres of social influence that have developed what Karpinski (2005) referred to as "bottom-up marketing". The ability to build vast social networks builds performance and value that Metcalfe's Law reinforces i.e. the value of a social network increases in proportion to the square of its connections. The British philanthropist Robin Dunbar's number of effective social interaction being limited to only 150 connections is therefore challenged by the social evolution of the Internet since the notion of connection is no longer based on messages, but as Levine *et al.*, stated (2001) it is now about "conversations".

The social evolution of the internet witnessed an explosion of platforms that have developed a multitude of "conversation pieces". Whether it be video, instant messages, photo albums, event planning, eCommerce, music compilations, PR, entertainment or knowledge platforms, these social platforms have built avenues of creative content that users can not only access, produce and share, but that also enable them to build proximity in the new number of their social connections which considerably outstrips the boundaries of Dunbar's cognitive limit. However in Hanna *et al.*'s observations (2011) they stated that one of the key challenges from a business perspective is not to treat these different social platforms as silos for content creation but to build spheres of influence from their cross platform interaction.

Smart evolution

SMART (of a device); adj-invariable: programmed so as to be capable of some independent action (Oxford Dictionary definition, 2018).

The final period of the history of the Internet as perceived by the author is described as a smart evolution. The Internet of Things, connected technology and Artificial Intelligence have enabled an accelerated transformation of manufacturing processes. Where to some these technologies are considered a threat (Joy, 2000), value creation is their fundamental purpose. Bill Joy stated that "the future does not need us anymore" (2000). His concern focused on the transforming technologies of the 21st century: genetics, nanotechnology and robotics (GNR). Compared to 20th century technologies (nuclear, biological, chemical) which were costly and

required the transformation of raw materials, GNR technologies have the potential to self-replicate at little cost. Digital technology is cheaper and enables small groups of communities to create massive disruption (or destruction). It is therefore man's responsibility to determine his added value in order to develop an effective integration of digital platforms alongside the human workforce. Wilkinson however, argues that it is not possible to automate everything that humans do (2018). What he does not expose is the extent to which social relations, soft skills and dialogue will be play an integral role in the adoption of digital platforms.

The smart evolution as illustrated in our timeline (Fig. 4) demonstrates the rapid development of connected technologies within the last decade. This notion of connectivity has witnessed "conversations" originating between people on platforms in the social evolution of the Internet history, to conversations that now take place between connected objects, smart technologies and machine-based learning. The value of this data stemming from the "conversations" occurring between the billions of sensory captors that, will only be measured if companies understand that data analytics are an essential part of their strategy (Zaidi-Chtourou, 2018; Grover *et al.*, 2018; Lehrer *et al*., 2018; Kitchens *et al*., 2018). Literature develops the importance of data and the need for companies to develop effective relationships between marketing and Management Information Systems (MIS), the company's technology infrastructure, its internal culture and ability to collaborate with strategic partners (Eid *et al.*, 2006; Chaffey 2010; Grover *et al.*, 2018; Zaidi-Chtourou, 2018).

The value of the Internet of Things (IoT) industry will surpass $3 trillion in 2025 with over 27 billion heterogeneous objects connected to the internet (Meyer, 2016). Hoffman et al., (2018) describe how IoT is becoming increasingly integrated into our everyday lives as smart objects interact with all of our consumption activities. This clearly illustrates the notion of conversations moving from people connected on social devices in the previous section to objects and people sharing conversations with packets of data flowing from device to data management information systems (MIS) which has been referred to as a new type of industrial assemblage (Delanda, 2016). The key consideration here is that during this smart evolution building multiple channels of data collection, there is a unique data collection experience as Hoffman and Novak explain (2018) between the data captured and analysed by the smart object and the customised experience gained by the user. This machine learning that Hoffman and Novak (2017) illustrate with the example of Amazon's Alexa home domotic, reiterates the expertise that companies will need to acquire as the data traffic generation from each user experience will multiply endless data sets (Hoffman *et al*., 2018; Zaidi Chtourou, 2018).

Research question on Internet history:

RQ1 – What role will marketing have in the acquisition of data management skillsets in order for companies to elaborate engagement strategies with the evolving customer and user communities?

The next section of this literature review will focus on marketing in a B2B context and its role in a data driven society.

2.2. B2B marketing in a data driven society

For the purposes of this literature review the author has chosen to use the term B2B (Business to Business) marketing and not industrial marketing. This decision has been made on the basis that all industry forms part of the B2B transactional chain and that ultimately industry serves for producing parts or products that are integral to a final product or service ultimately delivered to a consumer. Although industrial marketing is historically applied to primary and secondary industries which will form part of the empirical study of this research, the term business to business is synonymous with business marketing in general (Schmidt *et al*., 2007).

When discussing B2B marketing key concepts need to be identified as theoretical milestones for this marketing practice. Hadjikhani (2013) develops a historical perspective of B2B marketing and identifies the two main theories that underpin its practice. Exchange theory, which is based on transactions between two or multiple parties, and Behavioral theory, that focuses on the relationship between individuals, firms and entities. Relationship marketing which is the practical application of Behavioral theory has been at the forefront of marketing practice applied to this sector for the last 30 years. (Brennan *et al.,* 2003; Sheth, 2008; Hadjikhani *et al*., 2013). Hadjikhani (2013) points out that criticism on Exchange theory as a basis for B2B marketing was founded on market transactions no longer being wholly rational nor based purely on profit maximization. Behavioral elements such as uncertainty and mutual satisfaction became elements to consider in B2B marketing practice. This view supports additional literature that examines the evolution of relationship marketing (Eid *et al.,* 2002, 2006., Grönroos 1994; Gummesson, 1987, 2002). External factors such as increasing diversity or radical changes in business environments can trigger crises and therefore require marketing to adjust its practices to respond to such developments.

Much of literature confirms that the characteristics of B2B marketing are essentially different from B2C (Business to Consumer) marketing. Many definitions are given for B2B marketing (Coviello *et al.,* 2001; Smallbone, 1969; Coret, 1983; Vieira and Brito, 2015 LaPlaca, 2008;

Weirsema, 2013; Webster, 1988a, 1998b; Cooke, 1986; Brennan *et al*., 2012; Habibi, 2015) that differentiates marketing practices from that of Consumer based marketing. Cooke (1986) elaborates the need to define B2B marketing via one of three approaches: product definition, market definition or marketing activity. This differs slightly from Brennan *et al.*'s more contemporary approach which identifies differences via B2B marketing's market structure, its marketing practice and its buying behavior (2012).The latter pinpoints the professional buyer as being a focal point in B2B Marketing. It is important to point out that both these definitions assume that the types of marketing practices used are already determined in B2B marketing.

Cooke (1986) argues that B2B buyer behavior has more organizational constraints and is more rational. Purchasing risk factors make professional buyers more accountable than consumer buyers. Due to the concentration of players within B2B markets, buying relationships are longer term and more engaging than consumer purchases (Habibi, 2015). Since buyers are looking for a steady, reliable source of product and or service they typically build relationships with 2 or 3 suppliers therefore making it complicated for new suppliers to enter the market. Cooke (1986) also underlines the notion of reciprocity that exists in B2B markets and not in B2C. Many governments have tried to crack down on this activity and it is by no means contractually binding but it is a practice that continues to exist, making barriers to entry for new suppliers more challenging.

Kotler and Pfoertsch (2007), Achrol, (1997), Brennan *et al*. (2007) and Cooke (1986) also describe the professional buyer as being comprised of a unit of decision makers compared to Consumers, who are individuals and whose reach of influence in their decision making process goes no further than family and close network. Professional buyers need to consider a multitude of decision makers, be they technical, managerial, financial, administrative or political units that are drawn into the sphere of purchasing influence.

Literature on B2B marketing is unanimous about demand in B2B networks being derived (Cooke, 1986; Brennan, 2011, 2012; Kotler and Pfoertsch, 2007; Hakansson, 1982) and that firms interact and build networks of transactions based on demand stemming from the final user of the product or service. This interaction builds knowledge communities (Hakansson, 1982) that create appropriate value for the final customer (Kotler and Pfoertsch, 2007). As demand fluctuates, so does the intensity of each relationship within the business network. Hadjikhani (2013) discusses the fluctuation in network connections and their impact on the business relationship and efficiency. The intricate nature of industrial networks is further backed up by contemporary literature (Anderson *et al.*, 1994; Ford, 2002; Hakansson and Snehota, 1995). In the teaching of B2B marketing much emphasis is placed on Relationship marketing and the

complexity of organizational networks during the buyer decision making process (Brennan *et al*., 2007; Habibi, 2015) The Internet economy has reinforced and developed this central aspect of the B2B sector and marketing which Achrol (1997) and Kotler and Pfoertsch (2007) argued "will reshape markets through technology convergence and electronic commerce, organize consumer communities, and aggregate consumer information and demand into saleable business assets". In the previous chapter on the historical and societal timeline of the internet Scott McNealy's comment in 1995 "the network is the computer" was referenced as a turning point in the economic model of the Internet. We can align his statement with that of Kotler and Pfoertsch(2007) and highlight the responsibility of marketers to develop significant data management skills to anticipate this market evolution (Eid *et al.*, 2002, 2006; Chaffey, 2010; Rice, 1993; Zaïdi-Chtourou, 2018).

The Internet boom at the turn of the century also brought about what Kotler and Pfoertsch (2007) described as "a knowledge driven society". The new economic currency of this society would be that of knowledge. Their projection included a new type of marketing faced with a continued development of network economies. In this type of economy marketing will be "pushed closer to being an agent of the customer as opposed to the agent of the firm or seller". Kotler goes on to say that marketing will have the responsibility of organizing consumers and consumer information on behalf of the consumer and not organizing information for marketing to the consumer. Marketing in a networked economy, (which we consider is the state of the Internet economy based on our observations in section 2.1 of this literature review) will differ significantly from classical B2B marketing (Wiersema, 2013). Although market sensing as described by George Day (1984) talked about the importance of understanding the customer through traditional marketing practices, the notion of market relating i.e. that of building and maintaining a relationship with a customer, will come to the fore in the Internet economy. Achrol (1999) supports this argument by stating that in a knowledge intensive environment, marketing will need to predict technological changes that may influence or impact consumer behavior and will also be exposed to its economic productivity. This will imply that companies will need to incorporate financial criteria in their marketing calculus. We can understand from this that marketing's role in a data driven society will be to focus its efforts on what Achrol (1999) described as Real time marketing: transforming packets of information captured from the Internet into knowledge for managerial and strategic decision making. Wiersema (2013) considered this to be one of B2B marketing's biggest challenges and refers to it as the need to "extract and leverage more granular customer and market knowledge".

Much of literature focuses on the achievements of the web from a B2C perspective but it is important to highlight the opportunity that is presented to B2B marketing with the Internet economy (Anderson and Wolff, 2010; Achrol, 1999; Weirsama 2013). As Berthon *et al*. stated in 2010, the WWW will prove to be an effective tool for B2B marketers in the industrial purchasing decision making process. The reason for this is because the fundamental purpose of the WWW is to broadcast and to publish, therefore generating a two way flow of communication (Berthon *et al*., 2010). This reinforces observations previously made on the smart evolution of the Internet and the development of 'conversations' between sensory captors that in turn are producing data sets i.e. information that marketers will need to transform into knowledge (Wiersema, 2013; Hoffman *et al*., 2017; Zaidi Chtourou, 2018). By exploring this concept further, literature concedes that the role of marketing will be to convert these conversations from casual exchanges into qualified demands (Berthon *et al*., 2010).

Day *et al*. (2005) ran a survey with 165 senior managers in B2B which concluded that the Internet brought companies an opportunity to build and encourage dialogue and personalize communications. However, it was deduced that most firms would not benefit from these opportunities. Their survey goes on to argue how this ability to dialogue with customers is an essential part of the relationship marketing initiative. This is particularly important to highlight as it supports previous notions drawn from Behavioral theory and market relating and also paves the way to understand how B2B marketers can draw on the knowledge economy to enhance their service offering (Day *et al*., 2005, Kaun, 2014). It is important to note at this point that Day *et al*.'s findings pressed upon the idea that Relationship marketing within the realms of a CRM strategy is a cross-functional initiative within companies and the Internet merely acts as a data capture platform for a CRM strategy, but that the strategy needs to be driven companywide (Achrol & Kotler, 1999; Day *et al*., 2005).

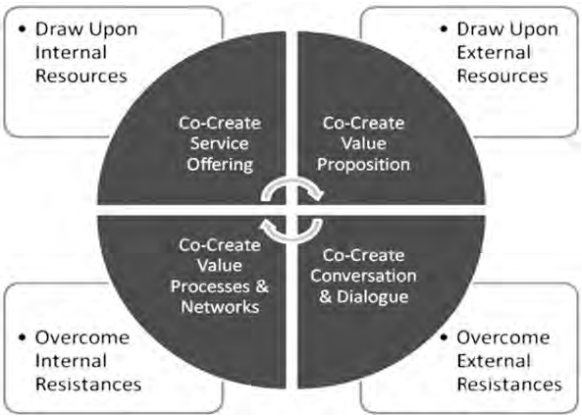

Figure 5. Service Dominant Logic & Value Creation. Lusch and Vargo (2008)

It would be impossible to review B2B marketing without mentioning the research of Lusch and Vargo (2006,2007, 2008, 2011) who set a precedent in the field of B2B marketing with the identification of the Service Dominant logic model (S-D Logic) in marketing practice. Their research has been backed by much literature that talks of the transformation of firms' orientation from producing output to a concern with services (Davies *et al*., 2007; Edvarssen *et al.,* 2008; Gebauer *et al.*, 2007; Coutelle-Brillet *et al.,* 2010; Gebauer, 2008; Lindberg and Nordin, 2008; Cova *et al.*, 2008). The relevance of Lusch and Vargo's work stems from their observation of the need to elevate knowledge discovery in business marketing which aligns with recent literature on the importance of knowledge based marketing (Hoffman *et al*., 2017, 2018; Zaidi Chtourou, 2018). However, with the onset of the Knowledge economy (Day *et al*., 2005) the limits of S-D logic are challenged. Since goods continue to play an important role in a subset of economic change in this model, (Lusch and Vargo, 2006, 2007, 2011; Vargo and Lusch, 2004, 2008, 2008b; Cova *et al.*, 2008; Jacob and Uluaga, 2008) S-D logic is still considered to be a market sensing practice as it defines the application of competences for the benefit of another party, hence aligning itself with the Exchange theory model in marketing. The need to develop a Customer dominant logic is proposed which would underline the importance of the customer as a central figure in marketing strategy, making them superordinate in Vargo and Lusch's model. Despite S-D logic positioning service as superordinate above goods and integrating value creation into its framework, the notion of conversation and dialogue is not sufficiently integrated in this model in the development of solutions; it appears in the latter stages of value creation. Vargo and Lusch have attempted to address the notion of equity in the supplier-customer relationship and do refer to actors to balance this (Vargo *et al.*, 2008). Gummesson (1987) also develops the idea of "many-to-many marketing" which embraces a model of networks creating value through interaction with other networks. Nevertheless, the model is facing the challenge of suitability in the Knowledge economy where, as previously stated in our contextual findings, the customer now has adopted a model of self-discovery for almost 70% of its purchase decision making journey in B2B (CEB 2018). However, the challenge in building a theoretical model in the new knowledge economy where the customer becomes central to the development of marketing practice is that the distinction between B2C and B2B marketing may well be erased (Vargo and Lusch, 2004, 2008, 2008b).

Research question on B2B marketing

RQ2 – Since B2B marketing is essentially about making rational choices in buyer decision making will digital technologies and Artificial Intelligence (AI) ultimately replace sales and marketing functions?

The next section of this literature review will develop the notion of Customer centricity and explore the concept of the Uber business model and value creation.

2.3 The Uber Economy: Customer Centricity and the repositioning of value

2.3.1. The Uber Economy

The problematic of this research refers to "the Uber Economy". It is important to construct a clear definition of what this term implies, particularly in the B2B market since this is the chosen field of research. The terminology bases itself on a collection of terms that are linked to the recent disruption in traditional socio-economic models, known for many as the Sharing Economy (Camilleri *et al.*, 2017; Bouton *et al.*, 2016). The open source community first developed the notion of public and shared access to a communal good via the Internet (the communal good was software), which was integral in the development of applications on the WWW. The Sharing economy terminology first saw the light of day in 2011 (Botsmann and Rogers, 2011) as consumers came out of a difficult economic crisis and consumer spending power was challenged. In parallel to this the social network phenomenon drove consumers to a need for "social connectedness" (Schäfer, 2011; Camilleri *et al*., 2017; Puschmann *et al*., 2016). The arrival of the millennial consumer meant that the desire to own product was replaced by a need to fulfil experience and service (Camilleri *et al.*, 2017; Rong *et al*., 2018; Rowe, 2017). Another term applied to this phenomenon is the Collaborative consumption economy, which has also been labelled the experience economy (Marchi *et al*., 2016; Camilleri *et al.*, 2017; Rong *et al*., 2018; Rowe, 2017); experiences that are co-created based on the behavioural aspects of collaborative consumption (Rong *et al*., 2018; Holbrood and Hirschman, 1982; Puschmann, 2016).The internet is undoubtedly the key catalyst of this change which enables the redefining of the action of sharing though "scope, meaning and possibility" (Botsman and Rogers, 2011, p. 55; Rowe, 2017; Camilleri, 2017; Puschmann, 2016). The important foundation to these different initiatives in sharing and collaborative consumption are indeed the platforms upon which the action is based (Rowe, 2017; Rong *et al*., 2018) Through such platforms personalised experiences are possible and changes in the way consumers fulfil their needs affect how businesses create their value propositions (Jacob and Uluaga, 2008; Botsmann

and Rogers, 2011; Camilleri *et al.,* 2017). Recent literature is beginning to examine the socio-economic significance and transformative role and impact of the sharing economy on a number of industry sectors (Marchi *et al*., 2016; Hamari *et al*., 2016; Rong *et al*., 2018; Rowe, 2017). The conclusion has been that further understanding of the consumer-centric experience and value creation opportunities merits consideration (Ulaga, 2001; Van Rensburg, 2012; Shah *et al*., 2006; Blattberg *et al.,* 2001*;* Camilleri *et al.,* 2017). Motivations for collaborative consumption include environmental pressures and a declining economy (Hamari *et al*., 2016; Zervas *et al*., 2017; Puschmann and Alt, 2016) which has encouraged consumers to move towards a notion of product and service access above ownership. Research to date on the notion of value creation has attempted to explore direct and indirect value co-creation interactions from supplier to consumer, from initial information seeking to final experience sharing (Ulaga, 2001; Van Rensburg, 2012). Camilleri *et al.,* (2016) researched the notion of value co-creation and value co-destruction using an S-D logic approach. This theoretical underpinning stems from the portrayal of service exchange as an application of operant resources, and operand resources that require action to be taken upon them to "make them valuable" (Vargo *et al*., 2008; Vargo and Lusch, 2008). Scholars drew conclusions which identified that value could no longer simply be delivered to customers (Lusch and Vargo, 2011) but moreover an exchange of value propositions were needed from one actor to another in order to integrate their resources for economic, financial or social value or a combination of all (Viio and Grönroos, 2014; Ulaga, 2001; Vargo *et al.,* 2008). Vargo *et al*., (2008) summed this up as the integration of resources and application of competences. The notion of value through co-formation is therefore meaningful, based on the S-D logical approach. The millennial adoption of collaborative consumption practice has resulted in serious ramifications for certain service sectors (Marchi *et al*., 2016; Leach and Ghosh, 2006; Hamari *et al*., 2016). Industry sectors need to understand the distinct value proposition of collaborative consumption (Camilleri *et al.*, 2016; Kumar *et al.*, 2018; Leach and Ghosh, 2006) in order to understand the potential for similar practices in their own line of activity.

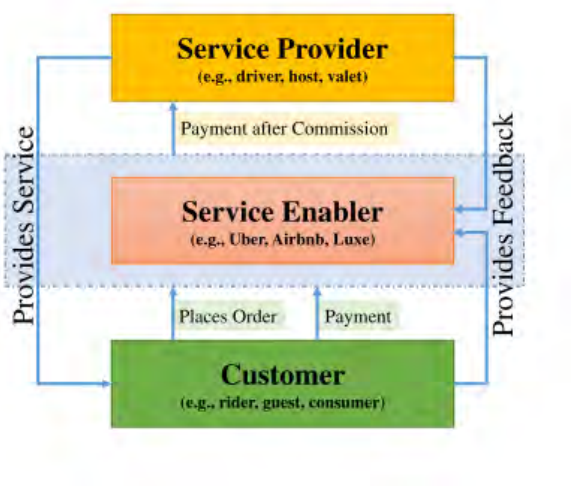

Figure 6. Sharing Economy model 1

Kumar *et al*. (2018) defines the "sharing economy as a socio-economic model that counters the wastage and underutilization of resources associated with the unequal distribution of wealth and resources". Utilizing idle assets based on consumer demand helps the systems to achieve intended efficiency of operation. Kumar *et al*. (2018) further demonstrate the triadic nature of the collaborative economy business model: – service enabler, service provider and customer). In comparison, Keating (2016) supports Sundarajan's definition of the sharing economy as "crowd based capitalism" since there is a transfer of ownership through on-demand access. Hence the definition develops to become an economy of access and the sharing aspect becomes secondary. Kumar *et al.* (2018) develops his definition by adding that the Sharing Economy represents the monetization of underutilized assets owned by service providers that can be either firms or individuals, "through a short term rental". This gives the business standpoint priority over the collaborative lifestyle aspect of the model. They exclude non monetized platforms (WeFarm, Freecycle) and pure marketplaces (eBay) and also re-commerce systems (ThredUp) as the rental aspect is not present and therefore excludes the nature of "sharing".

Another definition to consider is the "Circular Economy". Hannon (2012) explains how companies are adapting circular economy practices in order to provide a better user experience to customers. They refer to the move away from a linear model of production and waste which limits value creation to the end of life disposal of product. This is supported by Rossé *et al*. (2016), who consider the Circular economy to be "restorative by design" enabling the optimisation of natural capital in the most efficient manner. With the onset of volatile resource prices due to dwindling stock, people and companies are seeking durable goods (Hannon, 2012). Digital technology and transformation of industry means that it is more feasible to redeploy resources repeatedly or for comparable purposes (Honeycutt *et al*., 1998; Ghosh,

2006; Karjaluoto *et al.*, 2015; Hannon, 2012). In 2016, a McKinsey report on the Circular Economy described how the Building sector could generate a 50% reduction in construction costs by adopting circular economy practices which would be part of a net economic gain to Europe of just under 2 trillion euros by 2030 (Marchi *et al.*, 2016). In 2015 the Ellen MacArthur foundation created a 6 step framework called Resolve that explained how to transition from the current economic trajectory into a circular one. These 6 steps were to regenerate (raw materials), Share (peer to peer sharing of privately owned products) Optimize (improving performance and efficiency of products by removing waste from their supply chains and leveraging technology) Loop (to keep components in closed loops such as remanufacturing products and recycling materials), Virtualize (delivering service and utility virtually such as books, online shopping and fleets of autonomous vehicles) and Exchange (replace old materials with renewable ones or apply new technologies such as 3D printing). This combination of effort enables an increased utilization of physical assets to prolong their life spans (Marchi *et al.*, 2016). The McKinsey report went on to explain how waste pools can become revenue streams. McKinsey was unanimous in underlining the potential value creation from breaking the linear model of production, consumption and waste (Marchi *et al.*, 2016). In manufacturing, few companies have an afterthought for what happens to their products once purchased. Within the heavy industry sector the notion of ease of manufacturing for cost optimization far outstrips the focus on responsible manufacturing. The collaboration of horizontal teams in product development cycles can enable innovative and profitable breakthroughs to occur (Marchi *et al.*, 2016).

Table 1. Summary of definitions

Sharing Economy	**Sharing of underutilized goods or other resources by multiple people. Goods and resources therefore do not lay dormant. This economy relies on access to such goods through a membership or via peer to peer interaction (ex.: BlaBlacar, CoHealo).**
Collaborative Consumption Economy	Systems that reinvent traditional market behaviours: renting, lending, swapping, sharing, in ways and on a scale not possible before internet. This unlocks value as well from underused assets by matching needs and passing around traditional intermediaries – (ex.: Uber, Airbnb).
Circular Economy	The capturing of more value from resources by keeping them in a closed loop system so that nothing is lost to waste. Materials are broken and reused in additional manufacturing processes that do not degrade materials (ex.: Yerdle, Terracycle).
Access Economy	Refers to the ability to access services that you do not need to own outright in a prescriptive manner(ex.: Netflix, Deezer, iBooks).

2.3.2. Customer centricity

The Sharing economy creates a new B2B2C relationship: As an illustration, Uber is a service enabler, the Driver is the service provider and the rider is the customer (these can be businesses or individuals). A well-balanced acquisition, retention and win-back of profitable service providers and customers are at the heart of the Sharing economy long term success (Francom, 2015; Leach, 2006). Kumar *et al*. (2018) demonstrate how the B2B environment has a dyadic sales relationship between the intermediary firm and the seller without the need for a direct interaction, feedback or transaction between the buyer and the seller. Kumar *et al*. (2018) go on to identify a fundamental difference between sharing economy two-sided markets and conventional counterparts, which is that the focus is on service in the sharing economy compared to product and revenue generated from sales in conventional business practice. Rowe (2017) identified a number of underlying theories that motivate the participation in sharing economy from a user perspective. Social exchange, self-determination and reciprocal altruism are highlighted as reasons behind the dynamics of the sharing economy. All of these theories elaborate the notion of exchange and benefit, from mutual satisfaction based on intrinsic motivations (enjoyment, networking, socialization) and extrinsic (monetary) motivations. Kumar *et al.'s* study and additional literature (Rong *et al.*, 2018) however do not develop a theoretical underpinning that determines why service enabler platforms in the Sharing economy are successful; hence the need to examine additional theories.

2.3.3. Social Cognitive theory and Self-efficacy (Bandura, 1977) and Media Richness Theory (Daft and Lengel, 1986)

These theories have been identified to develop further two aspects of previous theoretical underpinning, namely control and deliverable content. It has been repeated in literature (Kumar *et al*., 2017; Francom, 2015; Rong *et al.*, 2018) that these are two fundamental aspects of the Sharing Economy DNA. Bandura's theory illustrates a direct correlation between a person's perceived self-efficacy and behavioral change. Self-efficacy comes from four sources: "performance accomplishments, vicarious experience, verbal persuasion, and physiological state" (Bandura, 1977). These four sources are a direct reflection of the structures and functions of digital technology today which strive to engage through their experiential and social capabilities. Social Cognitive behavior theory on the other hand states that individuals' knowledge can be directly related to observing others through experiences, social interactions and influence from media. An individual will not necessarily test a new behavior unless others who adopt the behavioral model are either punished or rewarded. The theory elaborates that individuals remember a model or series of events and the consequences and go on to replicate

or adapt that model of behavior accordingly (Bandura, 1977). Self-efficacy theory underlines the impact on behavior as individual feels involved or instrumental in a change or in a problem resolution; commitment is consequently achieved. These two theories clearly examine the stimuli behind how people think, feel and act, which is that of maintaining control (Bandura, 1977, 1987). In conjunction with these two theories is Daft and Lengel's theory of Media Richness, MRT (1986). This examines how all communication media vary in their ability to enable users to communicate and to change understanding (Daft and Lengel, 1986).The degree of a media's ability to do this is known as its "richness" (Daft and Lengel, 1986). From a managerial perspective MRT enabled companies to determine the most effective type of communication channel to use (Rice, 1993). The challenge for managers however is that if a company has a pre-determined communication platform, it may be difficult for a manager to propose an alternative one (Trevino *et al*., 2000).

All of these theories build upon the limitations of previous theories used to underpin the study of the Sharing Economy. Social Cognitive Behavior, Self-Efficacy Theory and Media Richness Theory are more relevant to this study because they examine a fundamental aspect of all types of social exchange, self-determination and network collaboration in the Digital era, namely the tools that enable these transactions, which is the Internet and the world wide web which are instrumental in the Digital transformation of the economy today (Lodhia and Stone, 2017; Mahlamäki *et al*., 2016; Marshall *et al.*,2013; Schäfer, 2011; Miller and Prior, 2010; Carnabuci and Dioszegi, 2015).

2.3.4. Value Repositioning within the Sharing Economy

Many definitions of value have been studied across specific literature (Zeitmahl, 1988; LaPierre, 2000; Ulaga, 2001; Lindgreen and Wynstra, 2005; Khalifa, 2004; Woodall, 2003). All are unanimous in the origin of value stemming for an exchange and how the exchange is perceived by the receiver and the giver. Various factors impact the level of perceived value: price, energy, resource, time and now in the Uber economy, immediacy of value received, how the value is communicated and peer to peer construction of that value (Francom, 2015).

Kumar *et al*. (2018) identified Time and Money to be the key values generated from the sharing economy for each actor involved. Due to digital transformation, time will be the priority asset out of the two. It is for service enablers to capitalize on these two assets in their strategies (Rong, *et al,* 2018). Blablacar, as an illustration, enables travelers to reduce their travel budget and gain instant access to transport solutions for one off journeys. Service enablers who therefore

promote the fulfilment of these two values through their enabling networks will remain sustainably profitable (Hamari *et al*., 2016; Kumar *et al*., 2018).

From this analysis of the different definitions given for today's disruptive economic model, the author has built a unique definition of the Uber economy that applies aspects of the aforementioned definitions (Sharing economy, Collaborative consumption economy, Access Economy, Circular economy).

UBER ECONOMY: *Access to digitalized resources that enable time, financial and information efficiency gains for customers and companies in a new triadic structure: the user, the service provider (company), the service enabler (digitalized interface/platform). Information and value are unlocked on scales possible through the internet via the automation of specific customer facing tasks and the redeployment of internal company resources for an improved customer experience.*

This definition will be validated through the following research questions

Research Questions for the Uber Economy, Customer centricity and the repositioning of value

RQ3 – Is the effectiveness of a service enabler in the Uber Economy dependent on the choice of communication used and the implication of the network of users.
RQ4 – What role will millennials have in the digital transformation of sales and marketing in industrial SMEs?
RQ5 - Should 'value of experience' be the new norm for business to business relations in the Uber Economy?
RQ6–What are the key factors of success for SMEs in the construction of the Uber economy?

2.4. Digital Culture and social selling; a vehicle of trust?

The final part of this literature review examines a contemporary form of client/company exchange in the digital era – that of social selling. It endeavors to analyze through literature the evolution of the sales role and arguments the trust implications of this recent practice.

2.4.1. The social media phenomenon and commoditized information

The changing face of the sales role has been a point of discussion for almost half a century (Marshall *et al*., 2013; Moore, 2015; Lee, 1961, 2011). Different priorities have been attributed to the academic investigation of sales functions that have evolved over time (Marshall *et al.*, 2013; Brennan *et al.*, 2003). Furthermore, the rise of technology usage in the sales role has been carefully detailed (Pinsley, 2013, Rodriguez *et al.*, 2012; Roy and Sivakumar, 2007; Habibi *et al.*,2015; Choudhury, 2012; Agnihotri *et al.*, 2012). Marshall *et al*. (2013) have since developed the ongoing investigation into the sales function evolution by introducing the concept of "always-on communication" that social media requires. According to Marshall *et al.* (2013), sales people do not have the choice as to whether they are contactable or not. But with the commoditization of information as mentioned by Marshall *et al*. (2013) companies need to understand their revised role in the customer/supplier relationship in order to optimize their interactions in the traditional sales process. This is supported by Habibi *et al.* (2015) proposal of an organizational orientation framework into the application of social media. Such a framework would help bridge the gap between usage and sophistication. Marshall *et al*. (2013) also expressed this need in terms of connectivity i.e.: maintaining a constant connection with the market and responding in real time to demand and interruptions. Relationships are becoming more virtual due to time, technological and economic pressures (Marshall *et al.*, 2012; Hanna *et al.*, 2011; Karjaluoto *et al.*, 2015). Their study builds a substantial piece of groundwork to the author's proposed pilot project. It raises various questions and highlights areas of negative feedback from their focus groups, alluding to a reduction in performance, inefficiency in time allocation, an inability to adopt technological advances, and a fear of losing the face to face supplier/customer relationship as information increasingly becomes a commodity. These last two points are backed up by previous literature surrounding the generational problematic. Older sales' generations perceive social media to be a gimmick, uncomfortable and consequently resist to its adoption (Habibi *et al*., 2015; Marshall *et al*., 2013). Their conclusions identified value as being fundamental in the selling practice going forward. Value is a differentiator when it is true value perceived by the client.

2.4.2. Social media and the client relationship performance

Rodriguez *et al*., 2012 argued that the effectiveness in the use of social media (SM) in B2B sales and marketing comes from the principles behind the tool's function: to share content and build a network. The main SM platforms identified in B2B are LinkedIn and Twitter. Rodriguez *et al*. (2012) develops the idea of business potential obtained from customer insight via these platforms which is supported in literature elsewhere (Habibi *et al.*, 2015; Frankenberger *et al.*,

2013; Trainor, 2012; Agnihotri, *et al.*, 2012). One of the main challenges in B2B sales is the identification of the right type of qualified prospect to replace the customer base that changes every year (Rodriguez, 2012). Creating opportunities for prospecting can be a timely and complex process (Hansen *et al*., 2011) that can be simplified by using social media (Booth, 2017; Schaub, 2014). Rodriguez *et al*. (2012) attempted to prove the effectiveness of social media in a B2B sales and marketing environment through an empirical study of 1600 companies and their use of social media. However, in their study they refer to a linear sequence to the sales processes which the author contends, as client/ supplier relationships tend to evolve in loops of loyalty acquisition. The study is challenged as there is no classification in terms of size of company which is fundamental to the author's proposed pilot. Although Rodriguez *et al*.'s study confirms the effectiveness of social media's performance in the sales process it does not study the impact on time allocated to the implementation of social media by companies, which in the SME arena is a precious commodity. Finally, this study focuses wholly on the supplier side and does not measure the impact from the client's perspective, which will be integral in the author's change project.

2.4.3. Social networks as a vehicle of trust

Professional buyers always refer to their professional networks to build trust and confidence in the purchasing decisions that they make (IDC, 2014; Nobre and Silva, 2014; Percy *et al.*, 2010). Online social networks have played a vital role for 84% of senior B2B buyers in the conducted research. LinkedIn is the first information preference of buyers. Schaub (2014) proposed that sales teams need to engage with this platform as the traditional face to face sales model is eroded by the increase in digital communications. As the potential for social networking platforms expand, other sales and marketing techniques are impacted: relationship building, referrals and recommendations (IDC, 2014; Percy *et al.*, 2010; Nobre and Silva, 2014). The conversations that take place in a peer to peer environment reinforce the notion of trust being a commodity to these fast expanding networks (Schaub, 2014). The risk of 'opting out' of social media in some industries can be considered negative, in a similar way that an unanswered phone creates a negative image. Furthermore, buyers place substantial trust in their networks (Schaub, 2014). B2B buyers can reduce the risk of complexity by practicing social buying (Habibi *et al*., 2015) In the IDC report (2014) 3rd party recommendation for supplier choice, sales interface and reference checking were perceived as the most important reasons for maintaining a strong network. The report goes on to underline how social media networks thrive on trust and

confidence; human traits that reflect offline behaviour and reinforce the relevance of our chosen theory examined, notably Social Cognitive theory.

To complete our literature review an examination of Habibi's Electronic Marketing orientation conceptual model was undertaken (Habibi *et al*., 2015). This model attempts to build a research orientation for the implementation of digital technologies within a company's sales and marketing process. The four axes to the EMO model: philosophical, initiation, implementation and adaption components raise pertinent observations in the digital transformation of B2B sales and marketing. Habibi *et al*. (2015) confirm the tactical and strategic implications of digital marketing orientations in the sales process. The research raises questions on digital culture, company structure and job design that need to be reviewed in an electronic marketing orientation (2015). In comparison to Rodgriguez *et al*.'s proposal (2012), the EMO framework provides a more comprehensive review of a company's digital transformation of their sales and marketing resources, because it develops the notion of managerial and stakeholder adoption criteria.

Research Questions for digital culture and social selling

RQ7 – As millennials shy away from face to face relationships and older sales generations resist technological change, is a company's brand notoriety at risk as customer's see incoherency in the client relationship model

RQ8 – What role will social media have in an industrial SME's sales and marketing evolution to enhance a two-way value construct between supplier and customer?

RQ9 – Is the customer's voice essential in defining the alignment of social media in the customer relationship model?

LITERATURE REVIEW CONCLUSION

This literature review has enabled the development of 9 research questions that will be answered during the pilot and change project. They have been constructed from a comprehensive analysis of contemporary literature on four essential research focuses that will help define the pilot and subsequent change project. They are:

1. The Uber Economy construct. A gap in literature has enabled the development of a proposed definition. The defined Uber economy exposes time, information efficiency and financial resource as essential components of relationship marketing.
2. The value proposition in the digital transformation of sales and marketing resources within an industrial SME. These functions will become customer agents within their enterprise.

3. B2B marketing has undeniably adopted the digital transformation and data is its currency. The internet evolution will now require companies to integrate a smart adoption of technology for optimal performance of marketing and sales resources
4. Social selling is now a necessity in the digital transformation of sales and marketing in industrial SMEs. Its value will be developed through a two way knowledge construction between supplier and customer

Figure 8. Digital transformation B2B model - Illustration 2018, by Sarah CLIFFT

The subsequent pilot project will draw on academic and practitioner research and integrates three components of the digital transformation conceptual framework exposed (Fig. 8) as introduced in the previous chapter “The Context for Change”;

- Imagine and conceive new innovations
- Optimize customer centric experience
- Improve customer satisfaction.

The Digital Transformation Value formation model for B2B sales and marketing attempts to illustrate the co-development of value formation through intrinsic networks of relationships between customer and supplier using automated interaction mechanisms, leading to time and financial gains.

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Appendix 4. Methodology and Pilot project

1. Introduction

The choice of methodology in research enables the researcher to build a comprehensive and reasoned answer to a research question (Peffers et al, 2007; Flick, 2014; Mayer, 2015; Kumar, 2019). From the contextualisation of the problematic and an exhaustive review of literature on key themes surrounding the latter, this chapter will focus on the methodological approach to the chosen research project.

The chapter develops the four constructs of research methodology:

- Research design process
- The philosophical underpinning to research
- The question of methodology
- The choice of Grounded Theory

Before developing these constructs, it is important at this stage to review the research question: **How does the digital transformation of sales and marketing functions impact the value proposition of industrial SMEs?**

This question examines the social phenomenen of the digitalisation of key client facing resources within an organisation. Under examination is the behaviour of employees who are impacted by this transformation, and how they adopt a new approach to their daily professional activities. Within the elaboration of the research question, a number of probing questions have been raised within the literature review.

RQ1: Since B2B marketing is essentially about making rational choices in buyer decision making, will digital technologies and Artificial Intelligence (AI) ultimately replace sales and marketing functions?

RQ2: Is ‘value of exchange the new norm for business to business relations in the Uber Economy? We are questioning here whether value is based on experience as is the case in the user driven experience that is a priority in B2C (Hanna *et al.*, 2011; Hansen *et al.*, 2011; Crittenden *et al.*, 2010)

RQ3: Will millennials develop a better value proposition for their clients than generation X profiles?

RQ4: Is the customer’s voice essential in defining the alignment of social media in the customer relationship model?

Each of these questions plays a role in understanding the implications around the use of digital technologies in customer facing roles within an enterprise. These questions have arisen from

the comprehensive literature view that exposed a gap in literature on B2B marketing definitions which examine the integration of digital media in B2B marketing but do not outline Digital Conversations being essential in the adoption of digital tools in sales and marketing

RESEARCH FOCUS no. 1: B2B marketing has undeniably adopted the digital transformation and data is its currency (Eid *et al.*,2002, 2006; Kotler and Pfoertsch, 2007; Zaïdi-Chtourou, 2018). B2B marketing definitions need to evolve in order to include the role of digital conversations in the smart evolution of the Internet, which now are integral in the development of relationships between business suppliers, partners and business buyers as discussed in 2.2 of the literature review. A definition of the B2B Uber economy is essential to reflect this new paradigm and is subsequently proposed in a definition of the Uber Economy, formulated in the literature review (2.3.4. Value Repositioning within the Sharing Economy) which is as follows:

> ***"****Access to digitalized resources that enable time, financial and information efficiency gains for customers and companies in a new triadic structure: the user, the service provider (company), the service enabler (digitalized interface/platform). Scale and value are unlocked on scales possible through the internet via the automation of specific customer facing tasks and the redeployment of internal company resources for an improved customer experience"*

The proposed research will enable me to validate this definition in my final recommendations. To do this, through my chosen research design, I will look at the behavioral change of sales and marketing teams and their interaction with digital tools. The analysis of this rich data will enable a series of recommendations and contribute to knowledge in the sphere of the digital transformation within industrial SMEs.

RESEARCH FOCUS no. 2: The internet evolution will now require SMEs to integrate a smart adoption of the technology for optimal performance of marketing and sales strategies (see: 2.1.1. smart evolution)

Through my chosen methodology I will observe the behaviour of participants in their adoption of technology that they use in their daily tasks. The uniqueness of this research approach is that it is not based on simulations or assumptions. My primary data collection will be field based to expose the real environment and daily activity of client facing functions in an industriel SME.

This chapter will develop a critical analysis of research methods and methodologies, and will argue my subsequent choice of methodology for the research project.

RESEARCH FOCUS no. 3: The Uber economy exposes time, information efficiency and resource as essential criteria to develop successful relationship marketing strategies, which are integral to the formation of value (as discussed in the literature review 2.3.4.).

Having proposed a definition of what is the Uber Economy my research will examine these three components and determine how participants react and interact with time, information and resource in their daily behavior.

RESEARCH FOCUS no. 4: Social selling is an essential component in marketing and sales strategies that SMEs need to adopt. (as discussed in the literarture review 2.4.).

Data collection methods discussed in the next section will help to develop this axe to understand if this social phenomenon within SMEs is accepted and considered intricate in the development of a value proposition for the company.

2. The research design process

The term 'quantity' in research approach refers to measuring and counting and implies an emphasis on quantification in the area of data collection and analysis (Mayer, 2015). Quantitiative research enables the researcher to base their work on models with variables that are clearly defined by the past (Bernard *et al*, 2016; Kumar, 2019) with the undefined being the constant. Quantitative research 'embodies a view of social reality as an external objective reality (Bryman and Bell, 2011). Through a number of closed questions and the resulting findings through figures, the quantitative researcher will prove a suggested theory right or wrong through the neutrality of the data analysed (Mayer, 2015, Jonker and Penning, 2010).

In comparison, qualitative data analysis is the observation of patterns. It examines how regularities in those patterns occur (Field and Morse, 1994; Bernard *et al*, 2016; Flick, 2013; Mayer, 2015; Kumar, 2019). Research in management, business and marketing has seen the relevance of qualitative insights that do not rush to measure and predict actions (Goulding, 2002; Bryman and Burgess, 1994; Malhotra *et al*, 2007; Mayer, 2015; Kumar, 2019). Compared to quantitative analysis, qualitative research is not based on the assumption that theory correctly represents the reality of the problem (Mayer, 2015; Niglas, 2004). Managers have also manifested a notion of trust towards the vividness of qualitative research (Goulding, 2002; Niglas, 2004; Malhotra *et al*, 2007; Jonker and Penning, 2010) compared to large-scale neutral surveys. Gummesson (2005) adhered to the opinion that researchers in marketing should adapt a methodology that fits with his or her personality, and that «complexity, fuzziness, chaos, change and uncertaintity» are indeed characteristics of a market economy, adding effectively a spark of life to data. Gummesson (2000,2005) develops this opinion further by identifying three aspects of qualitative methods that help to improve research in marketing: analysis and interpretations, theory generation and one's own individual approach to science. These three methods are supported by Hine and Carson (2007) Although qualitative research is perceived as being « easier » to do (Goulding, 2000) and is challenged to the value that it proposes, Morse

(1994) disputes this viewpoint and argues that such research is a refined and tightened view of the real-world scenario.

Qualitative research demands conceptual linkages to incidents and an accurate socio-historical context in order to explain the research framework (Field and Morse 1994; Goulding, 2002; Flick, 2013; Kumar, 2019). The different qualitative methods have varying philisophies and strategies but as Goulding (2002) reminds us, there is a degree of overlap in data generation, which typically comes from the use of interviews and observations. Problems occur however when muddling develops beween methods adopted (Simmons, 2011). An example of this would be the application of percentages based on content analysis within interpretative research. The use of such mixed methods as an interpretativist researcher would prevent the construction of meanings and understanding of people's behavior, as mathematical calculations are not an accurate reflection of behavioural tendancy. For as Bernard *et al.* (1984) confirmed, both qualitative and quantitative data are a reduction of our experience but in social sciences, it is the investigation of behavioural conditions that is of interest. By reducing data therefore to thoughts, behaviours and emotions, we are building qualitative data (Bernard and Ryan, 2016; Bernard, 2006; Bernard *et al.*, 1984; Flick, 2013; Kumar, 2019).

Literature informs us that qualitative research methods are an adoption of theory (Goulding, 2002). In Werks's (2017) analysis of qualitative research he explains that the final steps of data analysis build discovery into that theory (Werk, 2017; Gummesson, 2005; Goulding, 2002) and aligns himself with Morse (1994) who pushes the qualitative researcher to take risks in order to contribute to knowledge in such existing theories.

Literature has recorded that where quantitative studies mostly try to pinpoint causality between two or a few variables (Gummesson, 2000, 2005; Hine and Carson, 2007: Mayer, 2015; Saunders *et al.*, 2009; Jonker and Penning, 2010), qualitative techniques focus on understanding the "complex and elusive" (Bernard and Ryan, 2016; Gummesson, 2003, Mayer, 2015) in a systemative perspective, rather than determining cause and effect relationships. In the realms of descriptive research this point is justified since this research studies behavioural adaption to digital transformation and not the reason why this adaption to technology has occured. Reality cannot be broken down into well-defined components (Gummesson, 2005). The author supports this argument by referring to a generation of qualitative data and its ongoing interpretation, compared to quantitative data collection, which is not coherent with the data drawn from a social environment. This argument is coherent in a longitudinal study of behavior, where data is built from multiple variants in a social environment that do not have fixed values, unlike quantitiative data which has fixed variables, and consistent values, which enable mathematical

causality analysis. Gummesson (2005) develops this argument further by illustrating the different “floors” of research in his research edifice model. This reflects Werk’s (2017) five level data analysis model which further details the limits of bivariate and multivariate analysis, before completing the model with Storytelling analysis, and ultimately taking the researcher into new realms of creative qualitative data interpretation. In the case of qualitative research, the investigator focuses on naming themes in data and relating them to one another in an attempt to identify deeper meanings or multiple meanings to the data (Bernard and Ryan, 2016; Kumar, 2019; Malhotra *et al*, 2007).

A qualitative approach is more suited to this research objective, which is to observe people’s behaviour, thoughts and emotions and the environmental conditions in which people behave, think and feel (Bernard and Ryan, 2016; Saunder *et al.*, 2009; Mayer, 2015). In this particular research area an empirical study will be the source of theory and although it will be underpinned with Socio-Cognitive theory and Adkar theory of Change, the research will guide the development of a new theoretical lens through the adoption of Grounded theory methodology which is discussed in section 3.5.

3. A philosophical perspective to research

The adoption of a research philosophy is considered to be the starting point for any research process (Saunders *et al*., 2009; Hesse-Biber and Leavy, 2011; Bryman and Bell, 2011). Mayer (2015) stated that the research philosophy adopted builds the basis for the subsequent research process and influences aspects like the formulation of the research question and the selection of research methods. Various philisophical orientations have been considered in order to determine a suitable research methodology for this area of research.

Two schools of ontological thought lie behind the choice of research methodology; objectivism and constructivism. Objectivism states that social phenomena exist independently of social actors, whereas constructivism believes that human beings construct meaning to the social phenomena (Mayer, 2015; Hesse-Biber and Leavy, 2011). However, for management-based research, a constructivist ontology is often elected simply because it helps to analyse the realities of everyday practice (Elliott and Lazenbatt, 2005). It also provides an understanding of human behaviour to deliver study results and does not require a pre-determined means of collecting data. From patterns that emerge in the data collected, information can be interpreted about the reality of social phenomena rather than identifying the cause (Engward, 2013).

From an epistomological viewpoint, postivisim typically contrasts to interpretivism in methodological orientation (Bernard and Ryan, 2016; Mayer, 2015). Considerable criticism has been served on positivism, (Miles and Huberman, 1994; Adam, 2014; Mayer, 2015) deeming

it an approach that is limited to the testing of existing theories and based purely on the use of questionnaires and statistical analysis, as developed previously in section 3.2. Goulding (2000, 2002, 2005) argues that its consideration is nevertheless essential in order to appreciate effectively its relevance in epistomological choice. When treating human behaviour, which is the case in this research proposal, Goulding *et al.*, (2002) question the use of detached and logical approaches to its study. This is compared to various writings (Atkinson, 1998; Buchanan, 1998; Hine and Carson, 2007, Jonker and Penning, 2010; Mayer, 2015) which reiterate the 'scientific' approach of positivism, emphasizing the importance of testing and measuring existing theories. Hirschman's (1987) criticism of positivism extended to its alienation of consumers in modern society who are reduced to numbers. Atkinson, 1998 underlines that social science requires above all the notion of loyalty to the phenomenon observed rather than a set of methodological principles. Researchers have argued (Bryman and Burgess 1994; Saunder *et al.*, 2009; Mayer, 2015) that qualitative research needs to proceed with a level of 'gut'feeling and discovery, rather than scientific verification.

The alternative epistemological approach of interpretivism is preferred for the research proposal. Interpretivism accepts a world in constant evolution allowing meanings to shift and be contested (Denzin and Lincoln, 2000; Bryman and Bell, 2011; Mayer, 2015). It is necessary to accept that there is no objective nor truth which is awaiting discovery; meanings are constructed from an interpretivst standpoint (Bryman and Bell, 2011; Mayer, 2015). It is not appropriate, therefore, to employ the methods of the natural sciences to behavioural observation as it defies the descriptive analysis of qualitative data drawn from irregular and sometimes irrational human behavior (Thomas, 2009). The author exposes the methods of interpretivism that focus on an interest in people and their interaction. The way they think and form ideas about the world in which they live is important; how their worlds are constructed (Saunder *et al*., 2009; Denzin and Lincoln, 2000). It is therefore necessary to look at what people are doing in this particular study study by using the author's knowledge of the world as an individual. Therefore, as a researcher it is essential to immerse onself in the research context of interest: for example, talking to people in depth, observing at length their behaviour, identifying each clue to the meanings that they are investing in something (Mayer, 2015); the key is ***understanding***. What understandings do the people we are talking to have about the world, and how can we in turn understand these?

4. The choice of methodological approach

The etymology of the word 'methodology' stems from its Greek origin, meaning 'the way along which'. Methodology assumes there is a logical order the researcher needs to follow in order to

achieve a certain predetermined result (Mayer, 2015). Research methodology can also be seen as a bridge, which connects the philosophical perspective with the research methods (Mayer, 2015; Hesse-Biber and Leavy, 2011, p. 6).

Although a positivist orientation considerably dominates research methodology, a number of innovative and interpretative techniques in the interpretavist paradigm have come to the fore. Goulding (2000, 2005) refers to several research techniques inspired from alternative management related subjects. These methodologies include phenomenology (Thompson and Zahavi, 2007, 2007), Grounded Theory (Glaser and Strauss, 1967; Goulding, 2000; Charmaz, 2014; Strauss and Corbin, 1998) post-modernism (Rosenau, 1991), semiotics (Sebeok and Danesi 2012) and ethnology (Grosse and Hopkins, 2014). The author questions the eligibility to accept one particular interpretative technique from the explosion in techniques described by Goulding (2005) because of the ontological variations they uphold.

Careful consideration was taken to determine the methodology relevant to the research project. Here, the principal interpretavist research designs will be compared in order to argue the final choice.

4.1. Phenomenology

Phenomenology is a branch of research methodology that examines the direct experience of phenomena in order to determine their essences and how human beings experience the world. In phenomenology, by bracketing our biaises, we don't filter other people's experiences through our own cultural lens (Husserl, 1989; Creswell 2003; McNamara, 2005; Bernard and Ryan, 2016). Researchers often confuse a phenemonological approach with Grounded Theory in their research design. Suddaby (2006) demonstrates clearly the difference between the two methodologies. He emphasizes the subjectivity of phenomenology and referred to Husserl (1969) and Schutz's (1972) definition: the observation of actors' "lifeworlds" being its focal point. The detail of actors' lived experience means that data is presented in its rawest form in order to reinforce its authenticity. Its analysis focuses on the clear relationship between the adopted language and, as Moustakas (1994) explained, the objects to which the language relates. In comparison, Grounded Theory is less focused on the subjectivity and rather on how subjective experiences and the causal relations between actors can be theorised (Suddaby, 2006; Goulding, (2005); Morse, 2007). A significant difference between the two approaches is demonstrated by interviewing techniques applied. Suddaby (2006) explains how phenomenology will look to probe individuals without contaminating data (Moustakas, 1994; Wimpenny and Gass, 2000). As a result, data is presented in its raw form unlike Grounded

Theory where stories by individuals are maybe a starting point but the primary interest is in the information extracted from them on the social situation under examination.

In Grounded Theory interviews are not, as Suddaby (2006) reminds us, the sole source of data collection.

4.2. Ethnology

Ethnology is another type of qualitative analyses that predicts episodic behaviour (Bernard and Ryan, 2016). However, ethnology is more focused on research questions about behaviors that can be answered by "yes" or "no" or involve a choice (Pettigrew, 2000),

Grounded Theory is chosen over Ethnology and Phenomenology. as the latter two are too focused on cultural phenomonens and decision-making, whereas Grounded Theory is observational, interpretative and behaviour centric.

5. Grounded Theory «discovering theory from data» (Glaser and Strauss, 2017)

Grounded Theory is not a recent methodology. Its authors Glaser and Strauss first recorded their discovery in 1967 in their book entitled "The discovery of Grounded Theory". This introduction to Grounded Theory was followed in 1978 by Glaser's article " Theoretical sensitivity", which developed the notion of theory emerging from data. Strauss and Corbin's (1998) viewpoint on Grounded Theory differs from Glaser and Strauss's, based on differences in the methodology defined. The fundamental division comes from classical Grounded theory not requiring a research question compared to Strauss and Corbin's (1998) opposing viewpoint (Goulding, 2002; Sudabby, 2006).

The use of Grounded Theory is a pragmatic approach to social science research, where empirical "reality" is seen as the ongoing interpretation of meaning produced by individuals engaged in a common project of observation. Much literature agrees that Grounded theory is a popular methodology within the fields of organisation research, particularly in marketing and management research (Goulding, 2002; Barney and Glaser, 2012; Engward, 2013; Elliot and Lazenbatt, 2005; Coleman and O'Connor, 2008, Ghorbani *et al*, 2015). Goulding (2002) further emphasised the relevance of Grounded Theory in research where the emphasis is on behaviour. Suddaby (2006) argued that Grounded Theory was an empirical "reality" that examined the ongoing interpretation of meaning produced by individuals engaged in a common project of observation. Suddaby (2006) went on to argue that Grounded Theory is less appropriate in the quest for knowledge claims about an objective reality, and more appropriate when building knowledge claims about individuals' interpretation of reality.

Grounded Theory is built upon two key concepts: constant comparison, in which data is collected and analyzed simultaneously, and theoretical sampling, in which decisions about

which data should be collected next are determined by the theory that is being constructed. (Sudabby, 2006; Glaser and Strauss, 1967; Glaser 1978).

Strauss and Corbin (1998) and later Morse (2007) both agreed that researchers will generate their own version of Grounded theory methodology which, as Charmaz (2014) pointed out, is entirely in keeping with the Grounded Theory approach. This has led over the years to the definition of a number of versions; the original Glaserian purist approach (Glaser and Strauss, 1967), Strauss and Corbin's more structured approach and finally Charmaz's (2014) constructivist approach. The major issues that have brought about these discrepancies are the role of induction, discovery versus construction and thirdly a focus on social process versus individual process.

5.1. Constructivist Grounded Theory– Charmaz (2006, 2014)

Glaser's view (1978) is that all is data; what is being captured and also the context of the data capture. What is going on must be considered and figured out, which leads to data conceptualisation. Qualitative data analysis requires accuracy (Barney and Glaser, 2012). Data is what it is; research collects, codes and analyses it. It is what the data is receiving, as a pattern and as a human being, which transcends it into abstraction. The abstraction frees the research from data worry and doubts (Breckenridge *et al*, 2012) which is essential in the scope of this research as sales and marketing professionals perform their functions in a variety of situations (the office, at home, on a train, in a car or a hotel, etc) which lead to varying degrees of natural settings for data capture. In qualitative data analysis (QDA), what affects Grounded Theory are the different interpretations of the interviewer and the interviewee. In a QDA interview, data results from a mutual data construction of interpretation by interviewer and interviewees. It is a constructivist orientation with interactive interpretations. In Constructivist Grounded Theory, perspectives are built from all participants and consequently considered by the researcher (Barney and Glaser, 2012; Charmaz, 2014). This poses however one of the first challenges for the researcher who needs to consider the limitation of their study, which is the subjectivity of the participant and the researcher's potentially biaised observation. Classical Grounded Theory entails the collaborative build of interactive data and has a postivist epistemological bias (Barney and Glaser, 2012; Breckenridge *et al,* 2014) to achieve an accurate description of data collection. If the interview is influenced via a protocol (as in constructivist Grounded Theory) then there is an imposed bias, whereas Glaser (Barney and Barney and Glaser, 2012) argues that passive interviewing or listening keeps constructivism to a minimum. Glaser also opposes Charmaz's (2006, 2014) opinion on categories and concepts being inherent in data and enables the theorist to tell a story about people. For Glaser (Barney and Glaser, 2012, Glaser, 1978)

Grounded theory is not a description but emerges from constant comparative methods and theoretical sampling.

Charmaz's (2006, 2014) adoption of Grounded Theory uses a constructivist approach, which is suited to this research as informants, and researchers create data together and therefore place an emphasis on meaning, which reflects an interpretivist epistemological predilection. To highlight this and as previously determined, the focus on this research study is the behavioural analysis of participants. The adoption of constructivist Grounded Theory in a continuous observation of behavioural attitudes, enable the construct of a series of guidelines which can be validated through qualititave analysis in a series of interviews with participants and third-party participants. These participants will inform the proposed definition of the Uber Economy. Constructivist Grounded theory is a more flexible version of the classical method that does not reject the researcher's position and perspective (Clarke, 2005, 2006, 2007, 2012). The research reality of this study stems from a situation and therefore research participants are intricate in the construction of the research design. (Charmaz, 2014). Therefore, in constructivist Grounded Theory the researcher is no longer a "neutral observer and value-free expert" (Charmaz, 2014). Researchers according to Charmaz (2014), using this constructivist approach will shape the value of the data they extract and analyse. A researcher must however maintain as objective a viewpoint as possible during data collection so as not to bias subsequent data analysis.

The original Grounded Theory methodology inspired theories to be contextualised from data rather than conforming to the traditional positivist methodologies that test grand theories and is hypothesis led (Bryant and Charmaz, 2007) using deduction. Criticism was made of Induction (Dey, 2007; Strauss and Corbin, 1998) which led to Charmaz's (2006, 2014) constructivist approach. In her development of Grounded Theory, Charmaz argued that categories alone could not capture the essence of the field of study because they are constructed by the research during the research process. Literature supported Charmaz's (2006, 2014) version as it argued (Pidgeon and Henwood, 1997; Dey, 2007) that Grounded Theory cannot simply take a bird's eye view of social reality and that a researcher's assumptions will inevitably shape theory (Saunders *et al.*, 2009; Mayer, 2015).

5.2. Grounded Theory and the examination of social process

From an epistomological perspective Constructivist Grounded Theory attemps to contextualise social processes. Since theories emerge from the data as it is, Grounded Theory has a realist ontology (Barney and Glaser, 2012; Charmaz, 2006, 2014). Discussion continues around the founding approach to Grounded theory, which assumes that processes take place irrespective of the researcher (Barney andGlaser, 2012). Its positivist approach to capturing knowledge is

therefore challenged by Charmaz's (2006, 2014) constructivist approach of constructing the knowledge from an interpretavist view of the data. In her eyes the world is also a product of human participation and social interactions, which develop social processes observed by the researcher (and not irrespective of the researcher).

5.3. Abductive reasoning with Grounded Theory

Grounded theory uses abduction via an inductive examination of individuals to detect patterns and then through deductive reason based on constant comparison of the collected data. (Glaser and Strauss, 1967; Bernard and Ryan, 2016). It aims to discover theories, or casual explanations that are grounded in empirical data, about how things work (Bernard and Ryan, 2016). Glaser and Strauss' theory recognized the value of qualitiative data for developing theory about social processes and human experience (Glaser and Strauss, 1967; Bernard and Ryan, 2016). Glaser and Strauss (1967) illustrated a systematic yet flexible method for collecting and coding data (Bernard and Ryan, 2016). Grounded Theory therefore has a clear creative component to it but it enables us to treat qualitative data as a serious source of scientifically derived knowledge about social and psychological processes. (Bernard and Ryan, 2016).

The chosen methodology of Grounded Theory reflects an abductive approach to research in order to identify patterns of behaviour from the constant observation and development of explanations (Bernard and Ryan, 2016; Harris, 2015). Abduction in data analysis and theory building can be conceptualized as making guesses (Philipsen, 2018). In a theory building process there is a need to make guesses when a researcher makes observations, which are surprising in that they depart from existing theory (Suddaby, 2006; Charmaz, 2014; Barney and Glaser, 2012). Other researchers (Philipsen, 2018; Bernard and Ryan, 2016) consider the use of abduction to describe and understand theory building. The concept of abduction can contribute to understanding how theory is created in theory testing, theory development and theory creation, but focuses on theory building in both positivist and in interpretive research (Philipsen, 2018). It can be perceived that Abduction reasoning enables researchers a more thorough approach to data analysis of human behavior but for it to be effective there needs to be a balance between the inductive data examination and subsequent deductive reason given to patterns developed. This will be attempted through the successful application of coding and theoretical sampling

Abduction will enable the development of theories grounded in empirical data about how digital transformation is adopted in sales and marketing functions. Through the continuous observation fo participants, behavioural patterns in tasks performed will be detected and then reflection on a coding of the potential digital transformation of these will occur. The subsequent section on

the pilot study will detail the application of this coding practice. Having examined theoretical references on behavioural aspects of change in section 1, it is essential that the chosen methodology enables an interaction between chosen theories and field observations made. This will be done through the presentation of field observations to professionals and the recording of their input from a qualitative person-centred in-depth interview to explore, not to interrogate (Charmaz, 2014).

Literature (Charmaz, 2014; Goulding, 2002; Suddaby, 2006) has argued the merits of Grounded Theory and in their different interpretations; they have disputed the validity of empirical construction void of substantive theoretical analysis. Suddaby (2006) reinforces Glaser and Strauss' clarification (1967) which underlines the fact that reasonable research conducted without a clear research question and absent theory simply defies logic. It is true that Glaser and Strauss (1967) were motivated against grand theory (Glaser, 1992; Goulding, 2002), but their formulation of grounded theory was never intended to encourage research that ignored existing theoretical knowledge. They distinguished between substantive theories, or theory grounded in extant research, and grounded theory, but they observed a direct and necessary link between the two forms of theory (Suddaby, 2006). The main concern is not that reference to extant literature will force a testing of hypotheses in data analysis but moreover will prevent the researcher from any direct observation in their data generation (Charmaz, 2014; Suddaby, 2006; Glaser, 1992). The reality of Grounded Theory is therefore one of a researcher's attempt to achieve a practical middle ground between a theory-laden view of the world and an unrestricted empiricism. It is therefore necessary to consider extant theory in data analysis but it is vital to consider one's condition as a human and that observation is a function of who one is and what one hopes to observe (Charmaz, 2014; Suddaby, 2006).

The action of coding different qualitative data enables the researcher to develop categorical translation of human behaviour and identification of interaction symbols to form social meaning. It is important to note here that symbolic interactionism has been argued as the most relevant theoretical underpinning to Grounded Theory. However, although Glaser (2005) asserts that 'researchers want a theoretical perspective from the outset, and symbolic interactionism is used as a preconceived framework to model research (Walls *et al*., 2010), Glaser and Holton (2005) cautions that 'the result of this approach is the remodelling and eroding of classic grounded theory'. Focusing on only one theoretical perspective therefore, without it deserving its place by emergence, can continually reinforce existing perceptions, thereby preventing the researcher from remaining open to grounded theory as a general methodology that works with any theoretical framework as appropriately emergent, and with

any data as available (Glaser, 2005). It is for this reason that I have opted to underpin my methodological choice with the examination of Social Cognitive Theory and Adkar theories, which, based on the observation period during our pilot project that will be discussed in the next section, have emerged as relevant formal theories. The reason for choosing two theoretical frameworks to underpin the chosen methodology is to reflect Grounded Theories' constant comparison methods in data generation and to determine without bias if these theories can be extended by using Grounded Theory or rejected in a new theoretical modelling.

The key point of confusion in grounded theory research is the question of knowing when saturation has occurred during data collection (Suddaby, 2006; Easterby-Smith *et al.*, 2012; Malhotra et al, 2007; Mayer, 2015; Harris, 2015). This is often considered its weakness in literature (Goulding, 2002; Suddaby, 2006; Charmaz, 2014; Gummesson, 2000) because most submitted manuscripts using Grounded Theory as their methodology contain a statement that saturation of data has occurred. The fact that grounded theory research uses iteration and sets no discrete boundary between data collection and analysis, saturation is not always obvious, even to experienced researchers (Mayer, 2015).

6. Grounded Theory in action

To justify further the choice of Grounded Theory in the research design it was important to reference existing examples of empirical studies adopting this methodology, to give clarity in the relevance of this choson methodology.

Two studies have been chosen: one with a market context, which is coherent with my proposed research since it examines an industry focus and not a medical focus, which is a more common use of Grounded Theory, and the second being a study based on technology which is relevant to my study that is focused on Digital transformation of practice.

6.1. The use of Grounded Theory in a Market study

Divandari *et al*., (2014) developed a study on the social phenomena of branding megaprojects in tourism or entertainment in the tourism sector. While branding is an essential part of marketing in the sectors of entertainment and tourism in the Persian marketing, very few studies had been developed on the branding process for megaprojects. They were able to identify in literature that research methods focused primarily on a case study approach but solely linked to successful destination/place branding examples, and little advance has been made in theoretical modelling for this social phenomenon (Divandari *et al*.,2014). They chose Grounded Theory to allow them to develop a specific paradigm model for megaprojects as a contribution to professional planning and structural megaprojects. Taking Strauss and Corbin's coding approach they were able to use axial coding to cross-examine rich data sets that contributed to

the construction of their theoretical model. The use of Grounded Theory was appropriate in this instance, for a targeted research study of the Persian market and exposes the lack of relevant theoretical frameworks in literature (Hankinson, 2009; Ritchie and Ritchie, 1998).

6.2. The use of Grounded Theory in the adoption of technology

Coleman and O'Connor (2008) developed research with Grounded Theory to investigate software process in practice. The choice of Grounded Theory was defended by their research goal of producing a theory on how software processes are formed and evolve. Their choice of Grounded theory was based on the following arguments:

- The lack of integrated theory on avoidance of SPI (software process improvement) models,
- Its guideline for inductive based research,
- Its application to studies in human behaviour
- Its credibility in social sciences (Coleman and O'Connor, 2008; Martin and Turner, 1986; Sheldon, 1998).

It is interesting to note the hypotheses that emerged from the initial study developed in this particular research project. It is argued that a set of hypotheses can be a main research output (Seaman and Basili, 1997) contrary to Glaser and Strauss' (1967) opposition to perceived values of data. Hypoheses, according to Hansen and Kautz (2005) can be used for testing the emergence of theory by developing and saturating the core strategies. The choice of Grounded Theory was an effective choice in this study, as the opinion expressed and the veracity of that expression was deemed core to the research, because it is based on those perceptions of participants, upon which mangerial decisions are made (O'Conner and Coleman and O'Connor, 2008; Hansen and Kautz, 2005).

7. The theoretical framework: Social Cognitive Theory and Adkar change model

The theoretical underpinning to this research will stem from Bandura's (1977) Social Cogitive Theory and Prosci's Adkar Change model. I base my theoretical underpinning on observations made in section 1.2.2.4 of this thesis about Digital culture in organisations being a fundamental element to a successful digital transformation. The main challenge for over 80% of B2B companies in the five-step transformation process (Figure 1) is within the sales process and client facing operations. This human factor is therefore quintessential in the Change model proposed because I am studying the behavioural attitude of participants in the daily functions and their progressive adoption of digitalized processes that are deployed.

7.1. Prosci's ADKAR change model

The ADKAR theory of change examines an individual perspective of the future change and extends it to the business, society or organisation (Macaulay *et al*., 2016). It is an effecive model for change management as it examines human behaviour in pre-conceived, transitional and engagement states of the change process (Macaulay *et al*., 2016; Isabella, 1990). The comparison of change models that was exposed in Section 1 criticises other models that do not pay sufficient attention to the pre-conceived and engagement states of change as outlined in Prosci's model. This was a key determinant for my choice fo the ADKAR model. The model is considered to provide value in enabling each individual to understand how change works for him or her. Prosci attempted to demonstrate with the model that it is not organisations that change, but people within organisations (Hiatt, 2016). The collection of individual changes provides the link between any strategy or system change and the business results. As aforementioned, (Chapter 1, Context for Change) the biggest uncertainty in digital transformation is people. Prosci's model therefore examines individual change management, which is an intrical part of the proposed study.

ADKAR stands for :

- Awareness of the need for change
- Desire to support the change
- Knowledge of how to change
- Ability to implement the change
- Reinforcement to sustain the change.

A collective accomplishment of these steps by individuals is critical according to Hiatt (2016) to ensure the successful strategy or system change.

We can observe that the ADKAR change model reflects the situation that all enterprises face in digital transformation, when faced with the human dimension of change. Change has a natural order based on the model and Hiatt (2016) claimed that the ADKAR model reflected this natural process of change. Desire cannot precede awareness since awareness acts as the trigger. Similarly, knowledge can only proceed desire since we do not seek to learn something we do not wish to do. Hiatt (2016) developed each step of the change and components that directly influence the success of the change management. A number of these elements form the basis of my interview structure as I confirmed previously with my methodology, which states that feelings, emotions and reactions are rich data sets that enable a detailed categorizing and coding of our study sample.

The power of the ADKAR model according to Dana Boca (2013) is its capacity to focus on the first elements that are considered the root cause of failure in many change strategies. Dana Boca (2013) reinforces Hiatt's (2016) argument that the absence of knowledge and inability to adhere correctly to new processes will have a knock-on impact on customer/supplier relations. The limits to this model are its linear implementation and lack of hierarchical prioritisation. Sales teams for example may need to focus on their ability to implement change before the desire to make the change due to managerial pressure. It is an aim of this research to testthis limitation in thepilot study.

7.3. Social Cognitive Theory (Bandura 1977)

As mentioned in the literature review, Social Cognitive Theory examines individuals' behaviour and engagement. It studieshow their behavior adapts through the observation of their environment and the surrounding social influence. Adoption of a new behavior is not guaranteed unless it is perceived, through the performance of others, that the proposed behavior is beneficial. Once determined beneficial, their replication of that said behaviour is encouraged (Bandura, 1977). The author subsequently associated Self-Efficacy theory to Social Cognitive Theory and underlined the impact on behavior, as an individual feels involved or instrumental in a change or in a problem resolution; and therefore commitment is consequently achieved (Bandura, 1997). These two theories clearly examine the stimuli behind how people think; feel and act, which are all linked to behavioural control (Bandura, 1977, 1987). Slater (1999) refers to confidence being an important predictor of an individual's willingness to adopt a specific behavior, which he applied in his study of the use of media and its impact on communication campaigns. As Witte (1995) discussed, theories of behavior change have a number of implicatons on message design in communications strategies (Slater, 1999).

Various studies (Eastin and LaRose, 2000; Slater 1999, Witte 1995) of media usage illustrate that the choice of behaviour is an observable act and the performance of behaviour is determined by the efficiency of the interaction with an adopted media. This behavior is developed through a direct experience in the observation of others. Consequently, Social Cognitive Theory can propose a structure for creating messages that model and instruct desirable behaviours (Slater, 1999). This argument reinforces my particular choice of theoretical underpinning, as it observes how we perform faced with media interaction and through mediation by others. Expectations of performance are therefore based on how others behave with the use of new media, such as social media, which forms part of one of research focuses tostudy.

Jacobs et al (2012) raise the point of how Social Cognitive theory identifies habit as a failure of the self-monitoring subfunction of self-regulation. Through repetition, we become

inattentive to the reasoning behind our media behavior; our mind no longer devotes attention resources to evaluating it, freeing itself for decisions that are more important. In their study, they develop their adoption of Social Cognitive Theory by underlining that repetition fosters a growing inattentiveness to behavior. This analysis will enable me to develop my primary data collection to validate my hypothesis on the automation of sales and marketing functions. (**H1** – Companies need to acquire data management skillsets with marketing having a central and strategic role in order for companies to elaborate engagement strategies with the evolving customer and user communities)

In Bandura's review of Social Cognitive Theory, (1977) he discussed human behaviour and the perspective of agency functions. He identified three agents: personal, proxy and collective. To be an agent is to influence intentionally one's functioning and life circumstances (Bandura, 1986). He develops this argument by identifying that people individually bring their influence to bear directly on themselves and their environnment in managing their lives. Sometimes people do not have direct control over the social conditions and institutional practices that affect their everyday lives. Therefore, in Bandura's (2002) opinion, using a proxy agent they can seek well being. People have to pool their knowledge, skills and resources, provide mutual support, form alliances, and work together to accomplish what they cannot do on their own » (Bandura, 1986) In human agency, personal efficacy according to Bandura (1986) is central; an individual has the core belief that he is able to produce desired effects by his own actions. Self-efficacy therefore regulates human functioning through cognitive motivational, affective and decisional processes. Group pursuits are no less demanding of personal efficacy than individual pursuits (Bandura, 1997).

Social Cognitive theory therefore encompasses perceived collective efficacy as it illustrates how the representation of shared beliefs enables the production of desired effects through a collective action. As Eastin and LaRose (2000) outlined, people's shared beliefs in their collective efficacy influence the type of futures they seek to achieve through a collective effort; how well they use their resources; how much effort they put into their group endeavors. A limitation to this theory is that within a professional context it does not consider hierarchical influence that obliges collective work groups to adopt a certain process, which may be contrary to their own collective beliefs. This potential conflict of interest is an aspect of the pilot study that will challenge Social Cognitive Theory.

7.4. Self-Efficacy

Self-efficacy is the belief in one's capability to organize and execute a particular course of action (Bandura, 1986). In the case of this proposed area of research, self-efficacy can be examined in

relation to the active consideration of the digital transformation of sales and marketing functions that participants adopt. As discussed in the study of Internet self-efficacy (LaRose and Eastin, 2004), people have changed remarkedly through rapid cultural and technological evolution in their beliefs, social roles, and styles of behaviour. The human is designed to learn and adopt; they have a "plasticity of behavior" (LaRose and Eastin, 2000, 2004). The belief in one's capabilities to organize and execute courses of Internet actions required to produce given attainments, is a potentially important factor in efforts to close the digital divide that separates experienced Internet users from novices. (LaRose and Eastin, 2000). This is an important aspect of this proposed study as generational viewpoints to the adoption of Internet based technology will be analysed.

8. Ethical Considerations in research

From an ethical perspective, it is always important to ensure that research is done with the participants concerned and not on the said participants. As Bryman and Bell pointed out (2011) ethical guidelines and ethics committees have been created within both professional and academic fields to protect research participants, however they are also involved in protecting researchers and institutions from the possibility of negative publicity or any potential legal action being taken against them. Ethical bodies and governance committees must actively develop an awareness amongst researchers about such concerns and strive to assist them in maintining sound practice that is respectful of ethical governance as they develop their research proposals (Parker et al, 2016; Resnik *et al*, 2015).

We are taught throughout childhood and at subsequent stages in our lives that ethics are norms for conduct that distinguish between acceptable and unacceptable behavior (Resnik *et al*, 2015; Williams, 2001; Morin and Morse; 2003; Love, 2012). In today's society, ethical norms are so ubiquitous that they may be interpreted as being simply commonsense (Bryman and Bell, 2011) On the other hand, if this were to be true then society would not continuously be faced with a multitude of ethical disputes and issues (Resnik *et al*, 2015; Singh, S. 2012; Love, 2012; Williams, 2001; Bryman and Bell, 2011) There are a number of reasons why it is critical to adopt ethical norms in research. Firstly, norms promote the aims of research being undertaken, such as the development of knowledge, truth, and avoidance of error (Resnik *et al*, 2015; Love, 2012; Mulvey, 2015). Ethical research enables data collection and analysis to be represented in a responsible and transparent manner in order to promote the truth and minimize error (Parker *et al*, 2016; Williams, 2001; Mulvey, 2015). Ethical standards are bound to the promotion of a number of values associated with successful, collaborative work, such as trust, accountability, mutual respect, and fairness (Resnik, 2015). It is therefore important for researchers to learn

how to interpret, assess, and apply various research rules and how to make decisions and to act ethically in various situations. A number of reports have been published by standards such as the Association of Business Schools (ABS) and Marketing Research Society (MRS) that have identified the estimated rate of research misconduct as low as 0.01% of researchers per year (Resnik *et al*, 2015). In general, research must be designed so a respondent does not suffer physical harm, discomfort, pain, embarrassment, or loss of privacy. Much of codes of conduct advice on protocols in data collection that begin by explaining to the participant the benefits expected from the research. Researchers will explain their rights and well being will be adequately protected with a clear understanding on say how that will be done. Be certain that interviewers obtain in the inform consent of the respondent. The ethical researcher shows the data objectively, despite the sponsors preferred outcomes (Resnik *et al*, 2015; Parker *et al*, 2016; Morin and Morse, 2003; Mulvey, 2015).

Within my line of research, the intentions and usage of primary data collected is defined within the interview protocol. I remind the participants at all times of the right to anonymity and in addition the possibility to retract their participation or to confide information that they do not wish to be recorded or used during the data analysis. Participants are also informed of the opportunity to the review the final data analysis and report. All other secondary data collected within the realms of the pilot is extracted from the company web site, social media analytics and sales software tools, with permission from the company. With these different commitments from the author, the notion of trust, transparency and honesty are maintained.

9. Methodology conclusion

Within this chapter, reviewed review of the ontological and epistomological choices in methodology has been made. From an epistomological perspective, interpretavism is the most relevant choice for our research design because of the descriptive nature of the chosen study that is addressing specific issues concerned to people, groups and oragniszations. Since this study examins the way in which humans view a particular part of their social world (Saunder *et al*., 2009) it is necessary to build a set of interpretive practices that “make the world visible” (Denzin and Lincoln, 2000) and reinforce the constantly shifting property of individuals. Since I am not defining a problem and the causal relationhsips between variables, a positivist epimistomlogical approach is injustified supporting references. I will adopt a constructivist methodological approach, in order to reinforce the human behavioural context of this research project. This philosophical perspective enables a more pertinent approach to data collection in a professional environment that is witnessing an accelerated growth of knowledge acquisition, due to its digital transformation supporting references. Building the research design from

Grounded Theory methodology will help to develop a number of responses to the outlined research questions and validate a proposal to contribute to the gap in literature, which has been exposed. The choice of theoretical underpinning will guide me in the construction of primary data collection methods and determine the correct environment to produce an accurate and ethical data extraction required for analysis.
The challenge within the pilot proposal for change is to identify how this influences humans' power to control and transform information within environments of increasing complexity, which will ultimately shape their social future in a professional context.

Chapter 2. Pilot project

1. Introduction

In this chapter the pilot project is developed and its context is positioned in relation to the change project. The pilot design is based on the research aim: to observe the digital transformation of sales and marketing in industrial SMEs and its impact on their value proposition in order to propose conceptual guidelines for its successful implementation in this sector. A behavioural observation of sales and marketing was required within the selected organization. An interpretation and representation of the findings from the pilot project will be exposed with a critical reflection on the impact of these findings in relation to the final change project within the authors professional practice. This chapter will provide critical reflection on any difficulties faced when undertaking the pilot project and a discussion on the adjustment and refinement to the change project design will be elaborated in the light of this analysis

The pilot was constructed around the four research focuses identified in the academic review:

- The Uber Economy construct. A gap in literature in the understanding of this frequently used term has enabled the development of a proposed definition. The defined Uber economy proposes time, information efficiency and financial resource as essential components of marketing in B2B.
- The value proposition in the digital transformation of sales and marketing resources within an industrial SME. These functions will become customer agents within their enterprise as the boundaries of their individual functions merge.

- B2B marketing has undeniably adopted the digital transformation and data is its currency. The internet evolution will now require companies to integrate a smart adoption of technology for optimal performance of marketing and sales resources
- Social selling is now a necessity in the digital transformation of sales and marketing in industrial SMEs. Its value will be developed through a two-way knowledge construction between supplier and customer

2. Pilot Design

There are three types of research design: exploratory, descriptive and causal (Bryman and Bell, 2011). The chosen approach was descriptive through the collection of descriptive data to build a longitudinal observation of the value exchange process in the digital transformation of sales and marketing functions within the targeted SME. Exploratory and causal approaches were rejected as the research project aims to observe behavioral change and not identify a cause for change nor explore the origins of change (Flick, 2014) Therefore, the research method used to collect primary data needed to enable an accurate recording of the behavior of different client facing roles. This would enable an examination of current practices (Marshall *et al*, 2013; Moore et al, 2015) and provide a perspective on the value built through a suggested digital transformation of each transaction recorded in order to support literature's identification of time and resource being integral to value repositioning (Francom, 2015; Rowe, 2017; Kumar et al, 2018; Rong et al, 2018).

2.1. The pilot project context in relation to the change project

The pilot project was organised at the head offices of a French industrial SME. This industrial SME has been established in the industrial flooring sector since 1982. The company has a turnover of 21 million euros and employs 61 staff, of which 20 focus wholly on the client relationship development. Excluded from this count are administrative resources, which are considered to be support mechanisms to the front-end client focused resources, and consequently their focus on client-oriented actions only represents 10% of their working day. It was not considered necessary to spend time on tracking their activity since this specific client focused data would be lost amongst their numerous daily priorities, as the nature of their client focused activity was purely administrative[6]. The technical support teams and design office were

[6] Making tea for clients, distributing post to employees, booking meeting rooms, printing invoices for sales team.

also excluded from observation. These positions also are not considered client development roles, since the sales teams manage their involvement at all stages of the sales process. The research question also clearly specifies sales and marketing functions, which supports this decision. The sales and marketing resource have responsibilities which include new business development, account management and project management (Cuveas, 2017; Moncrief and Marshall, 2005).

The company has four regional offices in France: Ternay, Toulouse, Metz and Bordeaux. The product offering includes the design and production of resin-coated floorings, concrete floorings, renovation and maintenance of industrial floors and various polished floor finishes. Their client base includes Contractors, Architects, Masons, Construction companies and industrial entities in agriculture, heavy industry, retail, transport, food preparation and public utilities.

The company was identified as a suitable subject for the purposes of this study since it is an industrial SME with 61 employees and a turnover of 21 million euros[7]. In 2016, it changed its company brand identity and its presence on the Internet. The company's President developed a vision of building the notoriety of the company through its transformation from a very product focused company into a client focused solutions-based company. In order to achieve this change of mind-set and functioning of its 61 staff members and in particular its client-oriented teams, a digital transformation of sales and marketing was required. The need to audit their current activity on the Internet, prepare the use of future tools, and maintain the use of these tools was critical to the success of the company's change strategy. The change strategy in this context reflects the chosen change theory, ADKAR, as it aligns with the key aspect of Prosci's model: change examines human behavior in pre-conceived, transitional and engagement states of the change process (Hiatt, 2006)

From an initial contact with the company in a consultancy role (see Chapter 7001, "Context for Change", section 1.1.5), the author was commissioned to audit the current sales and marketing practices and build a new value proposition through change of current practices via a digital marketing strategy. Based on the history of the employees and their expertise within the industry it became clear that the challenge would be to overcome the resistance to change and convince employees to adopt the proposed new practices by gaining their adhesion to this

[7] Refer to chapter 1.4 Research Aim and objectives - definition of SME.

change, which is a key success factor in the implementation of digital technology (Marshall *et al*, 2013; Karjaluoto *et al*, 2015).

2.2. Preparing the pilot project

In Glaser's (2002) development of Grounded Theory, he states that all is data. Everything a researcher collects can contribute to data in varying degrees of quality and relevance (Charmaz, 2014; Wertz, *et al.* 2011. Grounded theory starts as a researcher begins to enter the field of study in which they become immersed (Bryant, 2017; Bakker, 2019). Charmaz (2014) suggests that a researcher needs to determine the journey they wish to take in order to identify the specific type of data that needs to be collected. Various qualitative methods interviews, case studies, observations, recordings, company documents and literature are proposed in Grounded Theory to build a wealth of data that enables a researcher to extend their view of study, and broaden and deepen what is learnt of it and how knowledge is gained about it (Suddaby, 2006; Mayer, 2015; Bakker, 2019). As a researcher, the knowledge that is taken into a field and that which the researcher subsequently gains are typically different from that of the selected research participants (Charmaz, 2014; Suddaby, 2006; Mayer, 2015) One fundamental reason for this is that a researcher brings analytical skills to the study and then leaves it to develop a conceptual rendering of the data collected (Bernard and Ryan, 2010). As ethnographic observers of the studied world, qualitative researchers immerse themselves in it and think, act and feel like participants in the studied world, but a researcher knows that they have the possibility then to leave it (Charmaz, 2014). This notion of perception means that observation is more than just recording of data from the environment. Whereas recording equipment will passively register an observation, a researcher's brain and senses are stimulated to organise the data captured as a first step in its interpretation (Bakker, 2019). It is argued that that perception is part of all human observation (Fox, 1998; Biberman, 2013)

Grounded Theorists uses a variety of qualitative methods, which have one substantial advantage over quantitative based study. Data collection opens up new avenues of exploration in the research while data is being collected (Bernard and Ryan, 2010; Stumpf *et al*, 2016). The flexible nature of qualitative methods therefore helps a researcher to follow emerging leads from the data collection (Stumpf *et al*, 2016). With flexible guidelines to data collection, the study can be directed but imagination consequently flows from it (Charmaz, 2014). In the context of this research project it was essential to develop a longitudinal ground up approach to

theory development because of the observational nature of the study, which naturally would direct the flow of the research, therefore supporting literature (Bakker, 2019; *et al*, 2016).

Since data collection needs to be rich in Grounded Theory, one could question whether in-depth interviews are its only method of data collection (Bernard and Ryan, 2010; Mayer, 2015). Charmaz (2014) rejects this hypothesis and argues that data collection methods indeed flow from the composed research question and therefore various data sources are eligible. Because of the nature of Grounded Theory methodology, the researcher constantly compares the data collected and therefore the proximity with the data means that other sources can easily be identified as being pertinent for data collection (Bernard and Ryan, 2010; Mayer, 2015). It can be concluded from this that the methods applied in Grounded Theory and those used by ethnographers, are not mutually exclusive (Charmaz, 2014).

Within the scope of this pilot project it was deemed pertinent to collect secondary data to enrich the data captured. Many researchers have indeed used documents in conjunction with interviewing and/or observation to back this argument. (Hox and Boeije, 2005 ; Alvarez *et al*., 2012; Daas *et al*., 2012; Minton *et al*., 2013). The secondary data coming from social media statistics would build data triangulation of behavioural use of these tools within the observation period. The social media platform to be accessed was LinkedIn, the company's primary social media platform.

2.3. Sample set recruitment

Primary data was to be collected using direct non-participative observation of voluntary research participants. Careful consideration was given to whether the sample set should be a mandatory recruitment or voluntary participation. Messer *et al*., (2004) argues that voluntary bias can occur when building a sample set. Voluntary bias can result in higher non-response rates when sensitive fields of data sample observation occur (Klooster *et al*., 2017; Messer *et al*., 2004). However mandatory selection can also create levels of 'free-riding' within the sample set (Messer *et al*., 2004; Salkind, 2010). In the light of this research project mandatory selection was not considered an effective approach to collecting data due to the fragmented views on digital transformation of sales and marketing within the company. The notion of resistance to change as highlighted earlier in this chapter could influence participants' motivations to behave naturally or unnaturally. In consequence, a voluntary sample set of participants was chosen over a mandatory selection. To further encourage employee

participation, it was agreed necessary that the Managing Director did not actively encourage any participation by employees as this could be perceived as forcing their hand (Salkind, 2010).

The nature of the observation was not considered to be ethically sensitive and therefore reduced the risk of bias occurring (Salkind, 2010). This was an observation of the participants' daily professional function and no sensitive fields of data were collected. The data collection would not expose the participant in an unfavourable light. The participant was not being analysed for their performance against contractual objectives and their anonymity was respected.

The research participants' perception of the observer's role also considerably influences the type of data that is collected from the research participants (Salkind, 2010; Messer *et al*., 2004). Since the author was originally contracted by the participating company in 2016 as an external digital marketing consultant, it was essential to remain as neutral as possible on the behavioral adjustments made by research participants. This was done by reiterating the anonymity of the data collection and the focus of the observation being for research study development and not for the author's professional implication. The risk was that the author's own assumptions of the environment might also shape the analysis of the data collected. It was important therefore to maintain an open mind to prevent any pre-conceived perspectives from affecting the data interpretations, even though a level of perception as Fox (1998) argues, is a natural part of human observation.

Walter and Hart's (2009) study clearly illustrates how data collection needs to be validated to ensure that identity and etiquette do not bias data results. Workers in companies may adopt the corporate rule of thumb, notably of not divulging company secrets' and therefore be reluctant to provide important information about their professional situations (Charmaz, 2014). The notion of trust is therefore quintessential to successful rich data collection. As Bernard and Ryan stated (2016), being immersed in the participants' environment means the researcher is not simply taking a bird's eye view of social reality and that a researcher's assumptions will inevitably shape theory (Saunders *et al.*, 2009; Mayer, 2015). So, to build a level of trust amongst participants, a clear protocol was developed to explain the context of the research pilot study and how participants would be able to indicate to the researcher their wish to omit or delete any data that they deemed not relevant, during the observation period (Charmaz, 2014; Ager, 2011).

It was explained that the data would be collected from each participant on consecutive occasions over a period of two months. This period of time was necessary to accommodate the constraints and availability of each participant and also to enable a constant comparison of data collected after each session. It was also considered a suitable time period within an environment that is constantly changing due to technological changes. (Matt *et al.*, 2015) Any longer duration could impact the consistency and the originality of the results should the supporting tools used by the participants within the company be adjusted.

An email was sent out to all employees that held a sales and marketing function within the company. The employees were given a description of the project and were then invited to participate in a Doodle survey to confirm their availability to participate in the exercise. The observation period for each session would last 6 hours per participant. The research participant could choose the location and date for the required observation.

2.5. Results of sample set recruitment

The 20 client facing profiles within the company were contacted and after the first email only four out of twenty respondents confirmed their participation. A review of extant literature does not provide a specific requirement to the satisfactory percentage of participants in field observational research; emphasis is however put on the impact of non-response bias within the sample of participants taking part (Chin and Lee, 2008). A second email was sent one week later, which resulted in the addition of three more profiles. A third and final mail was sent out and three additional respondents volunteered The Grounded theory approach to data collection requires the research to immerse themselves in the world as participants view it (Charmaz, 2014). Since the exercise would not contribute to their own professional development, less priority was given to the request. Based on the size of the company it was deemed sufficient that 50% of the workforce holding a sales and marketing function, had responded favourably to the exercise. Since Grounded Theory enables flexible guidelines rather than rigid prescriptions (Charmaz 2014; Bernard and Ryan, 2010) in the size of the theoretical sample was deemed sufficient since this reflected a standard percentage of SME sales and marketing workforce and therefore would suffice in terms of data collection. Grounded Theory methods also bring constant adjustments to the research question based on what is gathered in the field (Charmaz, 2014). With the research question in mind it was essential therefore to maintain the relevance of the SME profile within data collection. Assumptions were made on the non-participation of the remaining 10 employees supporting reference. One employee was an

apprentice who was finishing his contract in the company, and two others left the company during the trial period. The seven remaining employees were based in satellite offices.

2.6. Pilot location choice

In order to develop a valid and original response to the research question it was deemed necessary to observe the participants' behaviour in their natural professional environment so as to build an accurate and true reflection of their activity (Charmaz, 2014; Wasserman and Clair, 2011). It was deemed optimal to undertake the observation at one of the company's four regional offices, as all participants worked from this location on a regular basis within their weekly schedule. This enabled a repetitive observation of the participants in their professional envinronment who demonstrated typical behaviours and attitudes that could be observed on these occasions. Literature on Grounded Theory (Charmaz, 2014; Suddaby, 2006) supports contant data comparison until theoretical saturation occurs; i.e. the researcher finds no new properties in the data. After three observation periods data saturation occurred.

Due to the flexible nature of data collection in Constructivist Grounded Theory, each participant was observed on their own throughout the observation period. This enabled the participant to go about their function normally and the data could then be compared with data systematically from the beginning of the observation period and not after all the data from the different participants was collected (Charmaz, 2014).

The observations of the different actions taken were recorded in an Excel spreadsheet. The participants' different actions were timed, and described with memo writing to enable the development of labels and initial categories using Constructivist Grounded Theory methods (Bernard and Ryan, 2010; Charmaz, 2014).

3. Participant observation results

Three stages to the research project were developed using Constructivist Grounded Theory methodology (Charmaz, 2014).

3.1.Raw data collection and initial coding

At this first stage of the research process, a simple observation of each action was recorded for the first three participants to understand what type of data could be collected and in what format

the information needed to be recorded. Each action recorded in an Excel spreadsheet was described with memo writing and timed to construct an initial set of actions performed by the participants. After recording the actions of the first three participants, ninety-eight lines of data were captured from which initial coding and adjustments could be made (Wertz *et al.*, 2011). This initial-coding process enabled the construction of a first layer of coding specific to the action recorded in order to develop the basis of the subsequent data analysis (Bernard and Ryan, 2016; Charmaz, 2014). Through a process of memo writing, details concerning the action were recorded, as well as the follow up from the action and any digital procedure involved. These notes enabled the creation of forty-four initial codes in this process before data saturation occurred with no further action codes identified. (Suddaby, 2006; Easterby-Smith *et al.*, 2012; Malhotra *et al*., 2007; Mayer, 2015). This number is supported by extant literature that describes that today's industrial sales person has approximately 49 selling activities (Moncrief and Marshall, 2005; Cuevas, 2018). The codes reflected the specific action taken by each participant that linked to their sales and marketing function. The codes were then to be used for the subsequent data collection, in a constructivist approach that enables actions to be selected and events to be recorded that constitute what is happening in the field setting (Charmaz, 2014).

Table 1. Sales and marketing functions

Action Labels	Number of actions
Administration	1
Analysis of expertise report	1
Analysis of sales forecast	1
Billing	1
Client call preparation	2
Client dossier creation	9
Contract modification	4
Contract signature	1
Contract validation	1
Contractual issue	3
Email	77
ERP input	6
Excel analysis	2
Incoming call	115
Internal call	1
Internal communications	2
Internal meeting	22
Internet search	8
Invoice treatment	25

Lead identification through social networks	2
Management of sales dossiers	1
Negotiate a quote	1
Order confirmation	1
Outgoing call	119
Paperwork	11
Preparation of call	1
Price checking	1
Price validation	2
Product order	1
Project validation	2
Proposal creation	3
Quote creation	17
Quote modification	10
Quote print out	2
Quote validation	13
Reading post	1
Site visit	5
Sms	1
Social networks	4
Spreadsheet analysis	3
Study technical report	2
Technical dossier update	6
Validation of order	4
Vecteur +	13
Total	**508**

3.2. Data evolution through constant comparative method

As Charmaz (2014) reiterated some of the best ideas in data collection may occur in subsequent stages of the exercise. This may lure the researcher back to the field to redefine the objective of the data collection and adjust the method used (Philipsen, 2018; Barney and Glaser, 2012). The observation process supports this need for continued comparison of data collected in order to identify common patterns in the data (Mayer, 2015; Bernard and Ryan, 2016). A process of theoretical sampling took place across the voluntary participants (Charmaz, 2014) The first three observations recorded of participants exposed two flaws in the collection of the data. Firstly, the precise function of the participant had not been considered. Since the initial results showed distinct differences in the types of action recorded based on the participant's function, it was deemed necessary to record the job function type (sales executive, sales manager, regional director) in order to cluster analyse, based on sample set profiles (as the hierarchy

illustrated a level of priority given in the actions of the participant). Subsequent data collection included this modification.

Theoretical sampling led to a second adjustment made on subsequent participants that concerned the receiver of the action. In industrial B2B environments, the term client has a multitude of definitions (Cuevas, 2018). Clients can be suppliers, integrators, an existing client with a new project, a new prospect or indeed an internal client (Atanasova and Senn, 2011). The complexity of each project means that the sales contact is in constant communication with construction managers, masons, contractors, architects, site managers and suppliers It was therefore necessary to specify these various definitions when recording data sets as this could potentially affect the type of action that was used based on the heterogeneity of the client profiles and their level of implication in the sales process (Cuevaas, 2018; Jaakola and Hakanen, 2013; Songailiene *et al*, 2011). The client profile codes can be found in Table 2.

In order to code and categorize the actions to logically develop the data capture, a revision of the initial coding was further made after the first six observations, in order to link an action to a sales process, and subsequently link a client type to a profile code. This behavioural coding in Grounded Theory (Charmaz, 2014) enables an accurate and categorised examination of the different behaviour types of sales and marketing resources within the company (Parvinen, 2013; Lemmens *et al*., 2014). At this stage of rich data gathering (Charmaz, 2014; Ager, 2010) some of a researcher's ideas may occur late in the process. (Bernard and Ryan, 2016; Ager, 2010) Observation combined with informal conversations with those present stimulate a powerful source of data collection, enabling as accurate a recording as possible of the different actions (Charmaz, 2014)

Table 2. Client profile codes

Client profile
Client prospect (PC)
Contractor (CC)
Existing client (EC)
Internal client (IC)
Prospect (PR)
Supplier (CS)

Finally, it was important to record the types of techniques and tools used to interact with the different client profiles. Since the change project in question examines the impact of digital transformation on sales and marketing functions it was necessary to record whether a level of

digitalisation had already taken place within the activity of the different participants. Without this information, a credible set of data to observe behavioural change would be biased by existing digital activity (Cuveas, 2018; Verbeke *et al.*, 2011).

A tools-technique code was given to each action that was timed. This was cross analysed with the different functions of the participants. From this cross analysis, a first response to the research question on resistance to change from older generations was constructed, which will be elaborated in the analysis section of this chapter (see section 4.4.).

Table 3. Time spent using each technique or tool per job function

Time per tools-technique per profile	Job Function			
Tools	**Regional Director**	**Sales manager**	**Sales rep**	**Total**
Email	1:35:00	1:23:00	3:10:00	6:08:00
ERP	4:20:00	1:47:00	4:20:00	10:27:00
Excel	1:04:00	0:14:00	1:54:00	3:12:00
Face to face	0:50:00	0:23:00	5:30:00	6:43:00
Linked IN	0:28:00		0:05:00	0:33:00
Paperwork	5:01:00	1:03:00	5:08:00	11:12:00
PC	0:39:00		0:52:00	1:31:00
Printer			0:05:00	0:05:00
Site visit			5:30:00	5:30:00
Smartphone	0:06:00	0:30:00	2:28:00	3:04:00
Sms	0:13:00			0:13:00
Telephone	5:46:00	3:02:00	14:38:00	23:26:00
Vecteur +	1:02:00	0:30:00	0:57:00	2:29:00
Web based search	0:48:00	0:02:00	0:09:00	0:59:00
Total time	**21:52:00**	**8:54:00**	**44:46:00**	**75:32:00**

3.4. Axial coding for Behaviour categorization

A fundamental aspect of the research question is the notion of value. Academic literature has defined value in relation to time, resource and information (Francom, 2015; Kumar et al, 2018; Rong *et al*, 2018). It was therefore essential that the pilot enabled a thorough illustration of the different types of behaviour that could represent value or not based on outcomes of each action undertaken. Therefore, in order to illustrate consequences associated with each behaviour set and their subsequent value, four different sub-categories were created using axial coding.

Initial coding of sales and marketing teams' behaviour identified seventeen different categories of sales interaction. Through the use of axial coding it was possible to regroup these into eight

different sales process types. From this coding, a cross analysis of the time spent on each interaction type with the sales process type was developed.

Table 4. Time per interaction per sales process

Time spent on each interaction per sales process	sales process							
Interaction type	**Administration**	**Client relationship management**	**Lead management**	**Negotiation**	**Project qualification**	**Prospection**	**Qualification**	**Team management**
Administration		4:13:00				0:05:00		
Final negotiation		0:16:00		7:22:00		0:05:00		
Follow up	0:31:00	11:32:00		1:43:00		8:57:00	0:15:00	0:05:00
Initial negotiation				0:12:00				
Internal relations		0:45:00						
Lead identification						0:43:00		
Lead management						0:45:00		
Lead qualification						1:15:00		
Negotiation						0:39:00		
Order completion		0:10:00						
Outsourcing contracts	0:03:00							
Project management	0:55:00	21:16:00				0:21:00		
Project qualification		0:45:00				0:05:00		
Prospection		0:48:00	0:05:00		0:30:00			
Qualification			0:15:00	0:04:00		8:49:00		
Resource management	0:31:00	1:00:00						
Sales management	0:10:00							
TOTAL	**2:10:00**	**40:45:00**	**0:20:00**	**9:21:00**	**0:30:00**	**21:44:00**	**0:15:00**	**0:05:00**

Once each action was recorded, each outcome was logged and the consequence of that outcome then sub-categorised. This process enabled an initial insight into the value proposition of the sales and marketing resources. Through constant data comparison (Charmaz, 2014; Bernard and Ryan, 2016) relevant sub-categories of behaviour were constructed as the repetitive actions of the different participants were compared to identify similarities. This axial coding focused on action outcomes. Outcomes refers to the orientation of the action taken. (Table 5) Amongst the different outcome consequences was one of ‘no further action required’. This outcome result

was critical to consider because the research at this stage focused on the value proposition of sales and marketing resources by examining the relevance of actions taken and their impact either on the customer/supplier relationship, the project evolution or the problem resolution. Habibi (2015) identifies the requirement from clients to develop a more strategic relationship with their principal suppliers. This also supports Kotler and Proertsch's (2007) argument on the projection of knowledge (Zaidi-Chtourou, 2018) driving sales and marketing to becoming agents of the customer. The relevance of that knowledge in the exchange throughout the observation period is a key factor in the coding of the data. Since the study examines the value based in resource and time, the category 'no further action required' would examine the time spent by profile type on actions that led to no subsequent action and determine how such actions could be digitalised, if at all to optimise valuable resource.

Table 5. Outcome consequence coding

Outcome consequence code
Client driven sales exchange
Client project-based task
Email based data output
External decision process
Internal resource exchange
Internal sales resource exchange
Low skill administrative task
Low skill client facing data output
Managerial skill set
Manual output customer relationship task
No further action required
Physical data exchange
Requirement for physical meeting
Sales expertise data input

The three sub-categories have been identified from memo writing in the data collection process; 'low-skill' refers to actions that demand no particular skill set or expertise (ex.: filing of paperwork, sending an electronic brochure). Table 6 illustrates how each outcome was categorised into one of three categories based on the skill set required for any subsequent follow up action. Constant data comparison enables a construction of focused (Charmaz, 2014) outcomes based on the 14 initial action codes.

Interpretive qualitative methods require a researcher to absorb the participant's behaviour (Bernard and Ryan, 2016; Cueves, 2018; Fontana and Frey, 2014). From an initial observation

as to what is happening, behavioural process is defined (Charmaz, 2014). Priority is therefore given to the process and not the description in order to develop a conceptual presentation of these actions (Suddaby, 2006). Contrary to interpretative qualitative study performed by Ethnographers, this process undertaken does not leave data undigested and unresolved (Suddaby, 2006). Abductive reasoning during this period of the data analysis enabled the development of axial codes in order to reduce the 14 outcome consequences into three sub categorical themes. These themes will form the basis of the research's conceptual guideline development in the final change project.

Table 6. Outcome action categories

Outcome code
Information exchange
Skilled collaborative optimization
Low skill time consuming task

Finally, tables 7 and 8 are an exhaustive list of themes that have developed from each outcome recorded into an action/outcome, that could be either be digitalized or that still required human skills. The themes come from the data and also a prior theoretical understanding of the phenomenon being studied (Bernard and Ryan, 2016). Using an abductive approach to the data analysis (Philipsen, 2018), patterns of behaviour occur from the constant observation and development of explanations (Bernard and Ryan, 2016; Harris, 2015). Abduction, as exposed in the choice of Methodology (see Chapter 8003, "Proposing Change"), enables the development of theories grounded in empirical data about how digital transformation is adopted in sales and marketing functions (Philipsen, 2018) The purpose of this observation was to identify how much time could be saved through digitalisation of certain actions within the overall workload of the participants daily activities.

Table 7. Digital Skill transformation

Digital skill
Add a Customer Relationship management (CRM) and Enterprise Resource Planning (ERP) update
Artificial Intelligence (AI) could input into ERP and CRM and accept electronic signature
AI input into CRM
AI with CRM and Vecteur + synchronisation
Collaborative platform with internal access and partner permission
Collaborative platform with internal and external access and partner permission and chatbot using AI
CRM input
CRM planning
CRM update
CRM with LinkedIn integration
Electronic signature
ERP + CRM update
ERP + RPA
ERP input
ERP update
ERP with electronic signature
Integration Vecteur + and CRM
RPA + ERP
Social selling

Table 8. Human soft skill set

Human soft skill set
Active listening
Active listening + decision making
Active listening + delegation
Active listening + empathy
Active listening + empathy + man management
Active listening + empathy + technical expertise
Active listening + empathy + trust build
Active listening + man management
Active listening + operational decision making
Active listening + relationship build
Active listening + sales expertise
Active listening + technical expertise
Active listening + trust build
Active listening + trust build + technical expertise
Delegation
Empathy + technical expertise
Empathy + trust build
Man management

Man management + delegation
Man management + operational decision making
Man management + technical expertise
Operational decision making
Relationship build
Relationship build + sales expertise
Relationship build + technical expertise
Sales expertise
Sales expertise + technical expertise
Team building skills
Technical expertise
Technical expertise + delegation
Technical expertise + sales expertise

A total of thirty-one soft skill combinations were identified from the initial code as illustrated in Table 8. These were defined using an abductive approach to the data analysis. Bernard and Ryan (2016) underlined the importance, within the mixed method of participant observersation to "experience the lives of the people studied every day". It requires an immersion in the participants culture to build impressions via the abductive method of guesswork. In a theory building process there is a need to make guesses when a researcher makes observations (Suddaby, 2006; Charmaz, 2014; Barney and Glaser, 2012). But as Philipsen argued (2018) this guesswork departs from existing theory. Due to the complexity of the sales process and heterogeneity of each sales situation the study identified an exhaustive number of scenarios to reflect an accurate representation of daily sales functions for the three different employee profiles. Literature describes the fundamental shift in "what a sales person does" (Moncrief and Marshall, 2005). Cuevas (2018) spoke of the shift to consultative selling. Soft skills are used interchangeably in reference to the same set of personal attributes that influence behaviors (Germain, 2012; Gutman and Schoon, 2013; Conley, 2013; Kamenetz, 2015). AbuJbara and Worley (2018) spoke of soft skills including professionalism, attitudes, personality traits and socioemotional behaviour. But their study is limited to relationships in service industries. Through abduction of the initial coding in this study, an exhaustive list of codes was developed

4. Data analysis and Findings

4.1. The Uber Economy Construct

The unprecedented amount of data managed by the sales and marketing teams was echoed in the findings of this pilot. Internet has been a driving factor of the influx of data that surrounds each and every transaction that customers and suppliers undertake (Viio and Gronroos, 2014; Vargo *et al*., 2008). The author suggests an evolution of customer/supplier relations (Karjaluto et al, 2015; Hannon, 2012 Cuevas, 2018) towards one based on their proposed definition of the Uber Economy in B2B, which formed the initial research focus of this Pilot. The author's proposed definition is:

Access to digitalized resources that enable time, financial and information efficiency gains for customers and companies in a new triadic structure: the user, the service provider (company), the service enabler (digitalized interface/platform). Information and value are unlocked on scales possible through the internet via the automation of specific customer facing tasks and the redeployment of internal company resources for an improved customer experience.

This definition exposes time, financial and information efficiency gains as the key determinants of the Uber Economy. To do this each participant profile is cross analysed with each tool type used and the time spent on that tool:

Table 9. Time spent on each type of tool per profile type

Time spent on each type of tool per profile type	Profile type			
Action type	Regional Director	Sales manager	Sales rep	Tota
Administration			0:04:00	0:04:00
Analysis of expertise report	0:35:00			0:35:00
analysis of sales forecast	0:10:00			0:10:00
Billing		0:03:00		0:03:00
Client call preparation	0:25:00			0:25:00
Client dossier creation	0:56:00		0:19:00	1:15:00
Contract modification	1:04:00		0:04:00	1:08:00
Contract signature	0:15:00			0:15:00
Contract validation	0:03:00			0:03:00
Contractual issue	0:07:00	0:03:00		0:10:00
Email	1:17:00	1:25:00	3:36:00	6:18:00
ERP input	1:08:00		0:32:00	1:40:00
Excel analysis			0:25:00	0:25:00
Incoming call	1:59:00	2:07:00	8:16:00	12:22:00
Internal call	0:02:00			0:02:00
Internal communications		0:03:00	0:04:00	0:07:00
Internal meeting	1:51:00	0:15:00	4:58:00	7:04:00

Internet search	0:12:00	0:02:00	0:14:00	0:28:00
Invoice treatment	1:38:00	0:12:00	2:10:00	4:00:00
Lead identification through social networks	0:17:00			0:17:00
Management of sales dossiers			0:10:00	0:10:00
Negotiate a quote	0:02:00			0:02:00
Order confirmation	0:25:00			0:25:00
Outgoing call	1:49:00	1:19:00	9:03:00	12:11:00
Paperwork	1:30:00	0:17:00	1:13:00	3:00:00
Preparation of call	0:03:00			0:03:00
Price checking		0:11:00		0:11:00
Price validation		0:04:00		0:04:00
Product order	0:20:00			0:20:00
Project validation		0:08:00	0:10:00	0:18:00
Proposal creation			0:23:00	0:23:00
Quote creation	1:36:00	0:55:00	1:27:00	3:58:00
Quote modification		0:06:00	1:34:00	1:40:00
Quote print out		0:02:00	0:02:00	0:04:00
Quote validation	0:45:00	0:59:00	0:44:00	2:28:00
Reading post		0:03:00		0:03:00
Site visit			6:30:00	6:30:00
Sms	0:02:00			0:02:00
Social networks	0:26:00		0:05:00	0:31:00
Spreadsheet analysis	0:10:00	0:10:00	0:10:00	0:30:00
Study technical report	0:41:00			0:41:00
Technical dossier update	1:02:00		1:35:00	2:37:00
Validation of order			0:24:00	0:24:00
Vecteur +	1:02:00	0:30:00	0:34:00	2:06:00
Total	**21:52:00**	**8:54:00**	**44:46:00**	**75:32:00**

From this cross analysis we can clearly identify that the phone is currently the most common tool used in the sales process with 24 hours out of the 75 hours of observation being dedicated to incoming and outgoing calls. A growing belief is that professional sales and marketing is experience a systemization of sales operations (Parvinen, 2013; Sharma and Sheth, 2010). On the otherhand, literature supports the results of the pilot observation stating that more strategic customers are expecting a higher quality and personalised service, forcing sales organisations to dedicate resources, including time and expertise, in their quest for co-creation of value (Lemmens *et al.*, 2014). It is noted that little time is accorded to the use of digital tools which contradicts other studies evoking the use of data analytics, and social media as a means of enabling a collection of novel and unique customer insights in the sales professionals' interactions (Marshall *et al.*, 2013; Cuevas, 2018). Email is the most frequently used digital tool (six hours) and time on smartphones amounts to three hours of the total time observed. The sales representative is the most frequent user of these devices with fourteen and a half hours spent using the phone. This can be justified by their front-end client facing function, the need to be mobile and their sales driven performance objectives that necessitate regular

communication with their ongoing prospects and clients. Their availability and reactivity are essential for developing a client relationship through empathy, active listening and expertise. We can support this assumption from a cross analysis of the human skillsets applied to the type of interaction with the tool type “phone”. The results (Table 10) clearly show that the main interaction types are active listening, empathy as well as sales and technical expertise. Extant literature supports the resulting analysis by stating that sales professionals are enablers of customer development (Cuevas, 2018; Sharma and Syman, 2017) through the use of these soft skills. The notion of exchange and benefit support the customer centricity of the soft skills used and its central position in the customer-sales relationship (Rong *et al*., 2017; Kumar *et al*., 2018; Cuevas, 2018; Viio and Gronroos, 2014)

Table 10 :Human skillsets applied to use of phone

Type of tool used	Human skill set																		
Action Labels	**Active listening**	**Active listening + delegation**	**Active Listening + empathy**	**Active listening + Empathy + trust build**	**Active Listening + man management**	**Active listening + operational decision making**	**Active listening + relationship build**	**Active listening + sales expertise**	**Active listening + technical expertise**	**Active listening + technical expertise + trust build**	**Active listening + trust build**	**Active listening + trust build + technical expertise**	**Active listening + trust build +technical expertise**	**Empathy + technical expertise**	**Relationship build**	**Sales expertise**	**sales expertise + technical expertise**	**technical expertise**	**Total**
Internal call		**1**																	**1**
Project management		1																	1
Outgoing call	**2**		**11**	**1**	**1**	**1**	**1**	**5**	**11**	**1**	**3**	**1**	**1**	**1**	**5**	**11**	**1**	**2**	**59**
Administration															1				1
Final negotiation			1					1	1		1					5			9
Follow up	2		5		1	1		3	3		1	1			2	2		1	22
Lead qualification																		1	1
Negotiation			1																1
Project management			1	1				1	1					1	2	2	1		10
Prospection			1																1
Qualification			2				1		6	1	1		1			1			13
Resource management																1			1
Total	**2**	**1**	**11**	**1**	**1**	**1**	**1**	**5**	**11**	**1**	**3**	**1**	**1**	**1**	**5**	**11**	**1**	**2**	**60**

From these results it is confirmed that clients opt for a relationship built on competence and empathic reactivity (Herbst *et al.*, 2011; Cuevas, 2018; Viio and Gronroos, 2014). Furthermore, from the three outcome codes previously identified in Table 4, skilled collaborative consumption and information exchange are the most important types of outcome from these interactions which reinforce the evolution oof the customer who seeks more sophisitacation and value from their exchanges with suppliers (Cuevas, 2018; Ulaga and Eggert, 2006; Viio and Gronroos, 2014; Rong *et al.*, 2017). To align this with the proposed B2B Uber Economy definition a further cross analysis of the coded data was performed to validate the consequence of these interaction types and which could consequently be digitalised to enable an optimisation of participants' time spent on this tool. Table 11 below provides a number of key insights.

Table 11. Time saved through Digital transformation of interaction type when using the phone

Interaction type/tool used	**Possible digital transformation**			
Client profile	**IN PART**	**NO**	**YES**	**Total time on tool**
Incoming call	2:14:00	6:56:00	3:10:00	12:22:00
Client driven sales exchange	0:15:00	0:54:00	0:23:00	1:32:00
Client project-based task		0:07:00	0:02:00	0:09:00
Email based data output		0:18:00		0:18:00
External decision process		0:43:00	0:28:00	1:11:00
Internal resource exchange		0:06:00		0:06:00
Internal sales resource exchange			0:02:00	0:02:00
Low skill client facing data output	0:34:00	1:40:00	0:23:00	2:37:00
Managerial skill set		0:07:00		0:07:00
Manual output customer relationship task	0:29:00	0:18:00	0:06:00	0:53:00
No further action required		1:32:00	0:57:00	2:29:00
Physical data exchange	0:04:00		0:02:00	0:06:00
Requirement for physical meeting	0:30:00	0:13:00	0:30:00	1:14:00
Sales expertise data input	0:22:00	0:58:00	0:19:00	1:39:00
Outgoing call	1:23:00	6:23:00	4:25:00	12:11:00
Client driven sales exchange		0:18:00	0:25:00	0:43:00
Email based data output		0:01:00	0:21:00	0:22:00
External decision process		1:07:00	0:25:00	1:32:00
Internal resource exchange		0:18:00		0:18:00
Low skill client facing data output	0:34:00	1:41:00	0:58:00	3:13:00
Managerial skill set		0:05:00		0:05:00
Manual output customer relationship task	0:17:00	0:42:00	0:33:00	1:32:00
No further action required	0:02:00	0:34:00	0:15:00	0:51:00
Physical data exchange		0:05:00		0:05:00
Requirement for physical meeting	0:30:00	0:31:00	0:49:00	1:50:00
Sales expertise data input		1:01:00	0:37:00	1:38:00
Total time on tool	**3:37:00**	**13:19:00**	**7:35:00**	**24:33:00**

Of the 24h30mins spent on the phone, 7hr35 minutes could be digitalised and 3hr 37 minutes in part. This time saving represents 44% of the participants' time spent on the phone. Of this time saved, 28% is spent on consequences that have no further action to take (i.e.: nobody answering their phone), require low skill client facing data output (i.e.: leaving a message on

voicemail) or depend on an external data output (i.e.: the client decides and calls back). The types of digital transformation that could be envisaged are illustrated in Table 12.

Table 12. Types of Digital transformation per tool/consequence

Types of Digital transformation per tool/consequence	Digital Skill set									
tool type / outcome consequence	Add CRM and ERP update	AI could input into ERP and CRM and accept electronic signature	AI input into CRM	CRM input	CRM planning	CRM update	ERP + RPA	ERP with electronic signature	ERP with electronic signature	total digitalised actions to replace phone use
Incoming call	1	3	6		1	1	1	6	1	52
Client driven sales exchange		2	1				1	2		8
External decision process										3
Internal sales resource exchange			1							1
Low skill client facing data output			1						1	7
Manual output customer relationship task	1				1	1		2		6
No further action required			1							12
Physcial data exchange										2
Requirement for physical meeting			1							5
Sales expertise data input		1	1					2		8
Outgoing call		13	11	1	3	2		1		67
Client driven sales exchange		2								4
Client project-based task										1
Email based data output										4
External decision process			2							8
Low skill client facing data output		4	2	1	2					18
Manual output customer relationship task		1	4		1	1		1		12
No further action required		1	2							8
Requirement for physical meeting			1			1				5
Sales expertise data input		5								7
Total digitalised actions to replace phone use	1	16	17	1	4	3	1	7	1	119

Based on the observation of the outcomes and consequences, it was possible to envisage several different scenarios of digital transformation. The company has a number of digital tools available that are available to the participants. These include email, internet and an ERP for quote and invoice creation and project management. Additionally, during the scope of the author's role as Digital marketing consultant, a number of supplementary digital sales and marketing tools have been studied and proposed to the company Director. Such technologies reflect the scope of digital skillsets to be anticipated in the digital transformation of sales and marketing roles (Le Clair *et al.*, 2015; Mahlamäki *et al.*, 2016; Ghosh, 2018; Hofmann *et al.*, 2019).Table 13. Digital skillsets possible

Digital skillsets
Add CRM and ERP update
Artificial Intelligence (AI) could input into ERP and CRM and accept electronic signature
AI input into CRM
AI with CRM and Vecteur + synchronisation
Collaborative platform with internal access and partner permission
Collaborative platform with internal and external access and partner permission and chatbot using AI
CRM input
CRM planning
CRM update
CRM with LI integration
Electronic signature
ERP + CRM update
ERP + Robotic Process Automation (RPA)
ERP input
ERP update
ERP with electronic signature
ERP with electronic signature
Integration Vecteur + and CRM
RPA + ERP
Social selling

Although it has been possible to determine the time spent on low skilled functions that could be digitalised, the limitation of this analysis is that it is not possible to determine the total time saved as obviously time would be used to adopt and integrate automated functions. Nevertheless, it has been possible to support the author's proposed definition of the B2B Uber Economy, by proposing how "scale and value are unlocked on scales possible through the

internet via the automation of specific customer facing tasks and the redeployment of internal company resources."

4.2. The value proposition in the digital transformation of sales and marketing resources within an industrial SME

Time efficiency is a major component of value in sales organisations (Cuevas, 2018; Sheth and Sharma, 2008; Verbeke *et al*., 2011). Table 13 exposes how 40 hours of sales and marketing resources are spent on client relationship management, 21 hours on Prospection (including lead qualification and follow up) and 9.5 hours on Negotiation (of which 7h on the final stages of negotiation).

Table 13. Time spent on interactions per sales process

Time spent on interactions per sales process	Interaction types															
Sales process	Administration	Final negociation	Follow up	Initial negociation	Internal relations	Lead identification	Lead qualification	Negociation	Order completion	Outsourcing contracts	Project management	Prospection	Qualification	Ressource management	Sales management	Total
Administration			0:31:00							0:03:00	0:55:00			0:31:00	0:10:00	2:10:00
Client relationship management	4:13:00	0:16:00	11:32:00		0:45:00				0:10:00		21:16:00	0:48:00	0:45:00	1:00:00		40:45:00
Internal ressource management	0:22:00															0:22:00
Lead management												0:05:00	0:15:00			0:20:00
Negociation		7:22:00	1:43:00	0:12:00									0:04:00			9:21:00
Project qualification												0:30:00				0:30:00
Prospection	0:05:00	0:05:00	8:57:00			0:43:00	2:00:00	0:39:00			0:21:00		8:54:00			21:44:00
Qualification			0:15:00													0:15:00
Team management			0:05:00													0:05:00
Total	4:40:00	7:43:00	23:03:00	0:12:00	0:45:00	0:43:00	2:00:00	0:39:00	0:10:00	0:03:00	22:32:00	1:23:00	9:58:00	1:31:00	0:10:00	75:32:00

A cross analysis was performed on the data collected in the outcome consequences category with that of the sales process data. This cross analysis informs the amount of time that is spent specifically on the different client relationship management actions.

Table 14. Outcome consequence of sales process

Outcome consequence of sales process	Time spent
Client relationship management	40:45:00
Client driven sales exchange	4:44:00
Client project-based task	0:09:00
Email based data output	0:28:00
External decision process	1:12:00
Internal resource exchange	0:53:00
Internal sales resource exchange	0:10:00
Low skill administrative task	1:32:00
Low skill client facing data output	7:54:00
Managerial skill set	1:44:00
Manual output customer relationship task	1:24:00
No further action required	14:56:00
Physical data exchange	0:09:00
Requirement for physical meeting	3:11:00
Sales expertise data input	2:16:00
Total	**40:45:00**

In analysing the data, an indication of the value of the customer experience provided by sales and marketing representatives of the company is deducted (Charmaz, 2014). Almost 15 hours is spent on functions that require no further action. This represents 37% of the overall time dedicated to client relationship management. In addition, 7 hrs 54 minutes is spent on low skilled client facing data output which require no specific area of expertise to perform the action (adding contact names to an Excel spreadsheet, sending an electronic brochure, sending photos of a construction site). The proposed value proposition with Digital transformation of these roles would enable an information exchange and additionally a collaborative platform using digital technologies (table 6) that would replace 17h17 minutes of observed time dedicated to Client Relationship management, of which 3 hours was focused on low skilled time-consuming tasks. Such a transformation would support the assumption in the author's proposed definition for the B2B Uber Economy: "the redeployment of internal company resources for an improved customer experience". As a result, the value proposition of sales and marketing functions can be enhanced through redeployment of their skill sets to more collaborative, expertise oriented and experience-based functions in the development of the company's activity and prospects.

This supports extant literature's reflexion on the development of sales force roles, which need ot be knowledgeable about their customers' business and not purely experts in their own field (Haas *et al.*, 2012; Cuevas, 2018; Kowalski *et al.*,2017)

Table 15. Digital transformation of outcome consequence per sales process in client relationship management

Digital transformation of outcome consequence per sales process in client relationship management	Time spent
Client relationship management	17:17:00
Information exchange	5:28:00
AI could input into ERP and CRM and accept electronic signature	0:47:00
AI input into CRM	1:01:00
Collaborative platform with internal access and partner permission	1:15:00
Collaborative platform with internal and external access and partner permission and chatbot using AI	2:09:00
CRM planning	0:05:00
ERP update	0:10:00
Social selling	0:01:00
Low skill time consuming task	2:58:00
AI could input into ERP and CRM and accept electronic signature	1:14:00
AI input into CRM	0:47:00
AI with CRM and Vecteur + synchronisation	0:04:00
Collaborative platform with internal and external access and partner permission and chatbot using AI	0:53:00
Skilled collaborative optimization	8:51:00
AI input into CRM	1:19:00
Collaborative platform with internal access and partner permission	0:05:00
Collaborative platform with internal and external access and partner permission and chatbot using AI	2:17:00
CRM with LI integration	0:15:00
Electronic signature	0:28:00
Total	**17:17:00**

4.3. The integration of the smart internet evolution

In this research focus an examination was performed to infer how smart technologies could be integrated into the sales and marketing focus. A cross analysis of the data was performed on the action type and the technique used against the outcome code and digital skillset that could replace this function. Abductive reasoning (Charmaz, 2014) of the outcome from this cross analysis would inform the development of the final change project's conceptual guidelines on smart technology implementation in the digital marketing strategy. A value of time was selected to abduce economies gained through the implemention of smart technologies to perform these selected tasks. The outcome code was filtered to examine solely the low skill time consuming

tasks which challenges the efficiency of traditional sales roles (Rackham and Vincentis, 1999; Cuevas, 2018)

Table 16. Time spent on techniques and actions and smart technology optimisation for low skilled time-consuming tasks

Outcome code	low skill time consuming task

Time spent on technics and actions and smart technology optimisation	Profile type					
Action type	**AI could input into ERP and CRM and accept electronic signature**	**AI input into CRM**	**AI with CRM and Vecteur + synchronisation**	**Collaborative platform with internal and external access and partner permission and chatbot using AI**	**social selling**	**Total time**
Administration			0:04:00			0:04:00
PC			0:04:00			0:04:00
Email	0:05:00	0:03:00		0:13:00	0:14:00	0:35:00
Email	0:05:00			0:01:00	0:12:00	0:18:00
Printer				0:03:00		0:03:00
Smartphone				0:06:00	0:02:00	0:08:00
Telephone				0:03:00		0:03:00
Vecteur +		0:03:00				0:03:00
ERP input				0:22:00		0:22:00
ERP				0:22:00		0:22:00
Incoming call		0:07:00		0:44:00		0:51:00
Smartphone				0:10:00		0:10:00
Telephone		0:07:00		0:34:00		0:41:00
Internal communications	0:03:00					0:03:00
Paperwork	0:03:00					0:03:00
Internal meeting		0:45:00		0:05:00		0:50:00
Paperwork		0:45:00				0:45:00
Telephone				0:05:00		0:05:00
Internet search				0:07:00	0:04:00	0:11:00
Web based search				0:07:00	0:04:00	0:11:00

Invoice treatment	0:45:00			0:02:00		0:47:00
Face to face				0:02:00		0:02:00
Paperwork	0:33:00					0:33:00
PC	0:09:00					0:09:00
Smartphone	0:03:00					0:03:00
lead identification through social networks					0:17:00	0:17:00
Linked IN					0:17:00	0:17:00
Outgoing call	0:12:00	0:25:00		0:48:00		1:25:00
Smartphone				0:01:00		0:01:00
Telephone	0:12:00	0:25:00		0:47:00		1:24:00
Paperwork	0:15:00	0:45:00		0:03:00		1:03:00
Price validation	0:02:00					0:02:00
Telephone	0:02:00					0:02:00
Quote creation	0:25:00					0:25:00
ERP	0:15:00					0:15:00
Excel	0:10:00					0:10:00
Quote modification	0:09:00	0:03:00				0:12:00
ERP	0:06:00					0:06:00
Paperwork	0:03:00	0:03:00				0:06:00
Quote print out	0:04:00					0:04:00
Paperwork	0:02:00					0:02:00
Printer	0:02:00					0:02:00
Social networks					0:06:00	0:06:00
Linked IN					0:06:00	0:06:00
Vecteur +			0:17:00	0:27:00		0:44:00
Total time	**2:00:00**	**2:08:00**	**0:21:00**	**2:51:00**	**0:41:00**	**8:01:00**

As defined in the literature review (see 8002, section 2.1.1), smart technology is a device programmed to be capable of some independent action (Oxford Dictionary Definition, 2018). In sales and marketing, such devices are called Robotic Process Automation (RPA) that automatically and repeatedly imitate human tasks (Aalst *et al*., 2018; Aguirre and Rodriguez, 2017). It can be inferred from the results of this pilot that by focusing on just the low skilled outcome tasks observed, RPA integration can reduce the use of human interaction by just over 8 hours, which represents a 10% time-efficiency gain. Of that, 18% of overall processing of paperwork could be economised using smart technology with RPA. Since many organisations are looking to cut costs, particularly of legacy systems (Aalst *et al.*, 2018; Hofmann *et al*., 2019; Stein Smith, 2020) the results of this analysis suggest that this type of smart technology can contribute to resource efficiency gains that are beneficial to SMEs which are often reported as lacking infrastructure and resource to optimise certain internal procedures (Hannon, 2012; Karjaluoto *et al*., 2015).

As mentioned in section 3.1 “Data collection and initial coding”, the telephone was the most commonly technique used by the sample set which challenges the current reflection on the reality of digital transformation in SME industrials (Sheth and Sharma, 2008; Cuevas, 2018). In the cross analysis proposed on smart technology it is observed that 9% of time spent on the telephone is dedicated to low skilled time-consuming tasks. The analysis performed of the data shows that with the perspective of smart technology implementation, this time economy can be made for sales and marketing functions using RPA.

This same data analysis was subsequently performed on outcomes that were coded as information exchange processes.

Table 17. Time spent on technics and smart technology optimisation for information exchange tasks

Action type	AI could input into ERP and CRM and accept electronic signature	AI input into CRM	Collaborative platform with internal access and partner permission	Collaborative platform with internal and external access and partner permission and chatbot using AI	ERP + RPA	social selling	Total time
Email	0:08:00	0:13:00		0:51:00		0:01:00	1:13:00
ERP	1:21:00			0:20:00	0:20:00		2:01:00
Excel	0:05:00	0:34:00					0:39:00
Paperwork	0:14:00	0:05:00	0:11:00	0:48:00			1:18:00
PC		0:02:00					0:02:00
Smartphone				0:24:00			0:24:00
Telephone	0:06:00	0:12:00	1:39:00	2:38:00			4:35:00
Web based search				0:02:00			0:02:00
Total time	**1:54:00**	**1:06:00**	**1:50:00**	**5:03:00**	**0:20:00**	**0:01:00**	**10:14:00**

The interpretation of this data shows that 13% of time observed using different techniques for information exchange tasks can be automated using artificial intelligence (notably RPA). This aligns with Pareto distribution (van der Aalst, Bichler and Heinzl, 2018) which argues in the case of RPA that in 20% of cases, such smart technology can replace humans for frequent, repetitive tasks. Less frequent tasks are not considered because automation becomes too expensive to implement (Hofmann *et al*., 2019; Stein Smith, 2020). Furthermore, the observation deduced that the participants interact with a number of different tools and legacy systems. The pilot analysis will instruct the change project challenge of the resistance by SMEs to digitally transform their processes (research question 7) by highlighting how 50% of their time dedicated to client facing tasks could be economised through the implementation of a smart collaborative platform enabling internal and external access with artificial intelligence acting as agents that interact with the different information systems as if they were human *(Aalst et al*, 2018).

4h35 of time spent on the telephone is linked to information exchange outcomes (i.e.: sales and technical expertise). Smart technology implementation could represent time savings of 17% of overall time spent on the telephone. This conclusively aligns with the continued industry focus on artificial intelligence contributing to the efficiency of organisational capability (Maklan & Knox 2009; Cuevas, 2018). Sustainable logistics are also suggested as the research infers important time savings of approximately 20% through the replacement of paperwork, email and

ERP with the implementation of artificial intelligence which supports industry studies (CRM 2018).

The same comparative exercise was performed on the third and final outcome action; skilled collaborative optimisation. Table 18 illustrates the results produced.

Table 18– Time spent on technics and actions and smart technology optimisation – skilled collaborative optimisation

Outcome code	**skilled collaborative optimisation**

Time spent on technics and actions and smart technology optimisation - skilled collaborative	**Profile type**								
Action type	**AI could input into ERP and CRM and accept electronic signature**	**AI input into CRM**	**AI with CRM and Vecteur + synchronisation**	**Collaborative platform with internal access and partner permission**	**Collaborative platform with internal and external access and partner permission and chatbot using AI**	**Electronic signature**	**ERP + RPA**	**RPA + ERP**	**Total time**
Email	0:28:00	0:26:00		0:15:00	1:38:00				2:47:00
ERP	4:40:00	0:28:00			0:11:00			0:43:00	6:02:00
Excel		0:05:00	0:04:00	0:10:00	0:39:00				0:58:00
face to face					0:05:00				0:05:00
Linked IN			0:05:00						0:05:00
paperwork	3:00:00			0:12:00	0:45:00	0:28:00			4:25:00
PC	0:13:00								0:13:00
Site visit		0:45:00							0:45:00
Smartphone	0:11:00				0:20:00				0:31:00
Sms		0:02:00							0:02:00
Telephone	0:25:00	0:09:00		0:17:00	0:47:00		0:05:00		1:43:00
Vecteur +	0:08:00	0:30:00	0:38:00		0:10:00				1:26:00
Web based search					0:28:00				0:28:00
Total time	**9:05:00**	**2:25:00**	**0:47:00**	**0:54:00**	**5:03:00**	**0:28:00**	**0:05:00**	**0:43:00**	**19:30:00**

The results from this analysis show that nineteen man-hours could be economised using artificial intelligence to fulfil outcomes based on skilled collaborative optimisation of client relationship management. The findings support literature's study of the effectiveness of evolving digital sales processes (Mahlamäki, Ojala and Myllykangas, 2016)(Karjaluoto *et al*, 2015) What is interesting to observe is that thirty one percent of this time is currently deployed by ERP use such as client data analysis and product or project investigation, and twenty two percent on paperwork i.e.: examination of technical dossiers, quotes and contracts validation and signature, compared to only three percent that is telephone-based activity. These results respond positively to the first Research question: companies need to acquire data management skill sets in their marketing teams (Zaïdi-chtourou, 2018)(Hoffman and Novak, 2018). Marketing needs to have a central and strategic role in order for companies to elaborate digital engagement strategies with the evolving customer and user communities. The results of this pilot support literature which argues how sales force automation has a tremendous potential of increasing the productivity of a sales function (Anonymous, 2018 Mahlamäki *et al*., 2016; Cuevas 2018) as it challenges the productivity of traditional phone-based sales interactions in the optimization of client relationship (Cuevas, 2018).

4.4. Social selling as an integral function within digital transformation of sales and marketing

Christophe Bys (2019) recently exposed the need for industrial SMEs to adopt a social selling strategy. His study illustrates that 21% of B2B decision makers confirm their use of social media in purchases made. The author goes on to underline the need for B2B vendors to deliver useful, qualitative content as apposed to simply having a social media presence. Only 40% of decision makers in B2B show satisfaction about the content they read online (Bys, 2019). In this final research focus the data analysis needed to expose the adoption of digital technologies to illustrate the adoption of social selling as a strategy in the client relationship development. From the results obtained, the Regional Directors demonstrated a more regular use of social media than both sales managers and sales reps. Table 19 details the type of interaction and description of social media use per profile.

Table 19. Time spent on Social Media and interaction type

Time per technique and interaction type per profile	Job Function		
Tools	**Regional Director**	**Sales rep**	**Total**
Linked IN	0:28:00	0:05:00	0:33:00
Initial negotiation			
Negotiation			
Try and find key points of contact for decision making. Send mail to relevant contacts	0:12:00		0:12:00
Lead identification			
Prospection			
Identify prospects and contacts who could be relevant for major accounts. Update Excel	0:06:00		0:06:00
Lead qualification			
Prospection			
Using information from V+ contact details were validated using LI to send interviews to meet		0:05:00	0:05:00
Qualification			
Prospection			
From Vecteur + project identify contacts via LI	0:05:00		0:05:00
Trying to find senior points of contact for a strategic account and point of entry. contacts identified	0:05:00		0:05:00
Total	**0:28:00**	**0:05:00**	**0:33:00**

Although the data set is minimal (only thirty-three minutes out of seventy-five hours of observation) the participants all confirmed through informal discussions during the observation period, that their use of social media was not totally condensed into office hours. In order to provide more substantial results, the use of secondary data was required. The company has managed a LinkedIn Company page for 3 years and currently has 400 followers. The authors role as digital marketing consultant within the company includes the development of articles detailing projects developed by the company at different company sites, as well as delivering qualitative content to its community on product innovation and factual advice on technical solutions for its audience. In order to do this, participation from sales and marketing resource within the company has been necessary to obtain content and create articles of interest to publish in order to engage clients and generate novel and unique customer insights (Maklan and Knox, 2009; Cuevas, 2018). The limitations of this data collection came from the limited statistical analysis that LinkedIn, the chosen social media of the company, provides on activity on the company page and on individual profile pages. It was necessary therefore to manually count the different interactions on the company page and on the different participants own profile pages. Table 20 illustrates the number of posts linked to the company that were either created or shared by each profile over a 12-month period. During this same period, the author created 40 articles for the company page of which 16 came from information provided by sales and

marketing resources in the company on their client projects. This observation would instruct the research question 8 challenging the role of social media and ints integration into the sales policy to enable collaborative uptake (Viio & Gronroos, 2014; Cuevas, 2018; Verbeke et al, 2011).

Table 20. LinkedIn activity per profile

Profile	Articles created	Articles shared
Sales Manager	21	15
Sales Manager	1	55
Regional Director	0	27
Regional Director	0	38
Regional Director	0	28
Regional Director	0	75
Sales Rep	0	70
Sales Rep	0	65
Sales Rep	5	45

Through the generation profiling of the participants crossed with this statistical analysis of the user activity it is apparent once again that social media as a digital media is not a deterrent to the three Generations X, Y and Z (Merrick, 2016; Grenčíková, Adriana, and Sergej Vojtovič, 2017). The creation of content is concentrated on two profiles: a sales manager who is a Generation Y profile and a sales rep who is a Generation Z profile.

These results can lead to a partial response to the ninth research question, which asks if the customer's voice essential in defining the alignment of social media in the customer relationship model. The adoption and frequency of use within the study's sample demonstrates that the integration of social media is important in the eyes of the participants and their relationship with their client base. This result contributes to a growing insight (Marshall *et al*., 2012; Matt *et al*., 2015; Cuevas, 2018; Dubois, 2019) on the growing importance and central role that social media have in customer/supplier relationships.

5. Research highlights

This pilot identified three central themes of change in the digital transformation of sales and marketing functions and its impact on the value proposition of industrial SMEs: low skilled time-consuming takes, information exchange and skilled collaborative optimisation. The implications of these transformational themes will be discussed in this final section, enabling

the construct of a response to the research questions constructed from the academic review (see chapter 8002):

RQ1 – What role will marketing have in the acquisition of data management skillsets in order for companies to elaborate engagement strategies with the evolving customer and user communities?

RQ2 − Since B2B marketing is essentially about making rational choices in buyer decision making will digital technologies and Artificial Intelligence (AI) ultimately replace sales and marketing functions?

RQ3 – Is the effectiveness of a service enabler in the Uber Economy dependent on the choice of communication used and the implication of the network of users.

RQ4 – What role will millennials have in the digital transformation of sales and marketing in industrial SMEs?

RQ5 - Should 'value of experience' be the new norm for business to business relations in the Uber Economy?

RQ6–What are the key factors of success for SMEs in the construction of the Uber economy?

RQ7 – As millennials shy away from face to face relationships and older sales generations resist technological change, is a company's brand notoriety at risk as customer's see incoherency in the client relationship model

RQ8 – What role will social media have in an industrial SME's sales and marketing evolution to enhance a two-way value construct between supplier and customer?

RQ9 – Is the customer's voice essential in defining the alignment of social media in the customer relationship model?

5.1. Resource Optimisation

The study provides evidence that sales and marketing teams in industrial SMEs still depend on traditional tools of operation and interaction in their daily tasks. Based on the results of the pilot it is evident that marketing will play a role in the acquisition of data management skillsets (RQ1). Since buyer behavior has evolved (Viio and Gronroos, 2014; Cueevas, 2018; Sharma

and Seth, 2010) SMEs need to provide a collaborative platform to enable internal and external access (i.e.: internal users, clients and suppliers) which can fulfil initial consumer/supplier relations based on the evolution of clients' autonomous actions (CEB, 2018; Ulaga and Eggert, 2006; Cuevas, 2018). Although Artficial Intelligence can fulfil certain rational decisions that are made in the client decision making journey, the study still challenges the question of ultimately letting AI replace sales and marketing resource (RQ2). B2B clients still prefer a two-way value proposition in their interactions with selected suppliers as long as the chosen service enabling platform provides opportunities to deliver quality customer service (Cuevas, 2018). Although currently it is not possible to see from these results the format of such a platform (RQ3), it is clear that consideration into the integration of AI that acts as an agent between human and task automation in the integration of the service enabling platform (Aalst *et al.*, 2018) is necessary.

The furture sales and marketing functions will be fulfilled by the Millenial generations (RQ4) but the study infers that digital technology is not an immediate source of resistance amongst participants from older generations. Its integration needs to be carefully considered in the change project.

The results expose the opportunity for a collaborative platform and digital technologies to provide sales and marketing performance for clients and collaborators (Herbst *et al*., 2011; Cuevas, 2018). Since relationships have always been crucial in B2B selling (Vargo and Lusch, 2008; Sharma and Sheth, 2010; Cuevas, 2018) it is essential that understanding skill sets is important to optimise the proposed collaborative exchange platform. The data produced from such a platform would need to be optimized by sales and marketing resources to improve the value proposition offered within the client relationship model (RQ5).

Professional buyers in the B2B network refer to their suppliers with whom they have built up a relationship of trust (Nobre and Silver, 2014; Cuevas, 2018; Perci *et al*., 2010). Trust comes from deep customer business insights and understanding (Verbeke *et al*., 2011; Cuevas, 2018). The role of soft skills providing empathy, active listening and skilled sharing of expertise are fundamental to the construction of trust (Schaub, 2014; Habibi *et al*., 2015) and clearly need to be integrated into any digital transformation of sales and marketing for the latter to be successful (RQ6). This point however can be a point of contention and instrumental in the resistance against change practice (RQ7) for traditional sales professionals (Sharma and Sheff, 2010; Moncrief and Marshall, 2005; Cuevas, 2018). Two considerations of the theory underpinning

this research: social cognitive theory and the Adkar change model, pinpoint the importance of social networks and collective behavioural mirroring as an instrument of change (Bandura, 1977). Additionally, the importance of awareness of the importance to change as well as the desire to change are considerations that will instruct the final change project.

The final focus of this study examines the importance of social media as a vector of the change in sales performance. The importance of networks and adhesion to networks forms the fundamental framework to social cognitive theory. From the results of this study the development of social networking within the participants behaviour is insufficent to determine its role and impact on the value proposition of sales and marketing functions (RQ8). Despite substantial focus being given to the phenomena of social media as a source of customer insights (Moncrief *et al*., 2012; Habibi *et al*., 2015; Rodriguez *et al*., 2017; Cuevas, 2018), the co-creative value of their integration into the Digital transformation of sales and marketing functions needs to be further examined to respond to their alignment in the customer relationship model (RQ9). By integrating their practice as a company sales policy in the final change project, an informative response can be given.

The highlights of this pilot study that will instruct the change project are the following:

- the phone is the most common tool used in the sales process for B2B vendors
- the main interaction types in client facing roles are active listening, empathy as well as sales and technical expertise
- clients opt for a relationship built on competence and empathic reactivity.
- Skilled collaborative consumption and information exchange are the most important types of outcome from these interactions between client and vendor
- 44% of the participants' time is spent on the phone. Of this time, 28% is spent on consequences that have no further action to take requiring a subsequent low skill client facing data output
- 37% of the overall time dedicated to client relationship management is spent on functions that require no further action. In addition, 18% of this time is spent on low skilled client facing data output

- A partial digital transformation of the client relationship management role would enable projected efficiency (time, financial and resource) gains of 44%. Such a transformation aligns with the proposed definition for B2B Uber Economy definition: “the redeployment of internal company resources for an improved customer experience”

- 9% of time spent on the telephone is dedicated to low skilled time-consuming tasks. Smart technology integration using RPA can optimize this time for sales and marketing functions.

- 17% of overall time spent on the telephone by participants could be optimized using artificial intelligence to deliver information exchange outcomes

- Substantial economies of time and resource are demonstrated from using artificial intelligence to fulfil outcomes based on skilled collaborative optimisation of client relationship management.

6. Conclusion

This pilot project was undertaken to develop insights into the current digital transformation of the targeted company that has been accompanied since 2016 in the development of their digital sales and marketing strategy. The observational period was implemented to witness, record and analyse behavioural attitudes and patterns (Field and Morse, 1994; Bernard *et al*., 2016; Flick 2013; Kumar, 2019) of the participants who represented 50% of client facing functions in the company.

Four research focuses were covered in the data interpretation:

Research focus 1: The B2B Uber economy construct.

The proposed definition of the B2B Uber economy has been partially confirmed due to observations and interpretations of time savings made through digital transformations. Although the limits of this current study enable a time saving calculation it cannot be demonstrated with the consideration of time to be invested on acquiring data management skills to use a collaboration platform. Nevertheless, it has been possible to support the proposed definition of the B2B Uber Economy, which is that *Access to digitalized resources that enable*

time, financial and information efficiency gains for customers and companies in a new triadic structure: the user, the service provider (company), the service enabler (digitalized interface/platform). Information and value are unlocked on scales possible through the internet via the automation of specific customer facing tasks and the redeployment of internal company resources for an improved customer experience

Research focus 2: The value proposition in the digital transformation of sales and marketing resources within an industrial SME.

The proposed value proposition with Digital transformation of these roles would enable an information exchange and additionally a collaborative platform using digital technologies that would replace valuable resource time spent on low skilled time-consuming tasks and enable their redeployment to more collaborative, expertise-oriented interactions. (Cuevas, 2018; Marshall *et al*, 2013; Moore, 2015)

Research Focus 3: The integration of the smart internet evolution

The analysis has enabled an identification of perspectives for the integration of smart technology within sales and marketing functions. Analysis of the data collected demonstrated substantial time savings of low skilled time-consuming tasks and innovation interaction perspectives in client relationship management (Dubois, 2019; Hofmann, Samp and Urbach, 2019)

Research Focus 4: Social selling as an integral function within digital transformation of sales and marketing.

The adoption and frequency of use within the theoretical sample demonstrates that the integration of social media is important in the eyes of the participants to their relationship with their client base (Pinsley, 2013; Rodriguez *et al*., 2012; Habibi *et al*., 2015). The study does not provide sufficient proof of the integral aspect of social media in sales and marketing performance. Triangulation from results of behavioural change in adoption of this tool and data from subsequent interviews in the final report will instruct this aspect of the study.

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Appendix 5. 7001 Reflective presentation

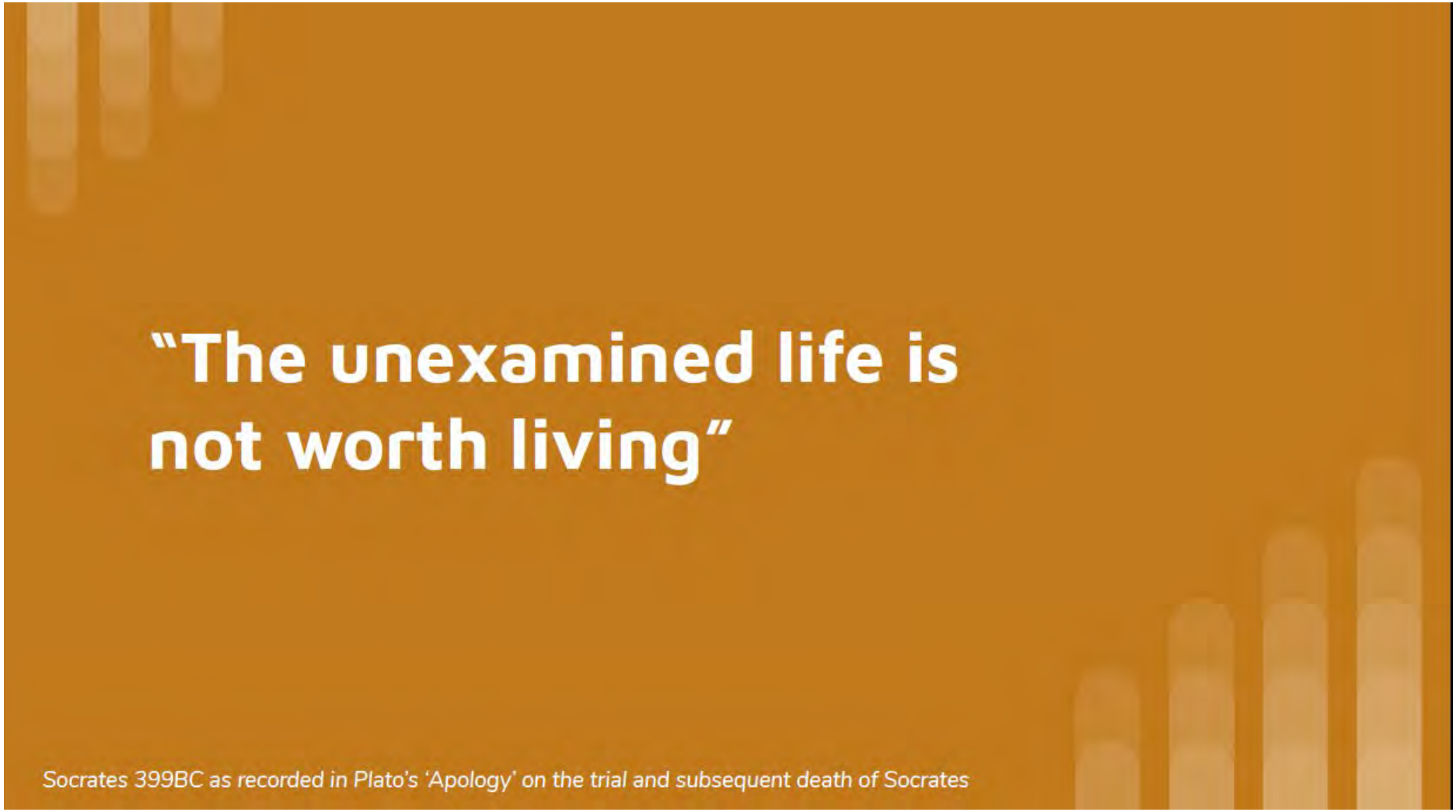
OUTLINE

Reflecting on reflective practice

Skills and qualities to accomplish 7001

The personal challenge and development goals

Building the next steps of the Professional doctorate


"The unexamined life is not worth living"
Socrates 399BC as recorded in Plato's 'Apology' on the trial and subsequent death of Socrates

Reflecting on reflective practice

"By three methods we may learn wisdom: First, by reflection, which is noblest; Second, by imitation, which is easiest; and third by experience, which is the bitterest."

Confucius cited in Karen Hinnett *Developing Reflective Practice in Legal Education* (Warwick Printing Press, 2002).

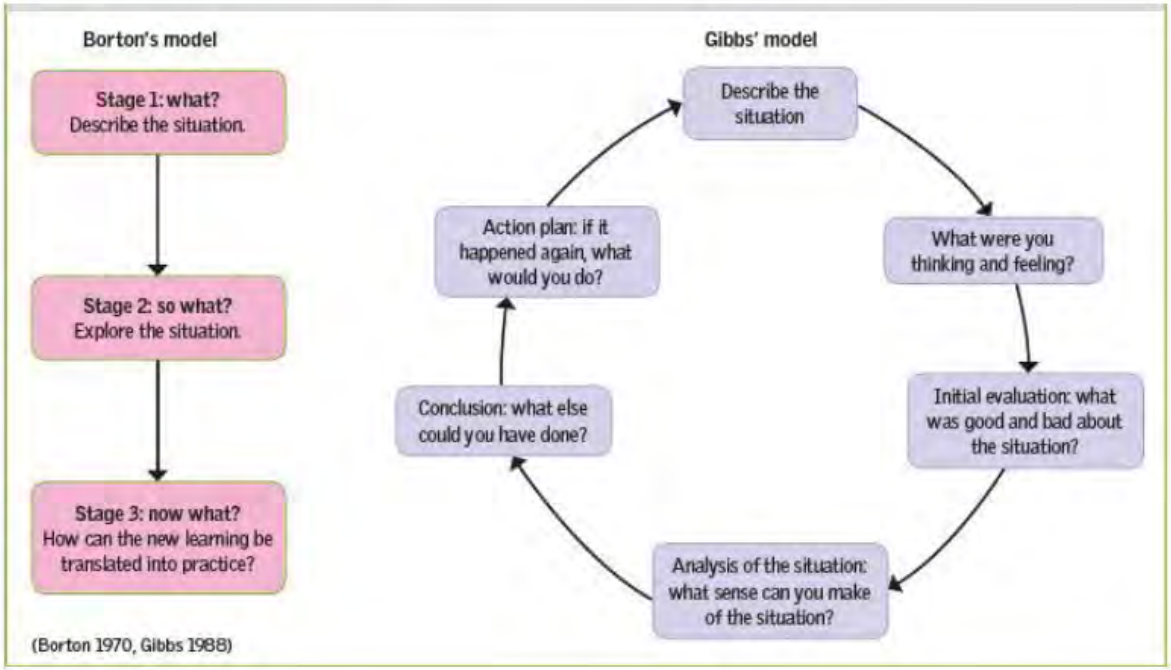
Where do we start?

Socrates believed that the love of wisdom – was the most important pursuit above all others in life. His consistent pursuit of wisdom through questioning and through logical argument formed the basis of philosophical argument.

His choice of death instead of exile, was a noble choice - death over ignorance.

Reflective practice eliminates ignorance in our reasoning and in the progression of our research (Jarvis, 1999)

Reflective practice models



Reflection on 7001

DESCRIPTION	Building the motivation and pinpointing the research project
FEELINGS	Sense of isolation and demotivation. Personal pressure and professional to continue. Putting theory into practice hard (Schön, 1983; Moon, 1999).
EVALUATION	A good support group through internal and external research team. (Boud, et al, 1985; McNamara & Field, 2007). Research cannot be an isolated process but is a continual process
ANALYSIS	Now learning to 'think about thinking' (the importance of metacognition : Flavell, 1979) and developing reflection further into professional environment to build research project (Jarvis, 1999)
CONCLUSION	Taking the time to reflect - enabling clarity and the time for creativity (and progress) (Wheatley, 2000)
ACTION PLAN	To develop understanding of method and methodology. (Freire, 2000)

Reflecting on the Research problematic

Digital transformation within the traditional industrial SME space

The impact of digital transformation on customer facing roles - the importance of behavioural performance

The acquisition of Information, time and resource are the new business 'Nirvana' - and data is the new currency

As the B2B sector undergoes its own digital transformation how do industrial SMEs prepare for the impact it will have on their existing marketing and sales functions?

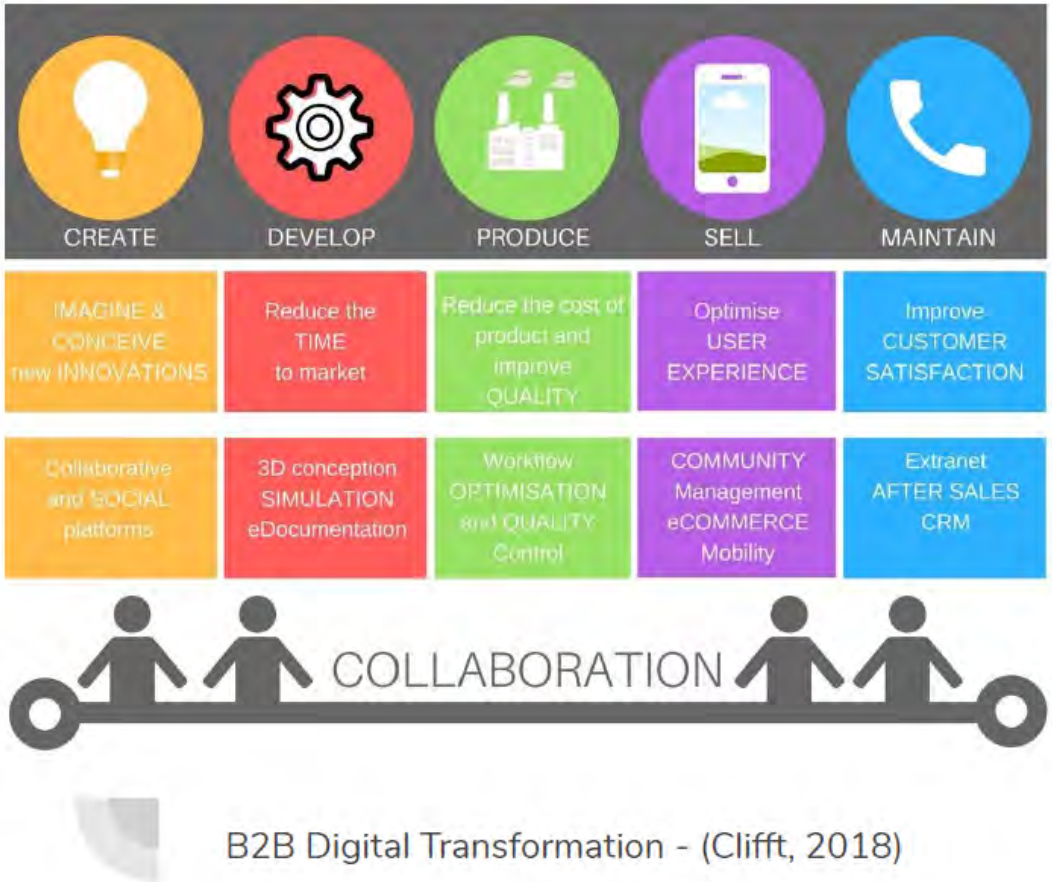
This research project will propose a conceptual framework for a collaborative information exchange model for SME marketing and sales

Reflecting on the Research problematic

Focal points from key market research report (Forbes, 2018) bear witness to the digitalisation of the global stage:

- 450 billion transactions in B2C or B2B will take place every day in 2020
- 2 million google searches are made every minute
- 500 million Tweets are posted on Twitter every day
- 144 billion emails are sent every day
- 26 billion connected objects will generate data permanently in 2020

Need to understand the impact of this data driven phenomenon (for example, each individual creates 30 emails a day on average) in companies that need to manage the acquisition of information , time and resource



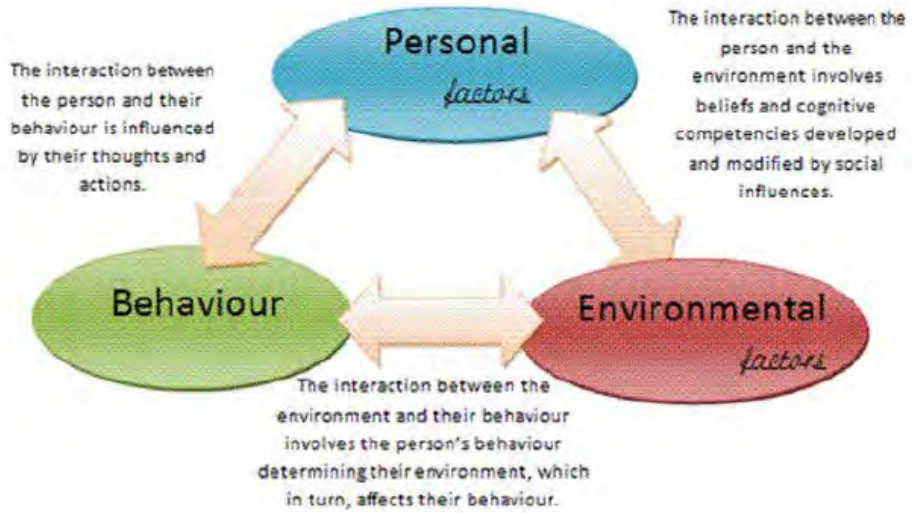
B2B Digital Transformation - (Clifft, 2018)

Context for Change

Reflection on practice leads to:

- a closer examination of the contexts of our clients' lives
- the contexts of our practices
- the systematic factors that influence both of these.

Building insight through reflection can provide a foundation for our actions, **"as we advocate for our clients and for systemic change"** (Kinsella, 2001).

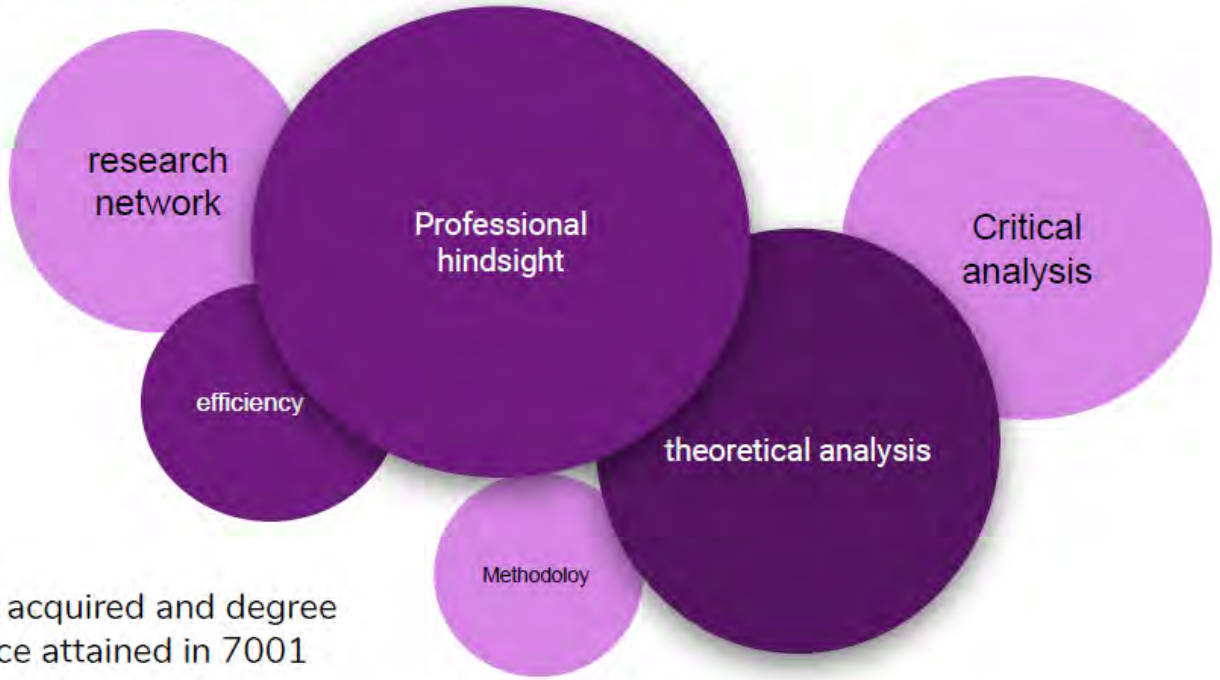


SOCIAL COGNITIVE THEORY

ADKAR CHANGE MODEL

Models to test through the research project

A reflection on my personal development



Competence acquired and degree of competence attained in 7001

Competence to acquire and degree of investment to attain for 8002, 8003 8004

Next steps

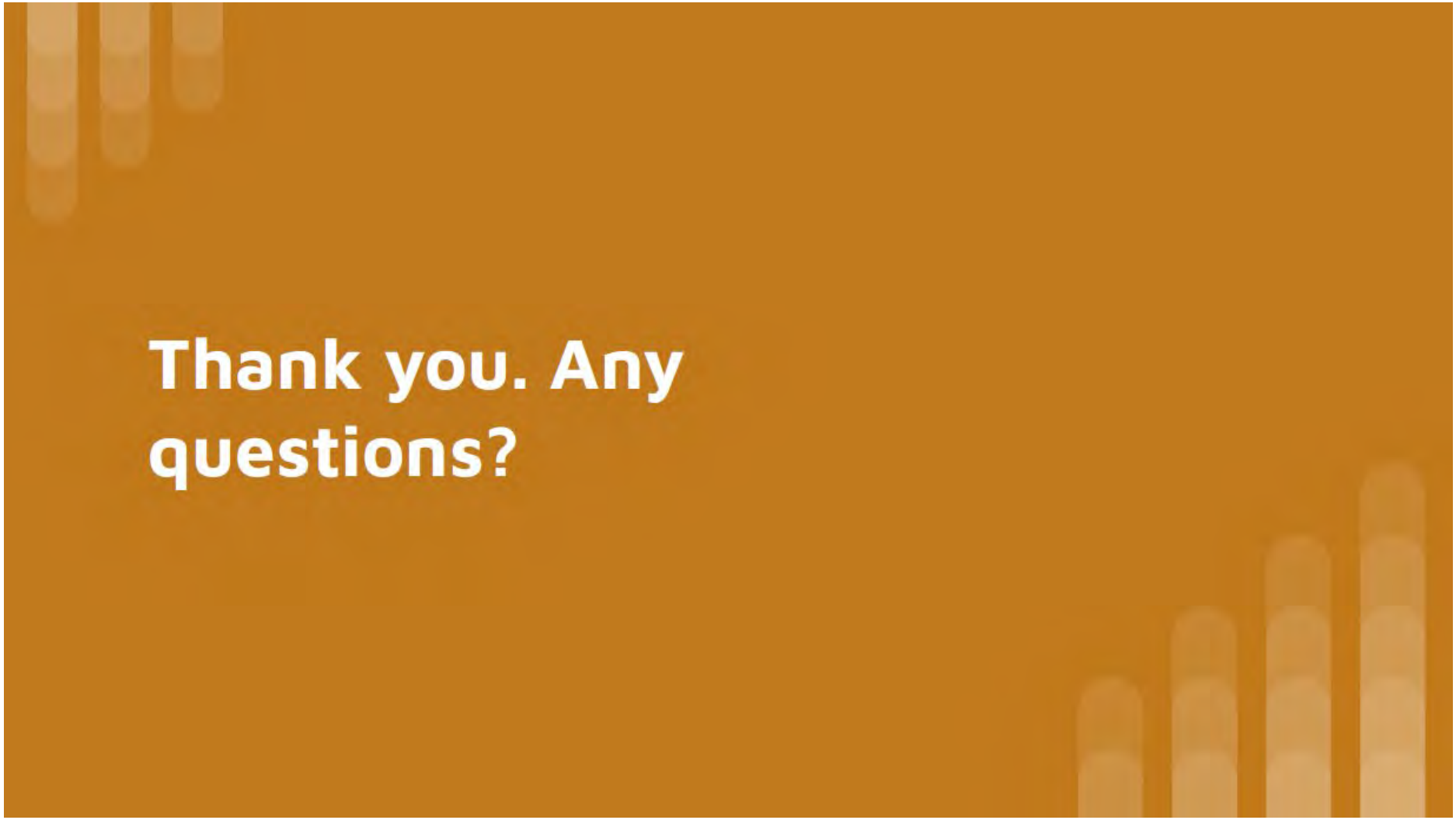
Literature Review completed with feedback and modifications made

Reflective practice to be completed on the literature review

Methodology chosen (Grounded Theory)

Pilot completed

April - May - data collection for project - interviews with sales team at BIG, and then qualitative semi-guided interviews with senior managers and customers in industrial SMEs to triangulate my data analysis


Thank you. Any
questions?

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Appendix 6. 8001 Reflective Presentation

OUTLINE

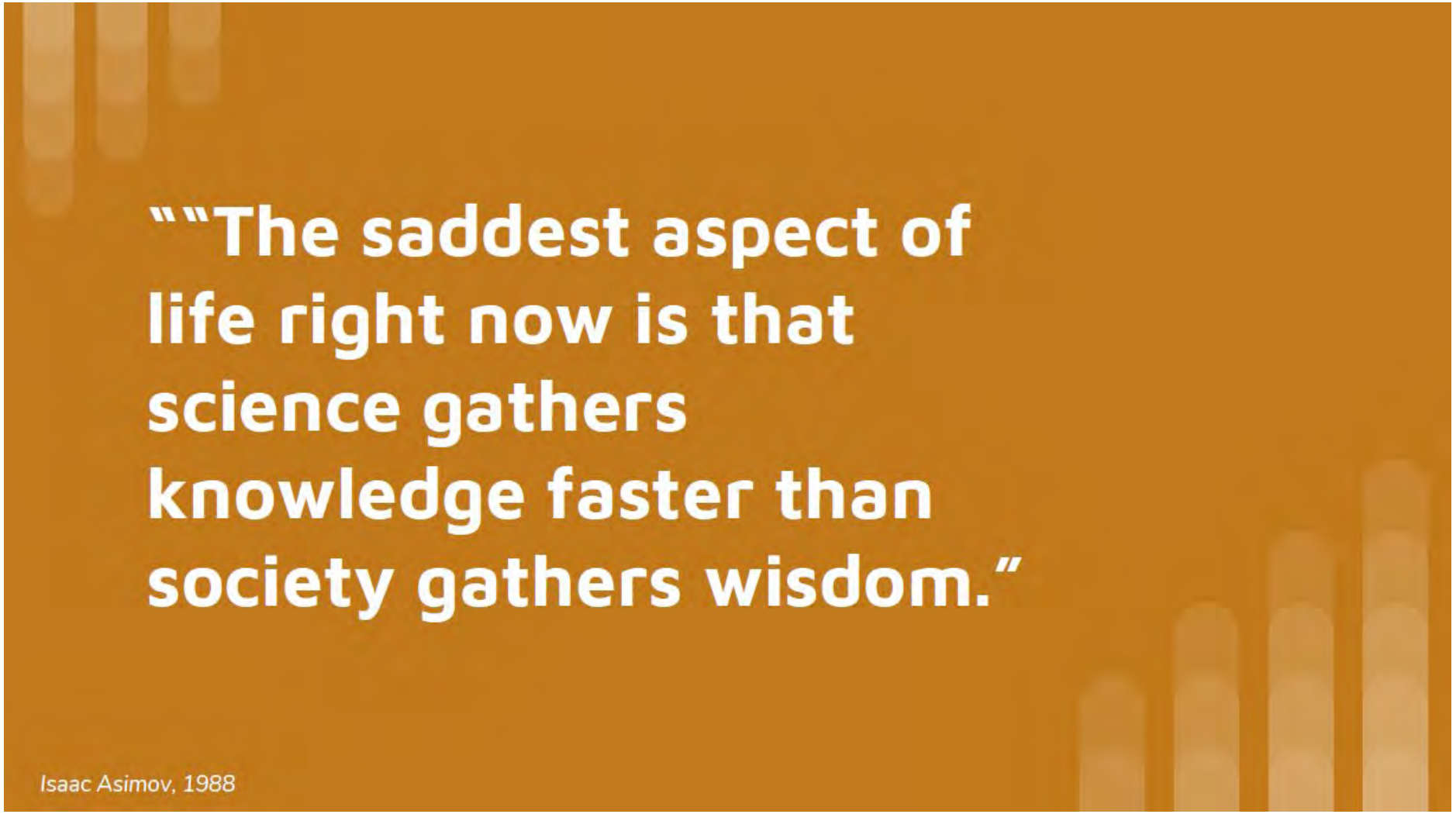
A reflection on Literature - Building a path to knowledge

An academic foundation to change

Reviewing and revising my research project

An update on my personal development program

Next steps


""The saddest aspect of life right now is that science gathers knowledge faster than society gathers wisdom."
Isaac Asimov, 1988

A theoretical lens on Digital transformation

"By three methods we may learn wisdom: First, by reflection, which is noblest; Second, by imitation, which is easiest; and third by experience, which is the bitterest." (Conficius cited by Hinnett,2002)

Building a central path to knowledge

"We learn more and more about less and less until we know everything about nothing."

Extant literature supports the centrality of the literature review (Boote & Beile, 2005)

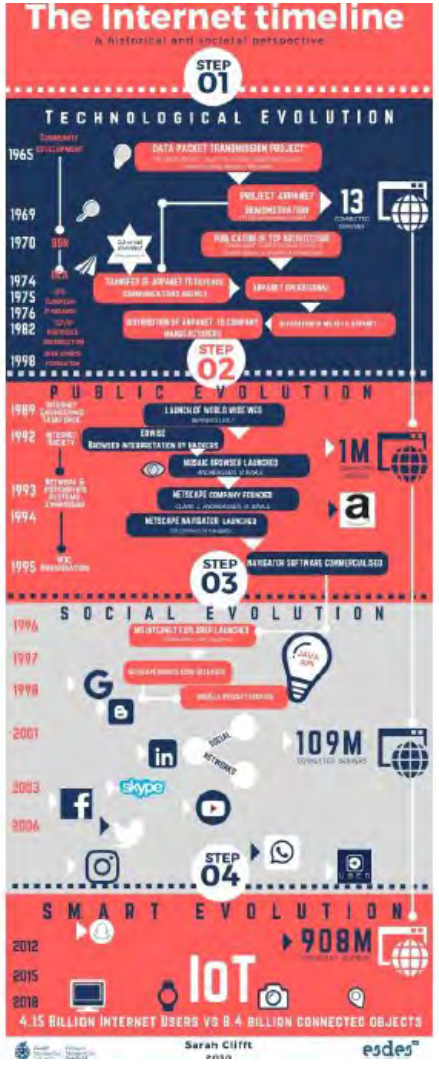
Many doctoral dissertations fail to master the literature that is supposed to be the foundation of their research

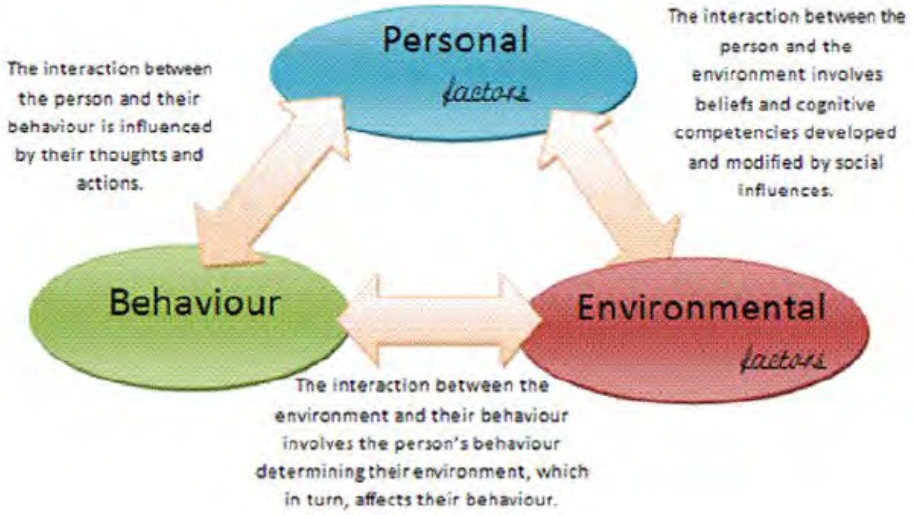
We are scholars before we are researchers (Boote & Beile, 2005)

Impossible to appropriate sophisticated research if understanding of phenomena is rudimentary (Richardson, 2003;Schoenfeld, 1999)

Shifting a proble to build more insight in order to be theoretically sophisticated (Strike & Posner, 1983)

The beginning of a historical perspective





SOCIAL COGNITIVE THEORY

ADKAR CHANGE MODEL

Models to test through the research project

Reflection on 8002 (Gibb's model)

DESCRIPTION	Developing a history of the internet and its impact on societal behaviour. COnstructing a path to knowledge (Boote et *al*, 2005)
FEELINGS	Positive approach - level of confidence and sense of progression. Real sense of purpose (Moon, 1999).
EVALUATION	Participation in poster symposium and First Global Value conference enabled access to professional insight and feedback . Collective feedback is constructive in the development of the subsequent steps of the research project (Jarvis, 1999)
ANALYSIS	Assessment of my research project and the fine tuning of my problematic. Examining the incidence of digital transformation on behavioural performance
CONCLUSION	The notion of change is time consuming, progressive and transversal. Reflection on its impact over 2 years examining my research subject has helped build clarity (Wheatley, 2000) in the next steps of my research
ACTION PLAN	To build on pilot project work and finalise project implementation

A reflection on my personal development

Next steps

8003 Methodology chapter draft completed, project outline to write up

Pilot completed

Data analysis in process with project implementation

Thank you. Any questions?

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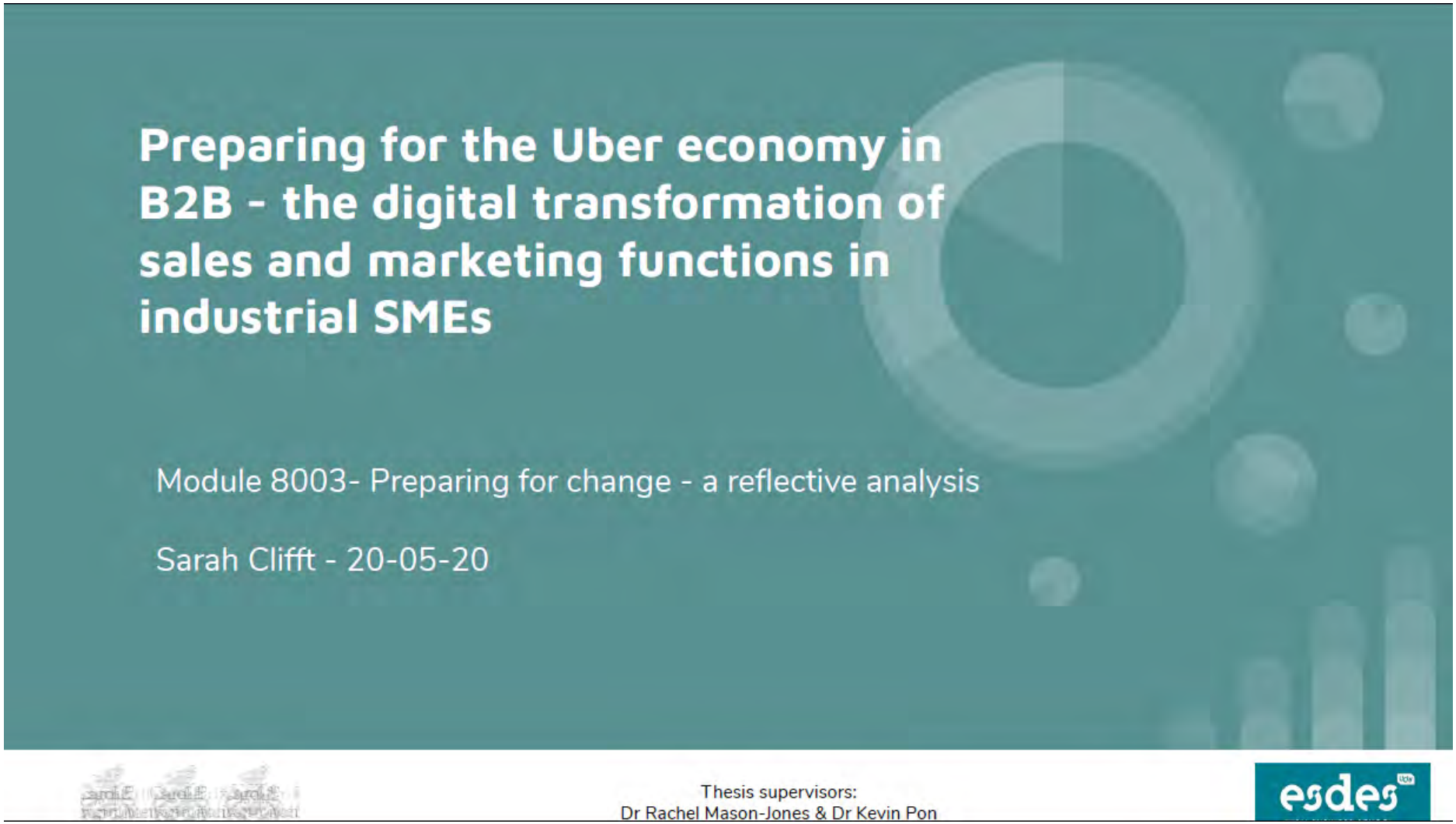
Appendix 7. 8003 Reflective presentation



OUTLINE

A methodological perspective

The choice of pilot project

The challenges in data collection and analysis

Preparing for the change project

An update on my personal development program


"Reality cannot be broken down into well-defined components "
Gummesson, 2005

Reflecting on research design

The choice of qualitative research to study **behavioural adaptation** of the digital transformation of a function. The study is not determining *why this adaption* has occurred, but how it has been adopted in a specific environment context.

A need to develop conceptual linkages to incidents and provide an accurate socio-historical context in order to explain the research framework (Flick, 2013; Kumar, 2019)

The proposed study observes longitudinal study of behavior, where data is built from multiple variants in a social environment. (Gummesson, 2005)

A long term observation to enable the collection of behavioural data and its analysis in order to inform and instruct the change project design

Preparing 8003

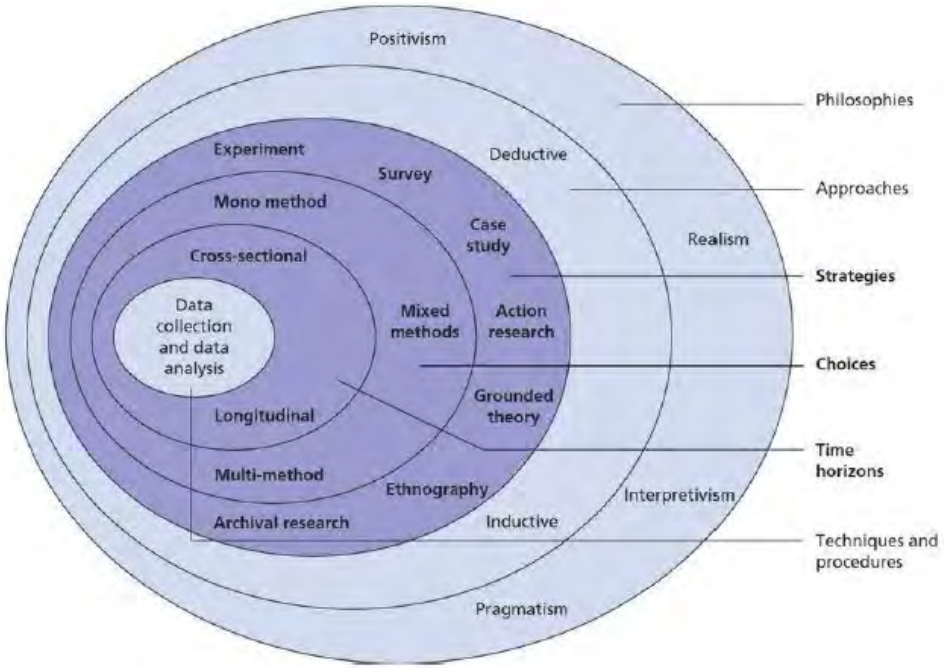
Start with :

“Not everything that can be counted counts,and not everything that counts can be counted“ (Albert Einstein)

Professional and academic considerations

In research as in professional practice, we must choose a methodological approach....but we must choose wisely

Reflecting on research philosophy



Saunders, Lewis and Thornhill, 2009, p. 108

From a philosophical standpoint

A need to identify and comprehend the idea of change influencing human's power to control and transform information within environments of increasing complexity, which will ultimately shape their social future and professional context

Constructivism as an ontological viewpoint enabled me to develop more precisely a critical analysis of the context and how I portray it in my results

Interpretavism vs positivism and realism and pragmatism

The pilot project - professional obstacles and challenges

Subjectivity of the participant and the researcher's potentially biased observation

Ethical considerations of anonymity and confidentiality -

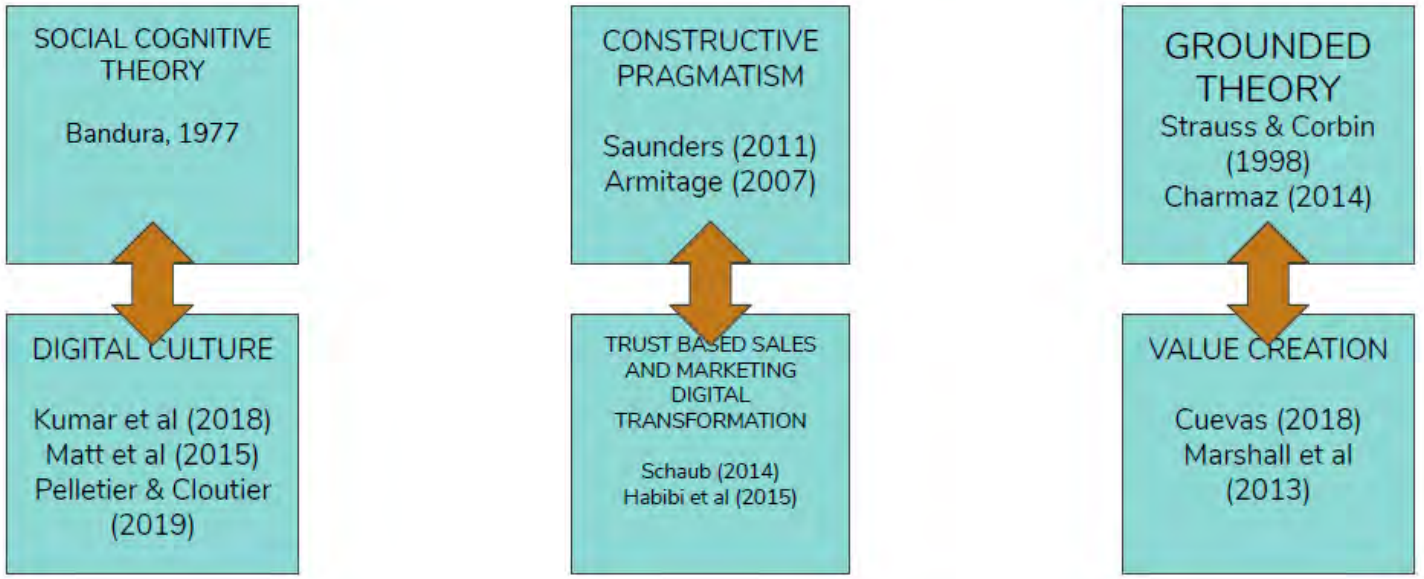
Rejecting previous choices : the limitation of linear prioritization in the ADKAR model.

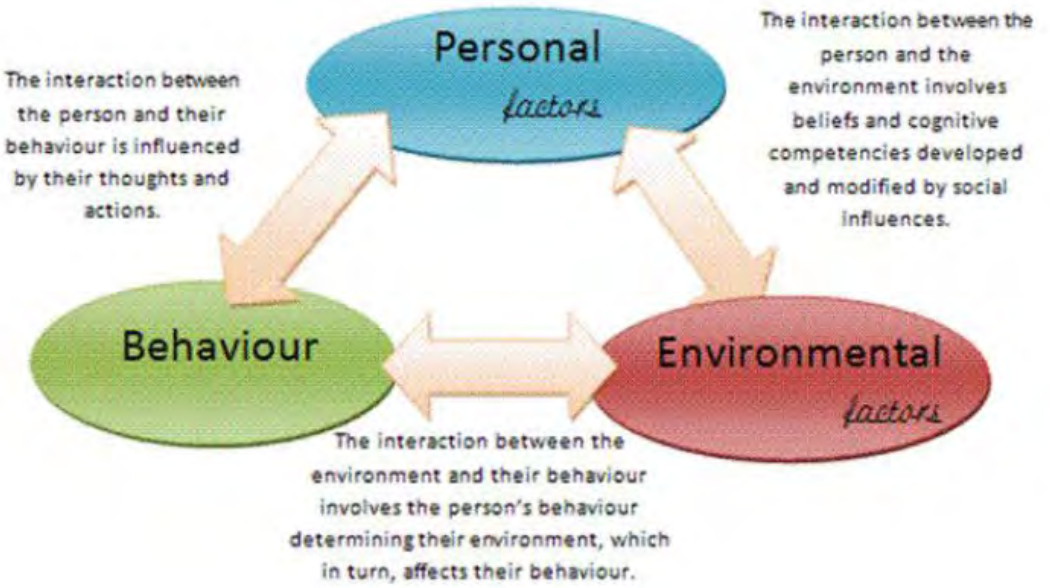
Determining how to adjust project design in a fast evolving environment

- Grounded Theory
- Continued observation
- Constant interaction and feedback to the company

Qualifying the change project

Professional skillset and Academic theory mirroring

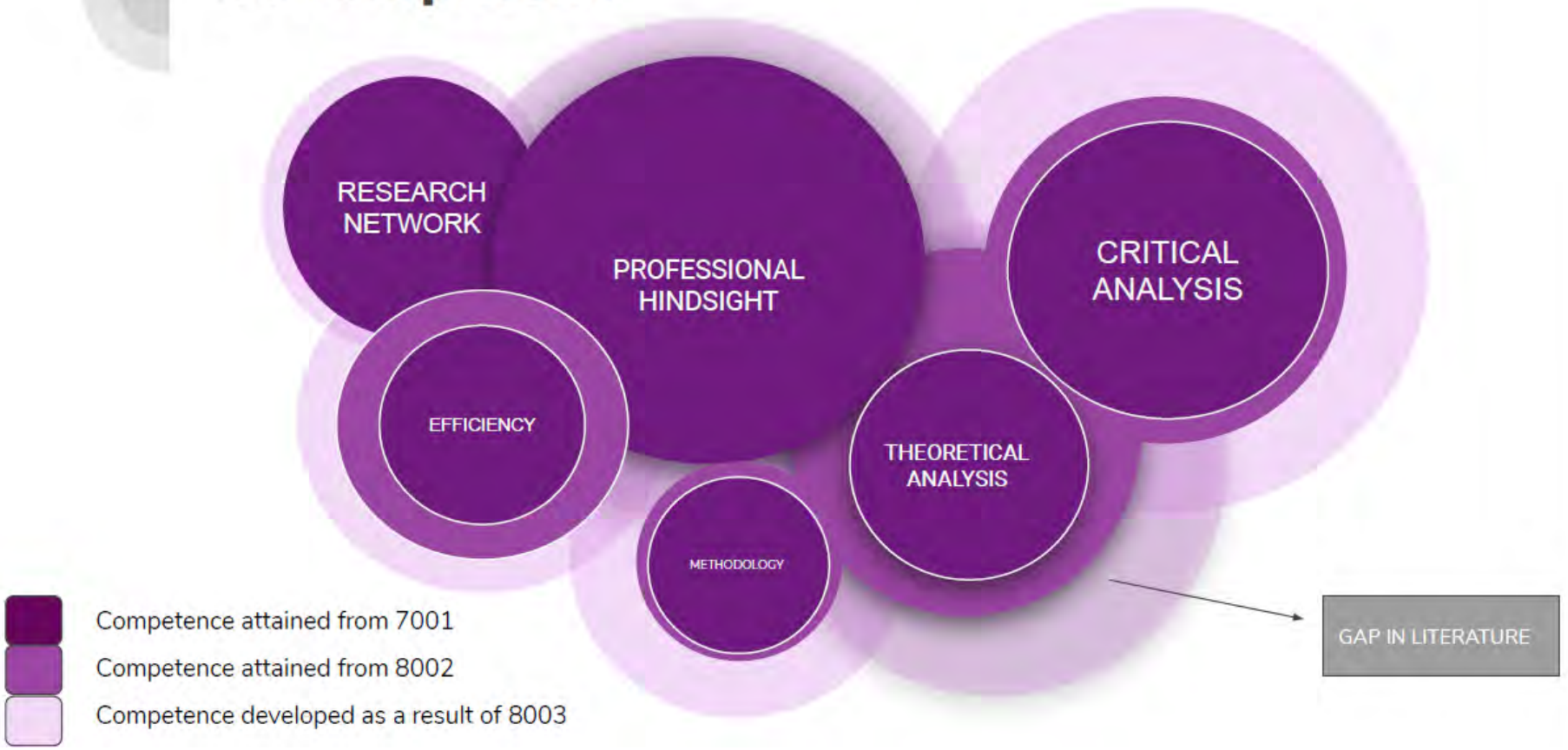




SOCIAL COGNITIVE THEORY

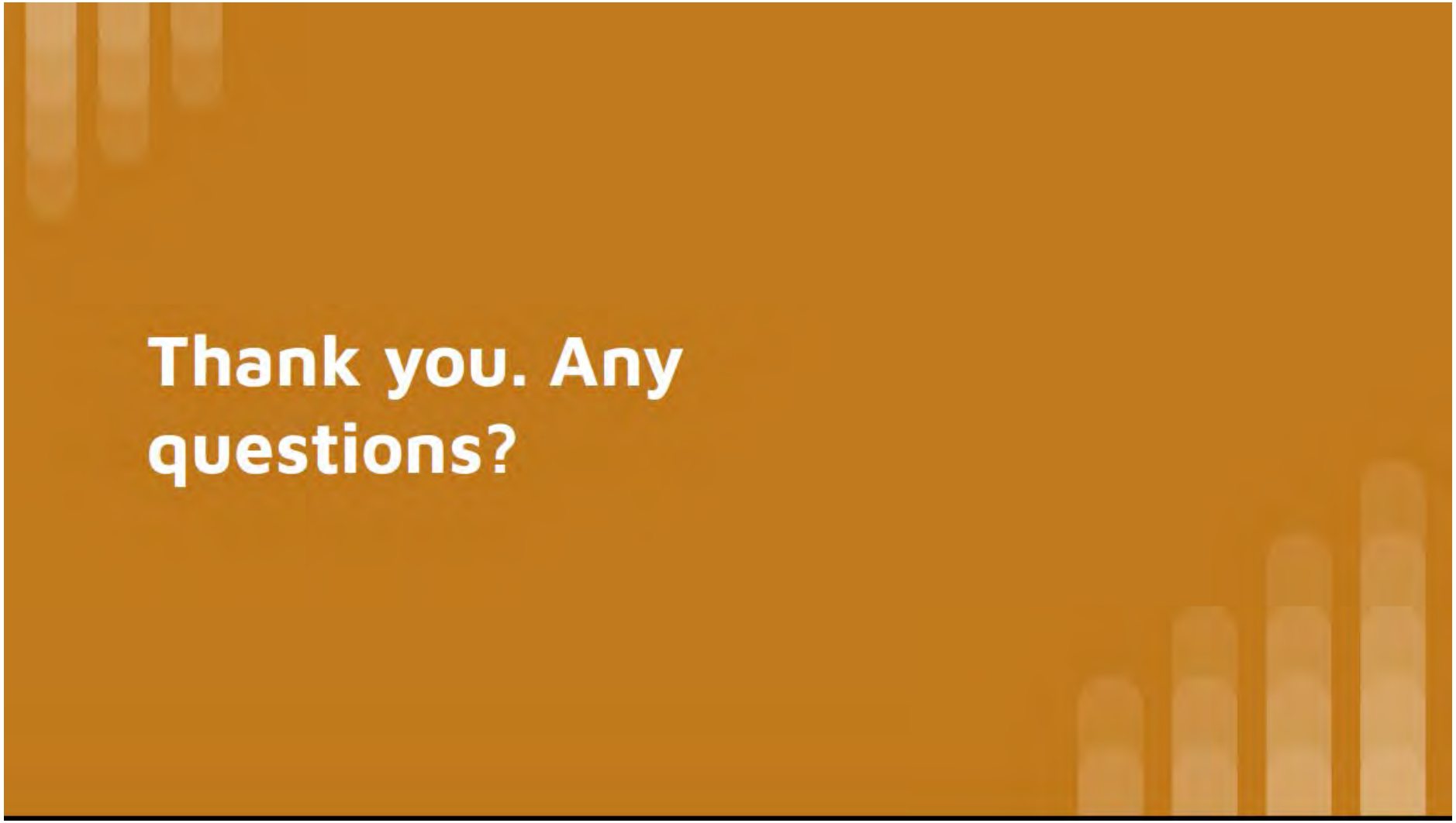
Models to adopt for Change project + Self Efficacy Theory

A reflection on my personal development



Reflection on 8003 (Gibb's model)

DESCRIPTION	Developing a constructivist methodology design for pilot project (Charmaz, 2014)
FEELINGS	Mixed feelings - time and motivation build barriers to progression .
EVALUATION	Research seminar internally at business school and regular input in Reseearch group. Collective feedback is constructive in the development of the subsequent steps of the research project (Jarvis, 1999)
ANALYSIS	Stand back to review my pilot project and be able to explain it - ensure its validity and any ajustments to be made for final change project
CONCLUSION	The notion of change is time consuming, progressive and transversal. Reflection on its impact over 3 years examining my research subject has helped build clarity (Wheatley, 2000) in the next steps of my research
ACTION PLAN	To complete data analysis of change project and finish my Professional Doctorate!


Thank you. Any
questions?

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Appendix 8. Social Media Behavioral change analysis

BIG LinkedIn activity over time, broken down by activity

Column1	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Grand Total
Likes EXT	59	29	55	63	47	21	74	62	125	139	78	87	839
Likes INT	86	46	73	46	41	38	65	109	179	126	107	133	1049
OWN BIG REF	1	3	3	1	1	0	2	7	3	4	1	5	31
OWN NO REF	1	0	0	0	0	0	0	2	1	3	3	0	10
Shares EXT	4	0	1	13	3	2	0	0	3	1	8	2	37
Shares INT	35	17	35	21	15	16	39	60	58	69	38	82	485
Social Dialogue	2	0	1	4	2	2	2	3	7	2	0	2	27
Grand Total	188	95	168	148	109	79	182	243	376	344	235	311	2478

BIG LinkedIn activity over time broken down by Function and Individual

Column1	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Grand Total
Direction	42	15	70	45	37	20	42	45	97	93	69	73	648
Etienne Caparos	11	1	5	6	5	4	9	11	16	20	22	22	132
Yann Renck	5	1	14	6	7	7	3	12	6	10	11	8	90
Lilian Argouze	9	3	11	1	2	2	4	3	6	4	3	8	56
Didier Meggiolaro	17	10	40	32	23	7	26	19	69	59	33	35	370
Marketing	53	26	33	24	8	12	27	41	90	63	54	83	514
Laetitia Jacob	49	26	33	24	8	12	27	41	62	59	40	50	431
Marie Petit	4	0	0	0	0	0	0	0	28	4	14	33	83
Sales	93	54	65	79	64	47	113	157	189	188	112	155	1316
Francis Mauger	25	8	17	16	15	17	26	37	31	38	20	45	295
Gilles Monat	11	6	1	5	1	2	13	34	64	47	24	21	229
Johan Davignon	10	7	4	19	12	0	10	19	26	32	11	29	179
Jorge Faustino	4	1	6	0	0	1	8	7	6	5	7	5	50
Pierre Sangouard	43	32	37	39	36	27	56	60	62	66	50	55	563
Grand Total	188	95	168	148	109	79	182	243	376	344	235	311	2478

Pivot Table

Sum of NB	Étiquettes de colonnes												
Étiquettes de lignes	mars-19	avr-19	mai-19	juin-19	juil-19	août-19	sept-19	oct-19	nov-19	déc-19	janv-20	févr-20	Total général
Marketing	53	26	33	24	8	12	27	41	90	63	54	83	514
Likes EXT	6	0	0	4	0	0	1	0	6	1	7	6	31
Likes INT	34	18	28	15	7	10	18	29	61	43	33	38	334
OWN BIG REF	0	0	0	0	0	0	0	0	0	0	0	0	0
OWN NO REF	0	0	0	0	0	0	0	0	1	0	1	0	2
Shares EXT	1	0	0	2	0	0	0	0	1	0	0	1	5
Shares INT	11	8	5	3	1	2	8	12	21	19	13	37	140
Social Dialogue	1	0	0	0	0	0	0	0	0	0	0	1	2
Sales	93	54	65	79	64	47	113	157	189	188	112	155	1316
Likes EXT	32	18	18	31	24	14	50	45	67	87	35	46	467
Likes INT	39	26	29	25	28	25	38	67	93	63	56	71	560
OWN BIG REF	1	2	3	1	1	0	2	6	2	4	1	5	28
OWN NO REF	1	0	0	0	0	0	0	2	0	2	2	0	7
Shares EXT	1	0	0	5	1	1	0	0	1	0	5	1	15
Shares INT	19	8	15	15	8	7	22	35	22	31	13	31	226
Social Dialogue	0	0	0	2	2	0	1	2	4	1	0	1	13
Total général	146	80	98	103	72	59	140	198	279	251	166	238	1830

Appendix 9. Research information sheet for change project

RESEARCH INFORMATION SHEET FOR MAIN RESEARCH INTERVIEWS

For the main research semi structured interviews will take place with employees at the studied SME and also with a number of their suppliers and customers. These interviews will remain anonymous and will form the data collection for my final report. These interviews will be divided into three parts. The first part concentrates on the professional profile and experience of the participants. The second section is based on their function in their current company and finally a third section which questions their own perception of the digital transformation of their own function and their company.

Highlights of first part

Introduction

1. Professional background
2. Daily responsibilities and methods of activity organisation
3. Priorities in daily activities
4. Qualities required to fulfil job function
5. Participant's understanding of the term 'client relationship'
6. Participant's understanding of the term 'Account Management'
7. Participants understanding of the term 'Customer centricity'

Company and position in company

8. Descripition of industry
9. Innovation in the industry
10. Understand participants perception of company offering (product or service offering)
11. Understand participant's perception of company value and uniqueness of that value
12. Understand company's client profile and contacts within clients
13. Understand interactions (frequency, type of support, purpose)
14. Analysis of that interaction (qualify the quality and value)
15. Company's methods of valuation of client relationship
16. Client decision making journey
17. Methods of incoming contact of prospects and client
18. Effectiveness of interaction
19. The role of word of mouth
20. Client's expertise – type of interaction (informed decisions, random queries, advanced decision based, relationship build)

21. The role of face to face meetings in heavy industry

Digital transformation

1. Participants understanding of the term Industry 4.0
2. Understanding of its application to their industry sector
3. Role of Artifical intelligence, IoT and Client oriented automation
4. Participants feelings on their perception of digital transformation of their activity

- Participants view of digital transformation in client focused activities
- Particpants perception of value impact that DT will have on their activity based on their perception of company's value (from beginning of interview)
- Understanding of the term "Digital transformation of sales and marketing"
- Perception of how to measure client focused activities that are digitalised and the importance of this activity
- Justification for DT in sales in marketing in industrial SMEs
- Added value of digital tools (which) in sales and marketing
- Impact of DT and the client relationship
- Impact of DT on the client decision making process

The future of Digital Transformation

Participants will need to consider the following themes:

Collaboration in industry

The evolution of their role in the future

The strategic importance of certain digital tools

The relevance of the proposed definition of the Uber Economy in B2B companies

Appendix 10. Participants information sheet for change project.

Participant Information Sheet for Main Research Interviews

STUDY TITLE : Professional Doctorate : 'Preparing for the Uber Economy in B2B' and my research question is: How does the Digital transformation of sales and marketing functions impact the value proposition of industrial SMEs?

We would like to invite you to take part in the above named research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please therefore take time to read the following information carefully

This interview (which will remain anonymous) will contribute towards the data collection for my thesis. To remind you, the subject of my thesis is: 'Preparing for the Uber Economy in B2B' and my research question is: How does the Digital transformation of sales and marketing functions impact the value proposition of industrial SMEs?'.

You have been selected to take part in this interview because of your professional profile and experience within the SME industrial space. Your opinion and comments will therefore be pertinent to the field of study. This interview will be divided into three parts. The first part concentrates on your sales and marketing experience. The second section will gather your insight on the client relationship paradigm and the third section on your perception of the digital transformation in industry. At any moment you may ask me to stop the transcription if there is anything you wish to convey confidentially. The questions are on the whole open-ended to allow you the freedom to explore each subject without constraint. I am in a position to record the interview but should you prefer for me to transcribe directly the interview without recording it please say so now. In which case the duration will be about 1h15mins.

You will have the opportunity to review what has been written should you so wish, but for reasons of accurate data recording I would request that your initial comments be maintained. You do of course have the right to request any passages to be omitted. You also have the right to withdraw your consent for the use of your data captured during the interview. You will need to complete the Withdrawal Form which gives you specific details on what will happen to your data and in what delay. Please bear in mind that once this interview is completed the data will be anonymised and grouped for analysis with other interviews that are taking place. Be aware that depending on the timing of your request to withdraw your data, will have a bearing on what action I am able to take. For example, once I have anonymised and analysed data it is often not possible to extract a specific participant's data. I will leave a week between the interview and data anonymisation in order to allow you a period of reflection. The data will be stored on my hard disk drive and also the Cardiff Met University OneDrive platform for a period of 10 years. The only potential risk is that this data could be hacked or stolen through cybertheft. Please bear in mind that this risk is minimal and the data will be in an anonymised state once on the university platform. On my hard disk drive it will remain in its raw state for 1 week and then will be saved in an anonymised format

I thank you for taking the time to read these instructions. The data collected will contribute to findings in the development of research around the specific area of Digital Transformation of industrial SME and will enable me to complete my Professional Doctorate

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Should you have any further questions about this process of data collection you may contact Cardiff Met University directly at :

I am the sole researcher on this area of study and there are no funders involved in the data collection. The project has been approved by the Cardiff Metropolitan University Ethics Committee

If you are happy with these instructions then we may begin.

Below is a highlight of the subjects to be discussed.

Highlights of first part

Introduction

1. Professional background
2. Daily responsibilities and methods of activity organisation
3. Priorities in daily activities
4. Qualities required to fulfil job function
5. Participant's understanding of the term 'client relationship'
6. Participant's understanding of the term 'Account Management'
7. Participants understanding of the term 'Customer centricity'

Company and position in company

8. Descripition of industry
9. Innovation in the industry
10. Understand participants perception of company offering (product or service offering)
11. Understand participant's perception of company value and uniqueness of that value
12. Understand company's client profile and contacts within clients
13. Understand interactions (frequency, type of support, purpose)
14. Analysis of that interaction (qualify the quality and value)
15. Company's methods of valuation of client relationship
16. Client decision making journey
17. Methods of incoming contact of prospects and client
18. Effectiveness of interaction
19. The role of word of mouth
20. Client's expertise – type of interaction (informed decisions, random queries, advanced decision based, relationship build)
21. The role of face to face meetings in heavy industry

Digital transformation

1. Participants understanding of the term Industry 4.0
2. Understanding of its application to their industry sector
3. Role of Artifical intelligence, IoT and Client oriented automation
4. Participants feelings on their perception of digital transformation of their activity

- Participants view of digital transformation in client focused activities

- Particpants perception of value impact that DT will have on their activity based on their perception of company's value (from beginning of interview)
- Understanding of the term "Digital transformation of sales and marketing"
- Perception of how to measure client focused activities that are digitalised and the importance of this activity
- Justification for DT in sales in marketing in industrial SMEs
- Added value of digital tools (which) in sales and marketing
- Impact of DT and the client relationship
- Impact of DT on the client decision making process

The future of Digital Transformation

Participants will need to consider the following themes:

Collaboration in industry

The evolution of their role in the future

The strategic importance of certain digital tools

The relevance of the proposed definition of the Uber Economy in B2B companies

Appendix 11. Ethics approval form for pilot project

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APPLICATION FOR ETHICS APPROVAL

When undertaking a research or innovation project, Cardiff Met staff and students are obliged to complete this form in order that the ethics implications of that project may be considered.

If the project requires ethics approval from an external agency (eg NHS), you will not need to seek additional ethics approval from Cardiff Met. You should however complete Part One of this form and attach a copy of your ethics letter(s) of approval in order that your School has a record of the project.

The document ***Ethics application guidance notes*** will help you complete this form and is available from the Ethics Governance Section of the Cardiff Met website. The School or Unit in which you are based may also have produced some guidance documents which you can access via your supervisor or School Ethics Coordinator.

Once you have completed the form, sign the declaration and forward to the appropriate person in your School or Unit.

PLEASE NOTE:
Participant recruitment or data collection MUST NOT commence until ethics approval has been obtained.

PART ONE

1A: GENERAL INFORMATION	
Name of applicant:	Sarah Clifft
Supervisor (if student project):	Rachel Mason Jones
School / Unit:	Cardiff School of Management
Student number (if applicable):	ST20094326
Programme enrolled on (if applicable):	Professional Doctorate
Project Title:	Preparing for the Uber Economy in B2B - the digital transformation of sales and marketing functions in industrial SMEs
Expected start date of data collection:	01/03/2019
Approximate duration of data collection:	3 months
Funding Body (if applicable):	Bordas Industrial Group, France
Other researcher(s) working on the project:	If your collaborators are external to Cardiff Met, include details of the organisation they represent.
Will the study involve NHS patients or staff?	No
Will the study involve human samples and/or human cell lines?	No

1B: DATA COLLECTION AND STORAGE

What types of data will you collect or create?	
The data collection will comprise observations of participants actions which will be recorded in an Excel Spread sheet. The log of actions will contain precise detail of the action, the duration of the action completed and the outcome, suggested next action. The data will be anonymous; only the function of the participant will appear in the spreadsheet	
How will you manage access to and security of the data?	
This data will be stored on my computer hard drive as well as the Lyon Catholic University OneDrive under my account. I also have a back up on my Google which is double password protected	
Will the data collected be subject to the data retention protocols of any of the following bodies? • Human Tissue Authority (HTA) • Health and Care Research Wales (HCRW) • Applications involving the NHS which will be submitted via IRAS	
Yes ☐ For any project which is subject to the data retention protocols of an external body listed, you must develop a data storage plan to be submitted alongside this document for consideration by your School or Unit Ethics Panel.	
No ☒ Please confirm that the data collected will be stored in a manner which complies with Cardiff Met requirements via one of the following declarations.	
DECLARATION 1: FOR STUDENTS ON TAUGHT COURSES I confirm that any non-anonymised data related to research participants will only be stored on OneDrive and that all data held elsewhere will be deleted, unless it is anonymised.	☒
DECLARATION 2: FOR STAFF APPLYING ON BEHALF OF STUDENTS ON TAUGHT COURSES I confirm that all students covered by this application are aware of their obligation to ensure that non-anonymised data related to research participants must only be stored on their Cardiff Met student OneDrive account and that all data held elsewhere must be deleted, unless it is anonymised.	☐
DECLARATION 3: FOR RESEARCH STUDENTS AND STAFF I confirm that any non-anonymised data related to research participants will be stored in a secure manner (using a platform such as OneDrive or FigShare) and that all data held elsewhere will be deleted unless it is anonymised.	☐

1C: Does your project fall entirely within one of the following categories:	
Paper based, involving only documents in the public domain	No
Laboratory based, not involving human participants, human samples, animals or animal derived material	No
Practice based not involving human participants (eg curatorial, practice audit)	No
Compulsory projects in professional practice (eg Initial Teacher Education)	No
A project for which external approval has been obtained (e.g., NHS)	No

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APPLICATION FOR ETHICS APPROVAL

If you have answered YES to any of these questions, expand on your answer by providing a non-technical summary of no more than 150 words. No further information regarding your project is required.
Click here to enter text.
If you have answered NO to all of these questions, you must complete Part 2 of this form

DECLARATION: **I confirm that this project conforms with the Cardiff Met Research Integrity & Governance Framework** **I confirm that I will abide by the Cardiff Met requirements regarding confidentiality and anonymity when conducting this project.** **STUDENTS: I confirm that I will not disclose any information about this project without the prior approval of my supervisor.**	
Signature of the applicant: 	Date: 11/02/2020
FOR STUDENT PROJECTS ONLY	
Name of supervisor:	Date:
Signature of supervisor:	

Research Ethics Committee use only	
Decision reached:	Project approved ☐ Project approved in principle ☐ Decision deferred ☐ Project not approved ☐ Project rejected ☐
Project reference number: Click here to enter text.	
Name: Click here to enter text.	**Date:** Click here to enter a date.
Details of any conditions upon which approval is dependant: Click here to enter text.	

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APPLICATION FOR ETHICS APPROVAL

PART TWO

A RESEARCH DESIGN	
A1 Will you be using an approved protocol in your project?	No
A2 If yes, please state the name and code of the approved protocol to be used[1]	
Click here to enter text.	
A3 Describe the research design to be used in your project	
The pilot project is an observational study of the behaviour of participants in their professional environment and an analysis of their interactions with internal and external 'clients' (clients includes customers, partners, suppliers, colleagues) and their use of digital tools. The purpose of this activity is to record their choice of tools: phone, smartphones, emails and project management software as well as their human interaction, to fulfil their daily tasks. The type of action and its duration will be recorded (if necessary remotely using video conferencing tools) in order to analyse time spent doing mission critical or expert oriented tasks and less critical actions to identify what tasks could be automated through digitalisation. From this data collected I will analyse the performance impact of these tools on their work (time saved, resource optimised, financial gain. I will be using mixed methods in Grounded Theory methodology. Non-participative continuous observation will be used for the pilot project over several intervals during a period of three months for Module DOC8003 of the Prof Doc. The pilot will be undertaken with 10 participants who consented to be observed twice. All candidates have given written voluntary consent to participate. Raw data will be collected in an Excel file. It will then be cleaned to ensure a homogenous structure and no errors in data capture (Werk, 2017). Afterwards the data will be labelled and coded as it is collected using constant comparison methods (record raw data, compare with existing data, adjust, go back and collect the data until saturation of data comparison) to enable a comprehensive categorization of each piece of data (Charmaz, 2014). A multivariate analysis of the data will be undertaken as the project is studying and measuring participant behaviour and relations (human and digital) and this involves observation and analysis of more than one statistical outcome variable at a time. Any subsequent secondary data collection and analysis done will be undertaken with documents of no particular sensitive nor confidential content (aon the Internet in public domain eg: social networks).	
A4 Will the project involve deceptive or covert research?	No
A5 If yes, give a rationale for the use of deceptive or covert research	
Click here to enter text.	
A6 Will the project have security sensitive implications?	No
A7 If yes, please explain what they are and the measures that are proposed to address them	
Click here to enter text.	

B PREVIOUS EXPERIENCE
B1 What previous experience of research involving human participants relevant to this project do you have?
None, only paper based research
B2 **Student project only** What previous experience of research involving human participants relevant to this project does your supervisor have?
Rachel Mason-Jones has undertaken research involving human participation and has supervised many research projects at both Masters and Doctorial level.

[1] An Approved Protocol is one which has been approved by Cardiff Met to be used under supervision of designated members of staff. For details of protocols in use in your School or Unit, contact your Ethics Coordinator

Kevin Pon has undertaken research involving human participation and has supervised many research projects at Masters level.

C POTENTIAL RISKS
C1 What potential risks do you foresee?
The only potential risks are a lack of participants willing to participate both externally and internally to the company. A second potential risk is that Bordas Industrial Group runs into financial difficulty and cannot engage with the research
C2 How will you deal with the potential risks?
I have regularly meeting with the company's management team and have their buy in for internal participants to cooperate. For external participants I have the back up from the Catholic University of Lyon to provide me with a network of participants should the first group of contacts be unsuccessful.

When submitting your application you **MUST** attach a copy of the following:

- All information sheets
- Consent/assent form(s)
- Withdrawal of consent form

An exemplar information sheet, exemplar participant consent form and exemplar participant withdrawal form are available via the research section of the Cardiff Met website (see section on Ethics Governance). These are based on good practice and will be useful in the majority of cases. However, it is recognised that in some cases a project will be subject to requirements from an external body. Use of these exemplars is therefore not obligatory.

Appendix 12. Ethics approval form for chang project

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APPLICATION FOR ETHICS APPROVAL

When undertaking a research or innovation project, Cardiff Met staff and students are obliged to complete this form in order that the ethics implications of that project may be considered.

If the project requires ethics approval from an external agency (eg NHS), you will not need to seek additional ethics approval from Cardiff Met. You should however complete Part One of this form and attach a copy of your ethics letter(s) of approval in order that your School has a record of the project.

The document ***Ethics application guidance notes*** will help you complete this form and is available from the Ethics Governance Section of the Cardiff Met website. The School or Unit in which you are based may also have produced some guidance documents which you can access via your supervisor or School Ethics Coordinator.

Once you have completed the form, sign the declaration and forward to the appropriate person in your School or Unit.

PLEASE NOTE:
Participant recruitment or data collection MUST NOT commence until ethics approval has been obtained.

PART ONE

1A: GENERAL INFORMATION	
Name of applicant:	Sarah Clifft
Supervisor (if student project):	Rachel Mason Jones
School / Unit:	Cardiff School of Management
Student number (if applicable):	ST20094326
Programme enrolled on (if applicable):	Professional Doctorate
Project Title:	Preparing for the Uber Economy in B2B - the digital transformation of sales and marketing functions in industrial SMEs
Expected start date of data collection:	01/06/2020
Approximate duration of data collection:	1 month
Funding Body (if applicable):	Bordas Industrial Group, France
Other researcher(s) working on the project:	No
Will the study involve NHS patients or staff?	If yes, attach a copy of your NHS application to this form
Will the study involve human samples and/or human cell lines?	No

1B: DATA COLLECTION AND STORAGE

What types of data will you collect or create?
Primary data – qualitative research using semi guided interviews. Transcripts will be recorded and input into NVivo for analysis Secondary statistical data will be collected from a longitudinal study of the Social Media platform Linked IN which is not associated to a participant's name or identity.
How will you manage access to and security of the data?
Data will be stored on my University OneDrive and also on my hard disk which is password protected
Will the data collected be subject to the data retention protocols of any of the following bodies? • Human Tissue Authority (HTA) • Health and Care Research Wales (HCRW) • Applications involving the NHS which will be submitted via IRAS
Yes ☐ For any project which is subject to the data retention protocols of an external body listed, you must develop a data storage plan to be submitted alongside this document for consideration by your School or Unit Ethics Panel.
No ☒ Please confirm that the data collected will be stored in a manner which complies with Cardiff Met requirements via one of the following declarations.

DECLARATION 1: FOR STUDENTS ON TAUGHT COURSES I confirm that any non-anonymised data related to research participants will only be stored on OneDrive and that all data held elsewhere will be deleted, unless it is anonymised.	☒
DECLARATION 2: FOR STAFF APPLYING ON BEHALF OF STUDENTS ON TAUGHT COURSES I confirm that all students covered by this application are aware of their obligation to ensure that non-anonymised data related to research participants must only be stored on their Cardiff Met student OneDrive account and that all data held elsewhere must be deleted, unless it is anonymised.	☐
DECLARATION 3: FOR RESEARCH STUDENTS AND STAFF I confirm that any non-anonymised data related to research participants will be stored in a secure manner (using a platform such as OneDrive or FigShare) and that all data held elsewhere will be deleted unless it is anonymised.	☐

1C: Does your project fall entirely within one of the following categories:	
Paper based, involving only documents in the public domain	No
Laboratory based, not involving human participants, human samples, animals or animal derived material	No
Practice based not involving human participants (eg curatorial, practice audit)	No
Compulsory projects in professional practice (eg Initial Teacher Education)	No

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APPLICATION FOR ETHICS APPROVAL

A project for which external approval has been obtained (e.g., NHS)	No
If you have answered YES to any of these questions, expand on your answer by providing a non-technical summary of no more than 150 words. No further information regarding your project is required.	
If you have answered NO to all of these questions, you must complete Part 2 of this form	

DECLARATION: **I confirm that this project conforms with the Cardiff Met Research Integrity & Governance Framework** **I confirm that I will abide by the Cardiff Met requirements regarding confidentiality and anonymity when conducting this project.** **STUDENTS: I confirm that I will not disclose any information about this project without the prior approval of my supervisor.**	
Signature of the applicant: S. Cliff	Date: 25/05/2020
FOR STUDENT PROJECTS ONLY	
Name of supervisor:	Date:
Signature of supervisor:	

Research Ethics Committee use only	
Decision reached:	Project approved ☐ Project approved in principle ☐ Decision deferred ☐ Project not approved ☐ Project rejected ☐
Project reference number: Click here to enter text.	
Name: Click here to enter text.	**Date:** Click here to enter a date.
Details of any conditions upon which approval is dependant: Click here to enter text.	

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APPLICATION FOR ETHICS APPROVAL

PART TWO

A RESEARCH DESIGN	
A1 Will you be using an approved protocol in your project?	No
A2 If yes, please state the name and code of the approved protocol to be used[1]	
Click here to enter text.	
A3 Describe the research design to be used in your project	
I will be using qualitative analysis within my Grounded Theory methodology. I will interview 10 managers and Directors in BIG and 10 managers and Directors from a cross set of industrial SMEs that are a similar profile to BIG and/or clients of BIG. These will be in-depth interviews of 45-1h long (which can take place using video-conferencing) as well as online semi directed qualitative questionnaires for those participants who cannot be physically present. I will be interviewing a cross section of industry professionals from industrial SMEs. I will use these interviews to collect industry opinion on the notions of value within a client focused role, the actual digital transformation that is being implemented in their own company, as well as their view of the digital transformation of sales and marketing in industry as a whole (versus digital transformation OF industrial production processes). The data collected will then be input into nVivo for content analysis. This licence is on my hard disk and is password protected. Through these interviews I will gain collective intelligence on my proposed definition of the Uber Economy in the B2B sector. This information will be input into the final change project and a number of professional guidelines into the digital transformation of industrial SME sales and marketing teams will be proposed.	
A4 Will the project involve deceptive or covert research?	No
A5 If yes, give a rationale for the use of deceptive or covert research	
Click here to enter text.	
A6 Will the project have security sensitive implications?	No
A7 If yes, please explain what they are and the measures that are proposed to address them	
Click here to enter text.	

B PREVIOUS EXPERIENCE
B1 What previous experience of research involving human participants relevant to this project do you have?
No previous experience, only paper-based research prior to this Professional Doctorate
B2 **Student project only** What previous experience of research involving human participants relevant to this project does your supervisor have?
Rachel Mason-Jones has undertaken research involving human participation and has supervised many research projects at both Masters and Doctorial level. Kevin Pon has undertaken research involving human participation and has supervised many research projects at Masters level

C POTENTIAL RISKS
C1 What potential risks do you foresee?
The only potential risks are a lack of participants willing to be observed and/or their desire to disengage. A second potential risk is that Bordas Industrial Group runs into financial difficulty and cannot engage with the research With the current COVID19 pandemic it is necessary to perform all interviews remotely via telephone or mail in order to respect the sanitary requirements whilst social distancing measures are in place
C2 How will you deal with the potential risks?

[1] An Approved Protocol is one which has been approved by Cardiff Met to be used under supervision of designated members of staff. For details of protocols in use in your School or Unit, contact your Ethics Coordinator

I work closely with the Managing Director to get Director level support and participate in the monthly Executive meeting to communicate on procedings and to anticipate any resource or time sensitive issues

When submitting your application you **MUST** attach a copy of the following:

- Consent/assent form(s)
- Withdrawal of consent form
-
-

An exemplar information sheet, exemplar participant consent form and exemplar participant withdrawal form are available via the research section of the Cardiff Met website (see section on Ethics Governance). These are based on good practice and will be useful in the majority of cases. However, it is recognised that in some cases a project will be subject to requirements from an external body. Use of these exemplars is therefore not obligatory.

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