

Digital Transformation: Incorporating
social and human extensions into
change models

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Naser A. Ziadeh
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Declaration

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

Naser Ziadeh

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Abstract

This study is about incorporating social and human dimensions of the organisation into change models to support technology enabled change, also known as digital transformation. Organisations often manifest change through projects. Despite utilizing change models and frameworks, the rate of failure remains as high as 80%, leading to estimated financial losses of \$900B USD a year, in addition to non-financial losses such as opportunity cost, change fatigue, loss of confidence and poor morale. Studies show that the majority of the root causes of failure are non-technical; yet change models and frameworks focus on the technical aspects, providing little guidance to the non-technical aspects (i.e. social and human). This study explores this omission with the aim of developing extensions to improve the success rate of organisational change.

The context of the study is two multi-national organisations undergoing digital transformation: a telecommunication provider and a financial institution. The researcher, by virtue of his role as digital transformation leader, is embedded in both organisations which facilitates a deeper understanding of the change context and more informed interpretation of observations and data. Action Research principles support the researcher's dual role and provide rigor and validity. The study uses Mixed Methods to collect data: two focus-groups sessions with 14 to 20 participants in each and 11 semi-structured interviews with change leaders. The researcher recognizes the ethical implications and tensions associated with Action Research, and maintains vigilance and balance throughout.

The study outcomes represent proposed extensions to change models and are model agnostic. They include language, definitions of 'social' and 'human' aspects of organisational change, themes supporting social and human dimensions of change, weaving of the themes into a practical workflow, and a stakeholder categorization framework mapped to power of influence spectrum. In addition, an interconnected Organisational Model - Human, Business, and Environment - is presented.

The proposed extensions aim to improve the success rate of digital transformation and as a result, contribute to boosting productivity, reducing operating costs and improving organisational performance.

Definition of Terms

The following table defines terms and phrases used in the context of this study. The definitions aim to clarify the author's intention in using the term(s) and to facilitate understanding of the study's discourse, motivation, context and outcomes.

Term	Definition
Social	Refers to attributes and concerns beyond the individual employee; could be a team, a group or the entire organisation. Social can have micro and macro perspectives, so long as the issues and concerns transcend the individual. For example, language, cultures, and subcultures, decision making and level of bureaucracy, organisational politics/conflict resolution, cross-group collaboration and orchestration
Human	Attributes, characteristics, and dimensions (technical or otherwise) of change relevant to the individual employee, regardless of the level of hierarchy. Examples of attributes are: <ul style="list-style-type: none"> • Technical: roles and responsibilities, knowledge and competencies, understanding and readiness • Non-technical: Values/needs/motivation, biases/preferences, quality of relationships Each of the attributes can be mapped to the organisational layers: Application, Business, and Technology
Socio-human factors	Refers to the combined social and human aspects of the organisation, of the change process and of the change models
Enterprise Architecture	The organisation-wide roadmap to achieve an organisation's mission through the optimal performance of its core business processes within an efficient Information Technology (IT) environment (Schekkerman, 2011)

Digital Transformation	The use of technology that generates, stores, and processes data to achieve a fundamental change to an organisation's day-to-day business, across the value-chain, from the types of products and services that it produces to how it delivers them
TOGAF	The Open Group Architecture Framework
BDN	Benefits Dependency Network

Chapter One: Introduction to the Study

Digital transformation refers to the change associated with the application of digital technology into all aspects of human life, society and organisations. Speed of change is a key characteristic of digital transformation (Peppard, 2016). There are two types of organisational change: transformational and incremental. Transformation change is more fundamental change, requiring changes to the operating model, products, services, and value propositions. This type of change is liberated from the current state of the organisation, also known as the AS-IS. This type of change results in a different type of organisation and different measures of success. Incremental change is rooted in the AS-IS, reactive in nature and fixes or improves the AS-IS (Saade, 2013). While Saade (2013) provides a mutually exclusive pathways of change, Peppard (2016) suggests that it is conceivable for the two pathways to intersect where a collection of incremental changes lead to transformation and refers to the phrase digital as euphemism for digital technology. This study adopts Peppard's (2016) approach for defining technology enabled change.

Considering the speed of technological innovation, organisations change and adapt continuously to remain competitive, but effective organisational change seems to be rare (Moore, 2019; Hays, 2018; Peppard, 2016; Pietrese, Caniels, Homan 2012). Organisations considering or undergoing change tend to focus on the technical elements such as processes, structures, and technologies. The people aspect of change remains narrow, often focusing on defining roles and responsibilities of individuals and team and neglect the broader perspective of 'human' and 'social' aspects of the organisation. When an organisation undertakes change, whether major or minor, it is important to balance human and organisation needs because personal change inevitably drives organisational change. In other words, individual change is essential for organisational change to proceed (Kotter, 2012). Transformation and change leaders should be aware of how thought processes influence people's behaviour and attitude, and that of their peers, towards change.

Both scholar and practitioners argue that people have higher inclination towards change (or accepting to make change happen) when they are able to visualize a 'line of sight' linking what they do and the change. This metaphorical 'line of sight' influences their feelings and is

more likely to produce supportive attitude. On the other hand, organisational change is likely to be less successful when people are 'given' and 'spoon-fed' information intended to shift their thinking. Kotter (2012) states that thought processes influence behaviour and the approach of spoon-feeding information tends to limit the through processes that drive engagement. The result is that people are less engaged [in the change process] and exhibit a higher level of resistance to change.

Typically, organisations achieve change through discrete and or integrated projects. Discrete projects are standalone projects with no dependency on other projects. Integrated projects consist of a portfolio of projects with inter dependencies. Therefore, for purposes of this study, the atomic unit of organisational change is a project. Change is then achieved by implementing one or more projects. Some might be technology driven; others might not be. Nonetheless, there is strong evidence that a significant percentage of projects do not meet their stated objectives. The implication is that the project(s) either totally or partially fails (Moor, 2018; Pankratz and Basten, 2013).

Kotter (2012) states that over two thirds of change projects fail due to non-technical root causes. Pankratz and Basten (2013) support Kotter's view. According to their study, investigating and categorizing the root causes of project failures, of the 56 categories, greater than 80% are non-technology related. Hladik (2013) examined the failure of Enterprise Architecture (EA) projects and found that 70% of such projects fail to meet all or part of the stated objectives. EA projects typically have broad-scope and consider the entire organisation as a holistic system. Peppard (2016) assert similar ratios of failed projects. Peppard cites that a lack of alignment among stakeholders and a lack of clear linkage between project objectives and stakeholders as two factors which contribute to project failures. Accordingly, there seems to be a common consensus among scholars and practitioners that the overwhelming root causes are non-technical in nature. The common strand seems to be that neglecting or not sufficiently considering the 'people' aspect of the organisation in projects is the most significant root cause of failure (Hladik 2013; Pankratz, Oleg and Basten, Dirsk 2013).

Non-technical refers to factors that are not related to the products (software solutions) being implemented. Instead, the phrase refers to 'people' and 'processes' (Pankratz and Basten, 2013). Processes are typically reflective of people taken actions.

Building on the above, this study explores organisational change and examines the 'people' aspects of the change. The study divides the people aspect into two categories in order to clarify and, if required, isolate the factors affecting change. The two aspects are the social and the human aspects of the organisation. The first refers to team, groups, and the organisation at large including culture, values, mission, and vision. The latter refers to the individual, their own beliefs, values, perceptions, biases, interpersonal relationships, competencies, skills, and readiness. Therefore, the social aspect offers a macro-view of factors influencing change, while the human aspect offers micro-view (at the individual level) of the factors influencing change.

In order to establish the theoretical foundation underpinning this study, the study takes a broad perspective on organisation and its social and human aspects through the examination of Organisation Theory, Organisational Behaviour Theory, and Organisation Change Theory. It then focuses on the intersection of three fields of scholarly work where this study is situated.

The logic underpinning this study is as follows:

- Organisations need to change to stay relevant, competitive, and grow (change is inevitable)
- Organisations realize change by implementing projects (the atomic aspect of change)
- There is ample evidence in the literature and practice that significant percentage of change program (a portfolio of one or more projects) fail due to non-technical reasons, rather than due to neglecting or insufficient consideration of 'people' aspects
- Organisation Theory, Organisational Behaviour Theory, Change Management Theory and empirical evidence emphasize the important role of 'people' in change programs
- However, there is evidence of lack of focus on people (social and human) aspect of the organisation in the different change management approaches (Hladik, 2013; Saade and Wan, 2013; Al-Haddad, Kotnour and Timothy, 2015)
- Therefore, it is reasonable to hypothesise that the omission of deliberate consideration of the social and human aspects of the organisation during the change process is the root cause of failure

Table 1.1

Hypothesis based on deductive logic to motivate this study

Types of change

An enterprise invests significant time and resource to grow, compete, and respond to regulatory requirements, market demands, changing workforce, technological disruptions, business model disruptions, geo-political changes, and economic imperatives such as the collapse of the financial and housing markets in 2008. Ashok, Narula and Martinez-Noya (2016, p.1), state that 'Radical and incremental innovations (change) are key constituents of a firm's strategy to sustain competitive advantage. Together they strengthen the future innovation paths available to a firm.'

These and other factors compel organisations to continuously improve, change, and transform. Daft et al. (2010, p.10) describe an organisation as social entities that are goal-oriented, designed as deliberately structured and coordinated activity systems, and are linked to the external environment. The social entities is a critical part of the definition in that it is cultural, political, and economic phenomena. Organisations are comprised of people who are able to interpret their situations and are capable of ignoring or resisting demands made of them. Resistance can be at an individual or collective level but is often subtle and difficult to control. This aspect of the organisation ('social entities') is an anchor to this research.

The cliché 'the only constant is change' tends to be an accepted reality in today's business environment. There are two levels of change, one that bring incremental improvement (Incremental Change), and while important and relevant to the survivability of the organisation, it is grounded in the AS-IS state and its constraints. Incremental change leads to an improved version of the existing organisation. Success of change is measured by efficiencies in speed, cost, or quality. The other type of change is transformational in nature. Transformation starts with a vision and deep understanding of the AS-IS state. However, the organisation is liberated from existing constraints imposed by the AS-IS state. The vision paints a picture of the future organisation. The outcome is a different organisation and therefore success will have different points of reference some of which may be efficiencies. Figure 1.1 illustrates the differences between Change and Transformation. While recognizing the differences and subtleties between incremental and transformation change, the phrases 'change' and 'transformation' are used interchangeable because both instances will affect and or be impacted by 'people' (Lewis, 2019).

Regardless of whether change is incremental or transformational, organisations require planning (strategic and tactical). Scholars and practitioners hold the viewpoint that strategic change requires a deeper and broader understanding of the organisation in order to be sustainable (Aler, 2013; Daft 2007; Pugh 1997; Mullins 2013). The primary goal of any strategic planning is the transformation of an organisation from its current state to an improved state within a particular period. Strategic planning that leads to successful change within any organisations is complex. The speed of change and advancement in information

technologies are key driver for strategic change; together with a wide variety of planning frameworks, organisations find it challenging to manage transformation projects. The study views transformation of an organisation from two inter-related perspectives: (a) the Enterprise Architecture and (2) Change Management. Strategic planning is therefore a “continuing process” (Saade and Wan, 2013, p.1) that is evolutionary and dependent on the organisation’s cultural ecosystem.

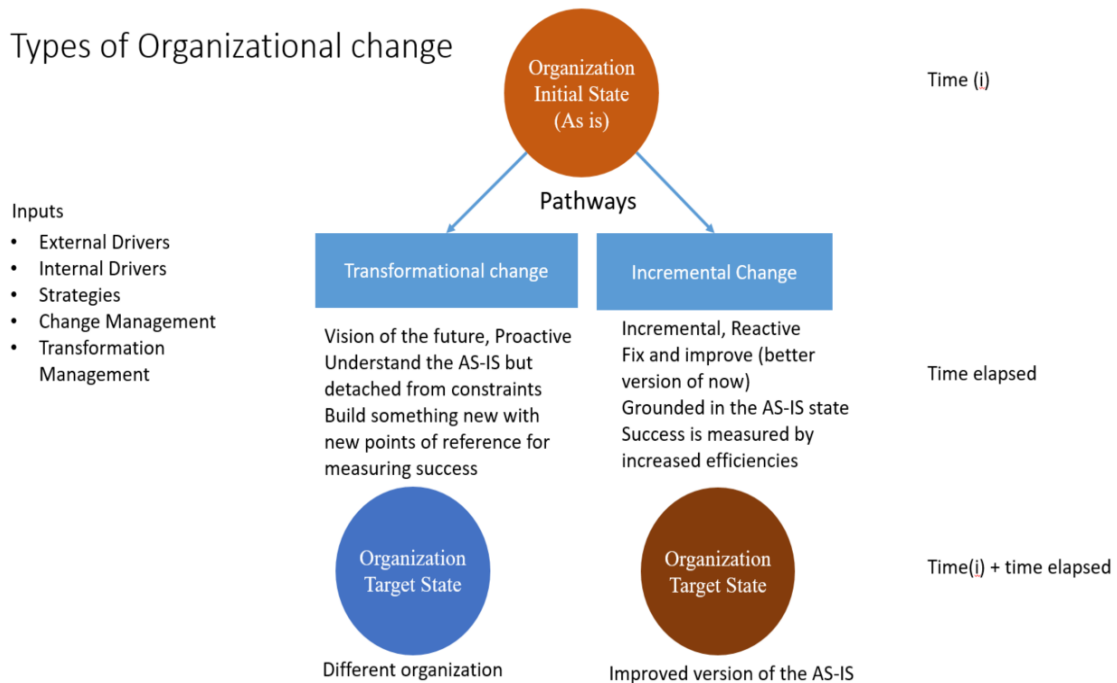


Figure 1.1 Organisation change: incremental vs transformation

*Adaptation of Saade (2013) depiction of Organisational Transformation

Drivers that compel organisations to transform can be Internal Drivers and or External Drivers. Ward et al. (2004, p.21) defines drivers as “a view held by senior managers as to what is important to the business, in a given timescale, such that they feel changes must occur.” A key characteristic of a driver is that it “cannot be changed or made to go away. They exist independently of any kind of program or project.” (Ward et al. 2004, p.22). Programs and projects are what an organisation chooses to do to address the driver(s).

Regardless of the type of drivers igniting the need for change, an organisation’s culture, values, vision, mission and structure guide and directly influence the processes that organisations utilize. Hammer and Champy (2001) explain that there are two approaches to implementing change:

- 1) Engineering approach
- 2) People approach

Organisations tend to utilize both aspects. The Engineering approach is *process oriented* with its genesis located in Business Process Engineering (BPR). Process approach is widely used in industry and academia; however, Chen (2002, p.78) argues that one of the main reasons for failure of BPR projects is “the neglect of the human element.” The approach takes excessive account of the scale of change and fails to consider such change through people. Similarly, Corrigan (1996) states that given BPR’s focus on business processes, there is a lack of attention given to the human dimensions of organising, emphasising how employees, not just processes must be ‘re-engineered’ or ‘debugged’ if the organisation to run effectively.

The People approach to change brings a focus on ‘soft’ and less tangible aspects of change. It tends to be post-mortem, after the fact and reactionary in nature of people’s feelings and response change. Hammer and Champy (2001) stress that the human and people aspect of the organisational change is the overwhelming issue. Therefore, proactive consideration of ‘people’ is fundamental to achieving sustainable change.

Human and Social Aspects of Change

Organisations that only pay attention to the business side of an organisational change and ignore the more important human side run the risk of losing the benefits of the changes implemented. Companies that fail to incorporate people issues into their change initiatives are likely to miss their objectives of achieving successful change (Iacovini, 2019). Such missed opportunity may lead to undesired outcomes such as the decline of employee morale and loyalty, loss of productivity, and wasted resources, which in turn will lead to decreased competitiveness. Organisations then begin to suffer from ‘change fatigue’ making it more difficult to revive or initiate future change programs (Mullins, 2013).

Iacovini (2019) argues that too often, organisations give lip service to the human side and focus their attention on the business side, because many top managers find business issues more comfortable to deal with than people issues. This is consistent with Hladik (2013) and

Kotter's (2012) findings that organisations, while well intended, fail to place sufficient emphasis on the 'human' side of change. Instead, they place greater emphasis on the business side of change.

Research shown that few quality-improvement efforts go beyond lip service (Iacovini, 2019). Such a laser focused emphasis on the 'business' side of change and a lack of tangible incorporation of the human and social side of the organisation into organisational change creates an imbalance in the implementation often leading to project failures. This provides a partial explanation to Pankratz et al.'s (2013) findings that the root causes of high rate of projects failures are non-technical.

To draw a parallel, customers when conducting transactions with businesses, have two expectations: 1) that the product and services rendered address their requirement, and 2) that their customers' experience be pleasant and that their needs be met with empathy and respect. Organisations strive to create balance between cost, quality and customer experience (address human needs) in order to remain commercially viable. Similarly, employees inside the organisation have expectations. They expect empathy, respect, security and an innate human need to be part of something. The emotional vulnerability that accompanies organisational change can be stressful and likely to have detrimental effect if ignored. When planning for and implementing change programs, an organisation can improve their odds of success by acknowledging and explicitly incorporating the human needs into their programs while balancing the needs of the business and people (Iacovini, 2019; Senior, et al., 2016; Robbins et al., 2015; Mullins, 2013).

Researchers and practitioners both state the importance of 'people' in relation to organisational change. Organisations, as business entities, also recognize the importance of people. Change models acknowledge the importance of 'human' side of change (Prosci, 2016; Kotter, 2012; Iacovini, 2019). Studies show that the majority of projects fail due to non-technical causes (Pankratz and Basten, 2013). There is plethora of change models that claim to be 'people' focused. However, according to Adhikari (2017), their recognition and articulation of people tends to be superficial.

On reflection, these findings give rise to an obvious yet fundamental question.

- Why do organisations not put greater emphasis on ‘people’ when embarking on organisational change?
- Why do popular change models provide only superficial recognition of ‘people’ instead of providing deep and broad guidance?

These questions, among others, are fundamental to this study. The present study examines these questions in more detail and provides insights in subsequent chapters.

However, to motivate and enable this study, the notion of ‘people’ in the context of organisations, has two components: 1) Human refers to the individual and 2) Social refers to organisational structure beyond the scope of an individual, namely, team, groups, and the organisation at large. This distinction enables the research to focus and examine concerns, attributes and characteristics with specific scope (individual, group/organisation) and teasing out the differences, where relevant. Recognizing and understanding these differences could help identity and capture the essence of how individuals and team interact and make decision. The differences manifest themselves during the course of the change process.

Human side of change is singular and refers to the individual with three characteristics:

1. Personality focus on the ‘soft’ aspect of the individual and includes morals, principles, values and ability to relate those values to the broader organisational values, personal aspirations, communication style, and attitude towards change.
2. Abilities and Capabilities: This is the functional aspect of the individual and reflect: role, responsibility, skillset, knowledge, experience, and aptitude.
3. Relationships: this dimension concerns the individual’s interpersonal relationships with peers, managers, and the overall organisation.

The human component of change could be considered at the application level, meaning consideration for personality types, abilities level, and relationship richness required could be different based on the type of change the organisation plans to undergo. This can be considered the micro-level view of change because the scope of concern and focus is the individual.

The social component of change is plural, reflecting a broader scope including team, groups, and the organisation at large, and is characterized as follows:

- 1) Organisational Culture: norms and rules, roles, policy, regulation, company practices, knowledge, decision making processes, level of autonomy
- 2) Systems of measurements that support cross-collaboration
- 3) Communication Strategy

As the social side of change is plural, it affects all change programs. It is strategic in nature as it transcends a particular project or change initiative.

In summary, the rate of project failure is high due in part to complex organisation consisting of complex social and human systems and processes. By dissecting the organisation into individual and groups, the researcher is able to understand and isolate the nuances and the factors most critical to enabling successful change.

Implementing Change

As scholars and professionals embark on journeys of transformation, innovation and change, a number of issues arise which form the basis of the research question underpinning this study. The issues in relation to the implementation of organisational change are summarised into three categories:

Complexity

Change programs require substantial investments and recognition that change must take its course. People, both individually and collectively, must be involved in the process and brought along for the entire journey. The interplay between the social and human aspect of the organisation requires recognition and active interventions. Typically, the size and length of change programmes raise considerable needs for strategic and operational policies, frameworks, and tools to promote continuity and measurable outcomes. Three additional factors contribute to increased complexity:

- 1) *Link between individual and outcomes*: There is a need to clearly articulate the value of the change and to link the desired results to the aspirations of the individual (human) and the team/organisation at large (social).
- 2) *Cultural change*: Research shows that change programs fail because there is an under-appreciation of the complexity, breadth and cost of transition to a new operating model. It is often assumed that by providing broad communication and sparse training, individuals and team will seamlessly integrate and adopt the new operating model.
- 3) *Inconsistency of approach*: The approach to the planning and implementation processes can vary across a portfolio of change programs (projects). These variations can generate barriers to the easy adoption of change particularly in situations where common taxonomy of 'social' and 'human' consideration is absent.

Capacity

Successful change programmes require cross-organisational collaboration where resources work together in unison and at the same pace. A key challenge is to identify and empower 'champions' (individual and team who support the change) early on in the process. This helps facilitate bottom up change and foster positive spirits among the stakeholders.

Capability

This primarily consists of the ability and readiness of enterprise to articulate its transformation objectives and drive change. While incremental change programmes may have a limited scope of impact, larger scale transformational programmes can have broader and deeper implications, particularly as they relate to individual, team and organisational readiness. A process for defining and testing the fresh organisational vision is likely to be useful in informing internal policies and planning, particularly as it relates to individual's skillset, competencies and core values. Transformation programmes call for a wide range of resources and stakeholders to collaborate towards a common aim. This requires constructing a medium that is consistent with a 'community of practice' (Wenger 1998) to facilitate communication and collaboration among a group of multi-disciplinary specialists and experts, each with their own background, cultures, perception and perspectives; yet

unified by a common goal of driving towards successful change. Wenger (1998) suggests that a 'community of practice' involves transcending the technical knowledge or skills associated with a given project. The realisation of the ideals of a 'community of practice' requires transparency for useful facilitation, sharing of experiences, and constructing of knowledge. The dynamic of this working group presents a challenge to the leadership team in ensuring lucid communication among all participants through policies, processes, and frameworks for successful implementation of the organisational vision. Therefore, facilitating transparent communication is a principal requirement of a framework for change that has people at its core.

Perceived and actual complexities around organisational change programmes create an opportunity to consider the above issues in more depth, as well as to investigate the impact, attitudes, awareness, and expectations of the stakeholders: team and the organisation at a macro level (social) and individuals at the micro level (human). Additionally, it provides an opportunity to assemble and test structures conducive to envisioning and planning for change.

Problem statement

Organisational change is a risky endeavour as most change initiatives fall short on their goals producing costs that far outweigh gains (Jacob, Wittenloostuijn, Christe-Zeyse, 2012). The aggregate cost of project failures has an immense effect on the economy. The industry loss was estimated at greater than 900 Billion USD in direct costs (CNBC, 2019). The opportunity cost, although difficult to quantify, is vast and has a direct impact on the organisational ability to remain competitive and to grow. In addition, the project failures have a direct negative impact on profitability, operating cost, productivity, moral, innovation, and confidence in leadership. The collective impact may have a knock-on effect that extends beyond the enterprise undergoing change.

There is a plethora of research studying the root causes of project failures with one common theme: the majority of failure root-causes are non-technical, implying people and process related. There is ample evidence that the change models that organisations use to implement their change programs neglect to offer explicit guidance how to address the 'people' issue. Instead, change models, while acknowledging the premise, implicitly assume that other components of the change process will address these aspects of the change. Certain change models such as ADKAR (Adhikari, 2017) provide guidance, but fail to clarify the interplay between the 'social' and 'human' aspects of the organisation.

Both the realized and unrealized cost to the economy and to individual enterprise is an undesired outcome of the lack of explicit articulation of the social and human aspects of the organisation during the change process. The study hypothesises that a greater focus on 'human' and 'social' aspects of the organisation during the change process increases the likelihood of success. Combining the cost (realized and unrealized) of change projects failures and the estimated 68% failure rate, and the ample evidence that change models often omit explicit and due considerations of social and human aspects of the organisation, yield a compelling foundation for undertaking this study.

The Table 1.2 summarizes the problem statement and provides motivation for this study.

Issues and gaps arising from Complexity, Capacity and Capability of implementing change:

Complexity:

- The need to link the value and outcomes of the change at the individual and at the team level. For example, who will be impacted by the change and how. Conversely, how will the individual and the team impact the change?
- Change is intertwined and potential for unintended consequences exists
- Inconsistency in approach and in level of adoption
- The complexity requires change leaders to think broadly and implement the change in a way that demonstrates benefits to the individual, the team, and the company relatively quickly
- Accelerated pace of digital innovation, global economy, changing customer expectations, proliferation of devices, and regulation are factors compelling organisations to change in order to remain viable (Lewis 2019; Moore, 2018)

Capacity:

- Does the company have the bandwidth and resources, in type and quantity, to implement the change? For example, is there sufficient financial and human resources to implement the change?
 - Change may require the company multiple operating models to support the old and the new way of doing business
 - Planning and resource allocation
 - Capacity to undertake and manage the risk associated with change
- Organisational change is a risky endeavour as most change initiatives fall short on their goals producing costs that far outweigh gains. Nearly 80% of change initiatives fail to meet their stated objectives (Moore, 2018; Pankratz and Basten, 2016; Peppard, 2017; Jacob, Wittenloostuijn, and Christe-Zeyse, 2012)

Capability:

- Does the company have the skillset, process and structures required to plan for and implement the change?

Gaps:

- The majority of root causes of failure are non-technical and attributable to people and ‘covert’ aspects of the organisation (Pankratz and Basted 2016; Hladik, 2013; Hellriegel, 2004)
- Established change models stress the importance of non-technical aspects of the organisation. However, given the lack of guidance about the non-technical (social and human) aspects of change, there is an implicit assumption that it will be handled (Lewis, 2019; Hladik, 2013)
- Literature and empirical evidence suggest this omission of ‘people’ (social and human) aspects of the organisation impacts change initiatives’ success (Moore, 2018, p.28)
- Change is largely people management issue (Mullins, 2013)
- The consequences of the high rate of failure on companies transcends the financial losses. They include opportunity cost, hampered innovation, productivity loss, lower morale, and change fatigue. In addition, there is negative impact on the broader economy
- Scholarly literature and change models emphasize and elevate the importance of ‘people’ during the change process. However, neither provides sufficient guidance to interpret, classify, and take fit-for-purpose actions that are congruent with that level of importance. This in turn raises a significant gap in both literature and practice

Motivation:

- Incorporating social and human aspects of change into change models and processes aims to increase the rate of successful change

Table 1.2

Motivating this study: Summary of problem statement and key gaps

Research overview

Figure 1.2 Illustrates high level overview of the structure of the research. The study explores three scholarly domains: Organisational Theory, Organisational Behaviour, and Change Management theory, models, framework and practices. The Open Group Architecture Framework (TOGAF) is part of the framework considered in the context of this study. The

purpose of exploring these interrelated domains of knowledge is to explore their perspectives on the social and human aspects of the organisation and gain a deeper understanding of definitions and attributes used in each domains. This is also to understand gaps, if any, and assess the relevance of such gaps in relation to the aims and objectives of this study.

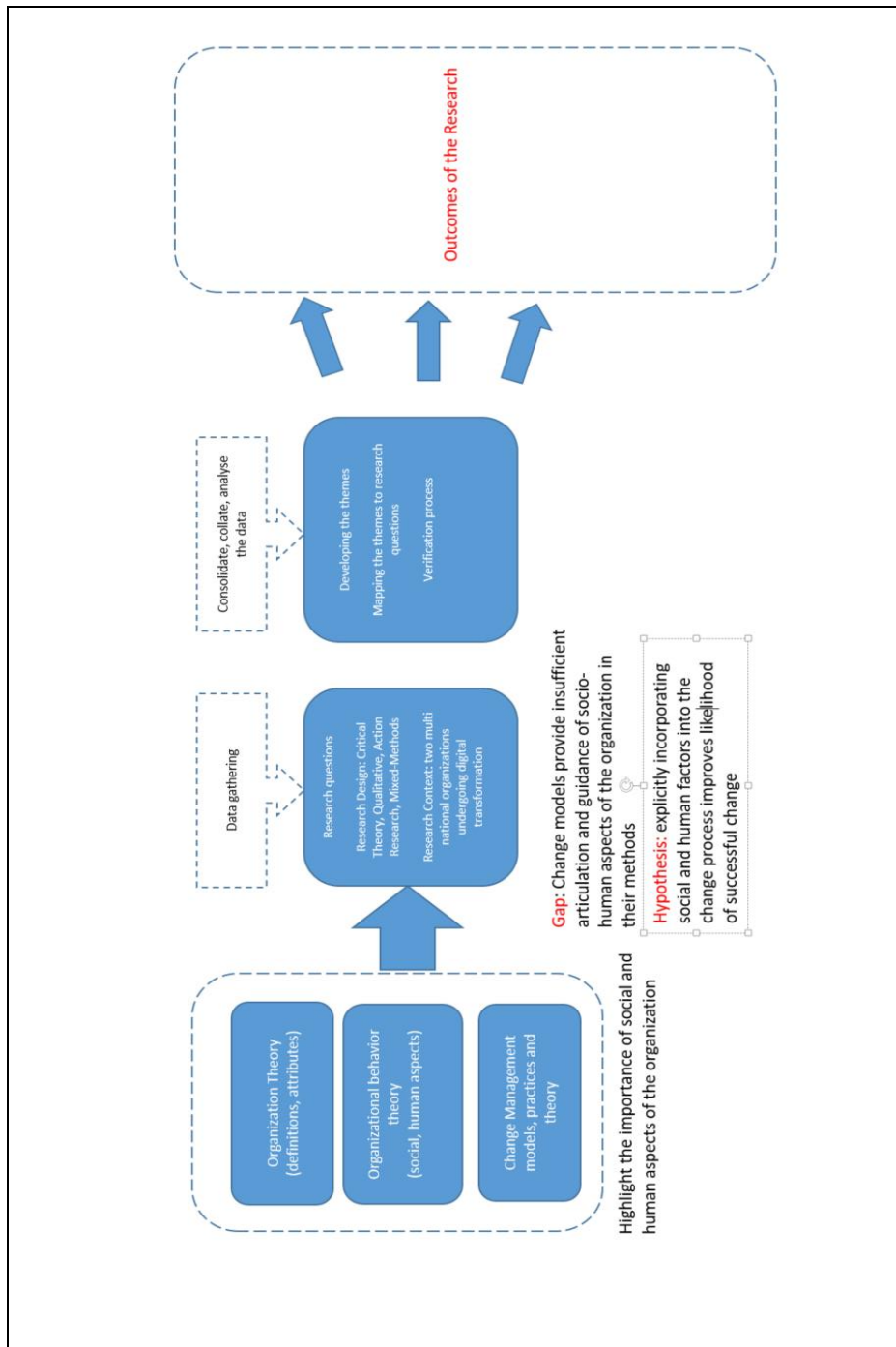


Figure 1.2 Overview of the research process underpinning this study

Purpose of the research

Common change management models tend to focus on the technical elements such as processes, structures and technologies. The people aspect of change remains narrow, often focusing on defining roles and responsibilities of individuals and team. More (2018, p.28) states that change models might have 'misunderstood the culture and politics of the organisations they studied and their findings might differ from the perspectives of organisation employees.' Fundamental aspects of successful change processes, specifically considerations related to employees as individuals (human), and team or groups of employees bound by common goal (social) are underrepresented.

This study aims to explore the omission of the social and human aspects of change by analysing commonly used change models and conducting a series of interviews and focused group sessions in order to understand the gaps. This creates a further opportunity to study the gaps and to attempt to propose extensions that can be incorporated into the models and or the change process.

Motivation of the research context

The author's professional capacity as an executive and a consultant involves collaborating with organisations to advance their business by working with them to develop fit-for-purpose digital transformation strategies driven by the organisation's strategic priorities. A typical part of the transformation strategy is the change management component. The author's recent two professional assignments highlight instances and an opportunity to collaborate with stakeholders to bring about improvement to the way change program are implemented. Zeisel's (1984, p.225) concise articulation on this style of research makes a point that is consistent with my own objectives in relation to this study: 'research seen as problem and situation-specific becomes a tool to achieve someone's purpose rather than an end in itself.' In my capacity as a researcher and practitioner, my interest can be described in three dimensions: Process, Product and Dissemination:

- **Process:** to understand and illuminate the issues, concerns, attitudes, interactions and deficiencies in relation to the social and human aspects of change and how organisations can benefit as an outcome of incorporating these missing components into their implementation of change.
- **Product:** to construct a framework based on the collective knowledge and interactions with the research participants involved in this study. The aim is for the product to facilitate a more inclusive and efficient process of change.
- **Dissemination of Information:** to conceive methods of sharing information about the process and product with scholars, industry practitioners and enterprises in the hope of offering a more cohesive and inclusive organisational change framework that puts the focus on a critical ingredient for successful change.

Aims and Objectives

Achieving successful and sustainable change is a critical concern to enterprise. The present study aims to:

- Improve organisational change success rate by developing extensions to commonly used change models that address the omission of social and human aspects of the organisation
- Develop an understanding of the interpretation of the phrases ‘social’ and ‘human’ in the context of organisations and how these terms are applied
- Develop a deeper understanding of current change model’s inclusion (omission) of social and human factors impacting organisational change
- Articulate the components and subcomponents that collectively define the phrases ‘social’ and ‘human’ and assess level of acceptance of such terms by change leaders

According to researchers, the majority of change programs fail or do not meet their stated objectives (Ward et al., 2014; Peppard, 2016; Pankrat and Basen, 2013). Pankrat and Basen state that the majority of the root causes of failure are not technical, instead are people or process related. Building on the above, this study proposes that an explicit consideration of social and human aspects addresses a gap in the change models and will likely lead to more desired outcomes. Therefore, the present study aims to extend an existing body of

knowledge in scholarly literature and practices in the area of Organisational Change. The study will undertake the following activities and develop an appropriate hypothesis, theories or models that address a critical gap, namely the omission of explicit articulation of social and human factors in the change process:

- To explore relevant literature in the fields of organisation theory, organisational behaviour and change management theory and practice (including Enterprise Architecture approaches) in order to gain a broader and deeper understanding of the how each field views the 'social' and 'human' aspect of the organisation in the context of change
- To explore how organisations interpret the notions of 'social' and 'human' in their own context, and if and how they incorporate these concepts into their change programs. Moreover, to understand how organisations define, consider, and use social and human aspects of the organisation in the context change programs
- To understand the extent to which language (definition of terms) and utilization of these terms advances or hinders change programs
- To explore whether existing change model could be augmented in a way that more explicitly incorporates people relevant factors

Research Question

The present study explores the key attributes of complexity, capacity and capability in the context of planning organisational change. Social and human aspects are central to the change process. Previous sections highlighted the high rate of failure of change strategies and that most causes of failure are non-technical. In addition, empirical evidence suggests that change models provide insufficient guidance for incorporating social and human concerns. There is an implicit assumption that these concerns are dealt with by other parts of the organisation. Exploring the omission of social and human aspects of the organisation in common change models may yield insights to improve success rate.

The overarching research question build on the hypothesis that the omission of social and human aspects of the organisation during the change process is a root cause of high rate of failure:

Research question summary

How can change processes and models incorporate social and human aspects of the organisation more explicitly?

The overarching question gives rise to several relevant sub-questions:

- How do organisations interpret the terms 'social' and 'human'?
- What does 'explicit' articulation of social and human aspects in the context of organisational change look like? What are the elements?
- How will these features fit into and extend change models and processes?

Relevant and related questions that are not included in the scope of this study are:

- *What are the practical implications of incorporating these extensions on individual(s) and on the team?*
- *How will these extension impact the complexity and practicality of the effecting change?*

The primary scope of this study is the overarching research question and the first three sub-questions. An in depth exploration of the last two sub-questions is out of scope due to limited time and resources.

	Research questions	Purpose
Overarching question	How can change processes and models incorporate social and human aspects of the organisation more explicitly?	Explore and developing understanding of the extensions that beneficial to incorporating into change models and processes in a way that promote stronger individual and team engagement and addressing the non-technical aspects of change
Research sub questions		
1	What does 'explicit' articulation of social and human aspects in the context of organisational change look like? What are the elements?	What exactly are those 'extensions' and what aspects of the individual and the team should it be considered? Mechanism to detect impacts should be considered as well
2	How do organisations interpret the terms 'social' and 'human'?	this is about existing organisational capabilities such as cultures and subcultures, values, decision making (bureaucracy), quality of relationships, and enablement, viewed from two perspectives, at the individual employee level (singular) and the team/group level (plural)
3	How will these features fit into and extend change models and processes?	Understand the mechanism by which the new extensions are infused and integrated into change models and process. Understanding impact on complexity, costs, time is critical

Table 1.3
Consolidated summary of research questions and purpose

Theories and Key Bodies of Knowledge Underpinning this Research

The study is situated at the intersection of three bodies of knowledge, as illustrated in Figure 1.3. The research explores the theories and perspectives of each of scholarly domains pertaining to change, human and social aspects of the organisation. Through such examination, it is possible to derive an appreciation of the different organisational dimensions that influence change, whether incremental or transformational. An understanding of these dimensions of influence enables categorization and prioritization specifically for those relating to the social and human aspect of the organisation. In addition, noting the recognized gaps and detecting, through analysis, unrecognized gaps helps motivate and focus the study.

The Change Management Theory focuses on the change management models, frameworks and approaches. Specifically, change management tools that are popular in industry and academia such as the Open Change Management Model, ADKAR, TOGAF, and others. The aim is to conduct a comparative review of these models in order to reveals their strength and weaknesses as this relates to incorporating social and human aspects of the organisation in the change process.

By triangulating the different bodies of knowledge and conducting an examination of the intersection of the three disciplines, and a comparative review of the different change models, it is possible to establish the relevance of the social and human aspect of the organisation as this relates to change and identifying the gaps in existing change models, thereby establishing a theoretical framework underpinning this study.

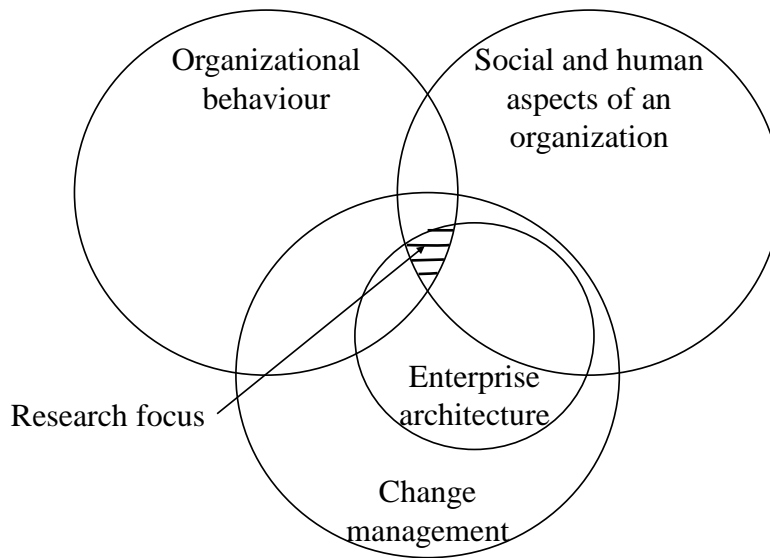


Figure 1.3 The research focus of this study at the intersection of three bodies of knowledge

Organisation Theory

Organisation Theory is the study of how organisations are structured, how they operate, and the bidirectional effect of the environment in which they exist. Daft (2013) defines an organisation as a social entity that has goals and purpose, has deliberately designed structures to control and monitor the activities of its members, and operates within an external environment. As illustrated in Figure 1.4, the organisation affects the environment around it in the course of conducting its normal business and the production of products, services and engagement of the ecosystem (i.e. employees, customers, suppliers). Conversely, the environment effects the organisation. For example, regulatory requirement, market demands, customers' demographics, the rapid technological advancements, availability of workforce, and globalization; all of these, individually and collectively, have direct and indirect influence over how an organisation operates.

Organisational Theory define an organisation as 'a group of people who collectively pursue an agreed-upon purpose or goal' (Hatch, 2018 p.8) which consists of three perspectives: as system, structure and process. Hatch (2018) cites the importance of understanding the

effect organisations have on individuals, groups and the broader society, and, conversely, the individual, groups and society's effect on the organisation. This bidirectional effect provides justification and motivation for incorporating Organisational Theory into the theoretical framework underpinning this study.

Hays (2014) states that the interplay between the environment and the organisation is continuous, therefore stimulating a continuum-of-change. Furthermore, organisations have two aspects, formal and informal. The formal describes the 'system' of duties and responsibilities, structures and authority matrix that enable accountability and decision-making and their relationships. The formal system acts as the control mechanism for the process of how people complete their tasks and duties and how they orchestrate their actions. The informal aspect of the organisation reflects its 'culture' which are a set of shared values and norms that guide organisational members' interactions with one another, with customers and suppliers and the entire value change. These shared norms and values influence employees' perceptions and actions towards others (i.e. their peers, managers and customers) and provide 'explanations of how people think, believe, and behave' (Briody et al. 2018, p. 192).

This study benefits from Organisation Theory by examining the interplay of formal and informal aspects of the organisation, namely organisational structure and cultures, and how they inform organisational approach to managing change, whether incremental or transformational, to support the evolution (or revolution) of the organisation.



Figure 1.4 Organisation Interplay with the Environment in which it operates

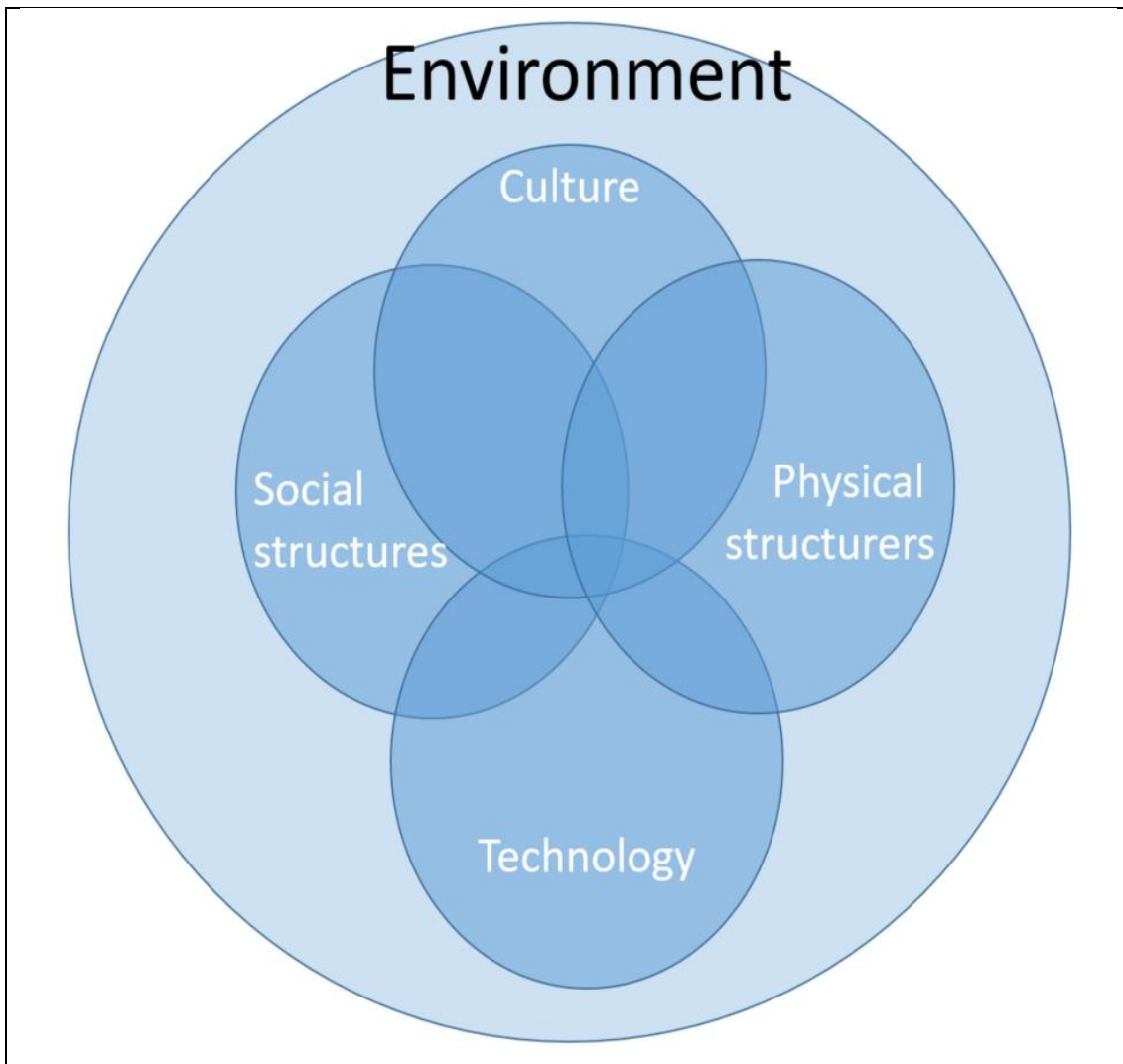


Figure 1.5 Adaptation of the basic concepts of organisational theory, as illustrated by Hatch (2018, p. 19)

Organisational Behaviour

This field of study, Organisational Behaviour (OB), provides the second pillar for the present research theoretical foundation. The relevance stems from the nature of this field of study in that it focuses on and examines people's behaviour at work, what they do the organisation, and how their behaviour affects the overall organisational performance. OB is a 'field of study that investigates the impact that individuals, groups, and structures have on behaviour within organisations, for the purpose of applying such knowledge toward improving an organisation's effectiveness' (Robbins, 2015 p. 44). It is a distinct field of study and body and area of expertise with a common body of knowledge that is distinct from Organisation Theory (Robbins, 2015; Hays 2014; Pugh, 1997; Daft et al, 2010).

According to Robbins (2015), OB studies three aspects of the organisation that influences its behaviour: individual, groups, and structures. Furthermore, OB includes core topics that influence organisation's choices and pathways of change, such as: motivation, leader behaviour, power, interpersonal communication, learning, attitude development and perception, change processes, conflict, learning, and work stress.

The present study investigates the extent to which behaviour and attributes of human (individual) and social (groups and the organisation at large) affect organisation change. In addition, the study examines organisations' perception, interpretation, and application of these terms ('human' and 'social') and how they incorporate these concepts into change programmes to enable effective organisational performance.

Organisation Change Theory

Lewis (2019) describes change in organisations as a continuous process to create new ways of doing or new things to do (p.26). There are different types of organisational change; some are intentional or unplanned, but most innovation comes from deliberate, planned change. There are many factors that trigger change:

- Self-initiated innovation (individual employees or team developing new products, services or practices)
- Staying compliant with regulatory requirements
- Changing customers' expectations, demands, or demographics
- Adopting and taking advantage of technological innovations
- Crisis in the industry, economy, government or organisation
- Changing workforce and labour arrangements
- Global economy and trade relations

Planned changes are viewed as a 'purposeful' effort of organisations' stakeholders who are responsible for the organisation to make improvements. Unplanned changes are brought about through external drivers due to environment or uncontrollable forces.

According to Burk (2014, p.54), the study of organisational change is grounded into two theoretical domains:

1) The open-systems theory, stemming from life sciences and

2) The synthesis of recent thinking on shifts from physics to life sciences

Social and political based organisational change approaches are rooted in stability not change, therefore proposing an alternative approach that is rooted in life sciences and viewing the organisation as open systems provides different approach to organizational change that is more congruent with transformational change. Change occurs incrementally and radically (transformational), at different levels, individuals, groups, and organisations. For individuals, change affects the underlying pattern of person's life. For a group or team, the affect involves the process and the structure they choose to achieve their goals, targets and complete their work. For the broader organisation, the effect is on the culture, the structure, decision making and the way the organisation reacts to external environments.

Modern organisations are finding themselves compelled to change, whether incrementally or revolutionary change. Characteristics of revolutionary change are complex, 'multi-dimensional, presenting greater burden on stakeholders' (Lewis, 2019, p.41).

Change management process, tools and techniques manage the people side of change to achieve the required business outcome. Change management incorporates the organisational tools that can be utilized to help individuals, groups and organisations make successful personal transitions resulting in the adoption and realization of change.

Burk (2014) review of Change Management Theory and Adhikari's (2017) comparative analysis of 15 commonly used change models revealed useful insights to inform aspects of the present. The scope of the study however did not include a deeper examination of the 'actors' involved in the change program. The framework used to conduct the comparative study consisted of four dimensions (Adhikari, 2017, p.3).

- Organisational context
- Factors necessitating change
- Strategy for change
- Actors involvement

Change models reviewed by Adhikari (2017)

- Structural Inertia Model
- Kurt Lewin's Equilibrium Model
- System's Approach
- Open Systems Planning
- Macro Process Model
- Constant Adaptation Model
- Kubler – Ross Model
- Gleicher's formula
- ADKAR model
- Change Management Continuum Model
- John Kotter's Transformation Process
- POMC Model
- Transformational Leadership
- Cultural Indicator Tree Model
- Appreciative enquiry

Table 1.4

Established change models included in the comparative review

Comparative study summary of findings

While Adhikari's (2017) comparative review of existing change models did not specifically examine the social and human aspects of change, it yielded outcomes that support and motivate this study. For example, all change models involved in the study recognise the importance of 'people' in one form or another, but none provide specific, actionable guidance. This aligns with Hladik (2016) and Pankrats and Basten's (2013) findings.

Conversely, Kotter's Transformational Process assigns ownership to the individual but does not provide guidance beyond that. POMC calls for motivating individuals, while the Transformational Leadership (TL) model may sacrifice individuals' interests in favour of the organization, leading to a dichotomy when looking across models. The findings indicate inconsistencies in dealing with intangibles (such as perceptions and biases) even though

these hidden beliefs directly impact decision-making. Figure 2.1 illustrates the process of the comparative analysis of the change models and presents summary of the findings

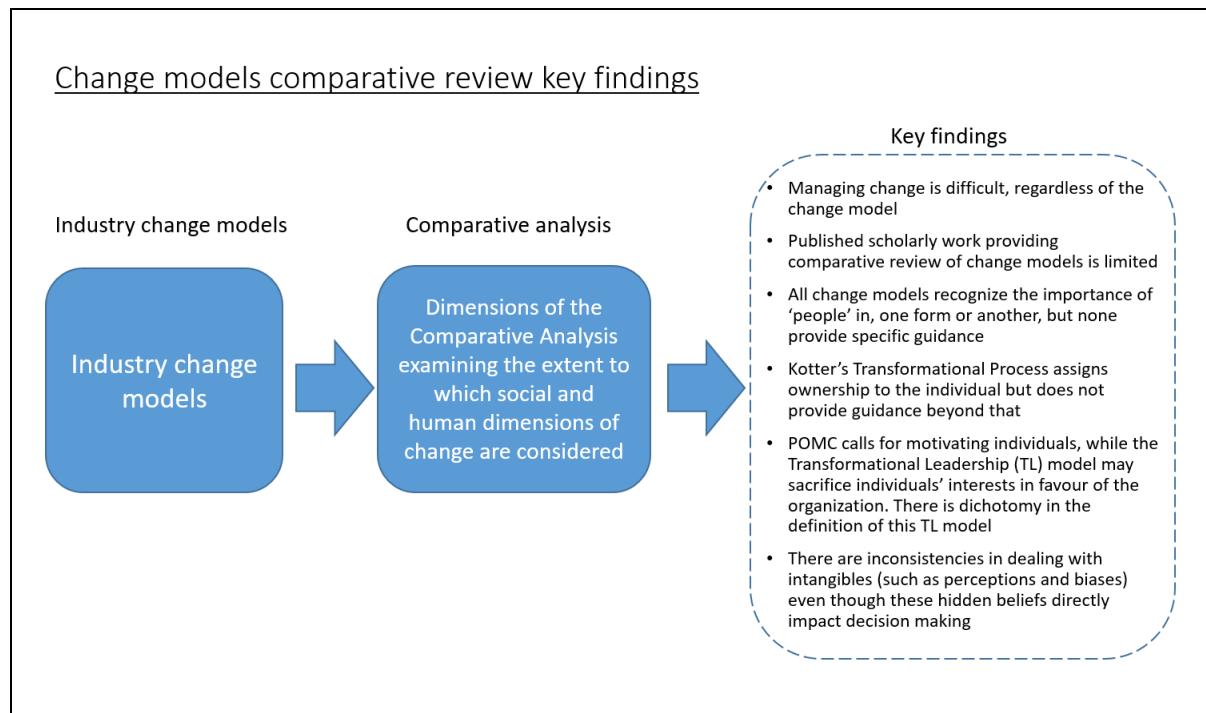


Figure 2.1 Comparative study findings summary

Thesis structure

The present study consists of six chapters including the introductory and concluding chapters. The core chapters in this thesis cover a critical review of literature in the scholarly fields of Organisation Theory, Organisational Behaviour Theory and Change Management Theory. Chapter 3 describes and discusses the Research Methodology underpinning this study (Critical Theory and Action Research) and the reasons for choosing this particular methodology. Chapter 4 illustrates data collection, describing the data gathering techniques (Interviews and Focus Groups), the data collection instruments, and the mechanism by which the data was captured and tabulated. Chapter 5 presents a critical review and analysis of the data collected and discusses the findings and their implications in relation to the research aims, objectives, and research questions. Furthermore, this chapter provides detailed description of the proposed framework for incorporating the social and human side of change into the change process, and articulates the scholarly contributions of this study. Finally, Chapter 6, provides a conclusion by summarizing the finding and their relevance. It

then raises a set of questions and articulates opportunities for future research that builds on this study with the aspiration of further enriching the scholarly field of study.

Chapter Two: Literature Review

Introduction

This study concerns itself with the omission of the explicit articulation of socio-human aspects of the organisation during a change (or transformation) process that utilizes established change models, such as Lewin's, ADKAR, Enterprise Architecture approaches, in order to achieve sustainable change. To help motivate the study, this chapter provides a critical review of literature in the domains of Organisation Theory, Organisational Behaviour theory and Change Management theory. The review attempts to show how each body of knowledge views human and social aspects of an organisation including definitions, descriptions, and interrelationships. Furthermore, this section provides a critical comparison of several change management models and frameworks (to gain an understanding of their utilization of human and social factors) as well as a comparative analysis of how different industries view and utilize social and human concepts. Where appropriate, the research identifies gaps and their relevance in the perspective theories and approaches to organisational change. This establishes relevance and need for this study by building-on and extending the existing body of knowledge. Extending the body of knowledge occurs by establishing workable definitions of the terms (social and human factors), proposing a mechanism to explicitly incorporating these factors into the change process.

The review of the literature explores the hypothesis that while socio-human factors are recognized as important in organisational change, there is little in terms of empirical data that provides explicit guidance as how to identify, assess and integrate such factors into the change process. The literature reviews attempts to explore evidence of omission of these factors in different change approaches. Such omission constitutes a root cause for the high rate of failure in projects, because, according to Pankrat and Basen (2013), the majority of change programs fail due to non-technical reasons. This research views 'projects' as a manifestation of organisational change to achieve desired objective and, therefore, 'projects' inevitably lead-to and or cause a change in an organisation.

For example, the Enterprise Architecture literature shows only a mention of socio-human factors but does not explicitly articulate how to go about addressing the shortcomings (such

as the Architecture Development Methodology provided by the Open Group). While the Enterprise Architecture approach states that people's role is critical to the successful implementation of change, there is an implicit assumption that the 'people' aspect of change is addressed by the organisation somewhere else. Such assumption leads to gaps in the planning and implementation of change when such tools are used. However, the method of Enterprise Architecture development remains relevant and is a suitable method for change management because it takes a holistic view of the organisation based on strategy, current state and the target state of the organisation (Hladik, 2013). Establishing the importance of socio-human factors in successful change and the omission of such factors in established change models motivates and provides the theoretical framework for this study.

An organisation's need to stay competitive, grow and avoid becoming obsolete triggers organisational change, where the need defines the speed, frequency and nature of change. Some of the drivers for change include regulatory requirements, need for agility and responsiveness to customer demands, marketplace dynamics, ethical and social responsibilities, distributed workforce and demographics diversity (Daft, 2007). Enterprises must be able to not only respond to drivers of change, but also to anticipate and plan strategically.

There are numerous examples of previously successful businesses vanishing or losing a significant part of their market share due to their inability to change in response to market dynamics. This is particularly the case for industries faced with disruptive change (Christiansen, 1997) where the industry's business model is fundamentally changed. Examples of such enterprises are Nokia, who at one point dominated the mobile phone industry with a 40 % market share. However, the sharp rise brought with it loss of agility and a swift decline since Nokia failed to respond to technological advances, an era where software was more important than the hardware in the mobile industry. Similarly, Blockbuster, a movie and video game rental company, failed to transition to a digital model and lost its market share resulting in a bankruptcy filing. Another example is from the transportation and the hospitality industries, where business models were disrupted by the likes of Uber and Airbnb. More recently, the retail chain Toy R Us went into administration

because it missed an opportunity to focus on online business and faced stiff price competition.

It is commonly understood that the only constant in today's business environment is change. It is imperative that businesses are prepared to respond to change with agility and speed using the right tools and being organisationally self-aware.

As stated above, there are multiple triggers for change, such as regulatory requirements, evolution of business strategy and market expansion. However, this study is concerned with digital technology driven organisational change and an examination of some of the tools organisations use to undertake change. The motivation to study technology-driven organisational change is that change takes the form of one or more projects (programs). For the purpose of this study, a 'project' is a manifestation of organisational change.

Despite the availability of different change models, tools, and project and program management methodologies, the failure rate remains high (Kotter, 2008). This gives rise to a fundamental question about the suitability and/or application of such tools. Therefore, further examination of the root-causes can be beneficial in helping organisations avoid pitfalls.

Pankrat and Basten's (2013) study of projects (change) attributes failure to non-technical factors, namely socio-human and process factors. Hammer and Champy (2001) contend that the discipline of change management evolved from two different sources 1) Engineering approach, 2) People or 'human science' approach. The Engineering approach is process driven utilizing tangible business outcomes, time and motion as an indicator of success or otherwise. The 'human science' approach focuses on people, 'soft' and less tangible. It tends to be post-mortem, after the fact and reactionary in nature of people's feelings and in response to an organisational change. While process oriented change approaches seem to be popular and more common, Hammer and Champy (2001) stress that the human and people aspect of the organisational change is the overwhelming issue.

These findings (people aspect of change being post mortem) further substantiate the omission of the socio-human aspects of the organisation in popular change management is a significant gap in practical application as well as scholarly studies including Enterprise

Architect (EA) approaches. EA encapsulates a comprehensive and holistic view of all the key elements and relationships that make up the organisation (Kang et al., 2010). This holistic view of the organisation makes it possible to understand the organisational structure, processes and interdependencies. Thereby, any change to one or more parts of the ecosystem, organisational component and or a relationship, it is then possible, in theory, to anticipate and measure potential impact. However, according to Balogun and Hailey (2004) and consistent with Kotter (1996), more than 70% of all change programs fail. Balogun and Hailey (2004) content that lack of fundamental frameworks of how to implement change is a root cause of failure. Rune (2005) argues that the body of knowledge relating to change programs, similar to EA discipline, is abstract, incoherent, dispersed and superficial. Therefore, difficult to digest by the people. This further supports the hypothesis of this research deeper and more explicit consideration of 'people' in the change process, as makers of change and as components of change, is critical to addressing causes of failure.

The field of Organisational Behaviours further asserts through the iceberg model (Hellriegel, 2004), that the 'Covert' aspects of the origination (referring to the behavioural/human) may not be visible to decision makers and could perpetuate failure if not addressed adequately. Therefore, this study hypothesises that the explicit articulation of socio-human aspects of the organisation in the change model (such as EA), will mitigate certain failure factors and contribute to higher rate of successful change.

To explore this hypothesis, the researcher triangulates the relevant and inter-related disciplines of Organisational Behaviour, Social and Human aspects of an Organisation, Change Management and Enterprise Architecture to form the theoretical foundation and context for the study. Figure 1.3 captures the research focus.

Organisational Behaviour view of Human and Social Aspects of the organisation

Organisational theory defines organisations as “social entities that are goal-directed” and “designed as deliberately structured and coordinated activity systems” and are “linked to external environments (Daft, 2007, p. 12). Organisations consist of “people and their relationships with one another” (Daft, 2007, p. 12). Similarly, Mullins (2011) describes

organisations as 'complex social systems', where the behaviour of people in organisations can be viewed in terms of inter-related dimensions at individual, group and organisational levels. Furthermore, culture plays a critical role in people's behaviour.

Literature review shows that inter-relationships, behaviour and culture play a key role in organisations; thus, leaders and managers must consider the diverse nature of the workforce and build a culture that unites the different perspectives and perceptions of its workforce. Additionally, Mullins (2011) argues that embedded in the culture is the notion of 'psychological contract' between the individual and the organisation. This is an unwritten contract made up of a set of 'mutual expectations' between the individual and the organisation, and these expectations have important implications for performance, contributions to projects and organisational change.

Scholars have also focused on the social and human aspect of organisations. For example, Hellriegel and Slocum (2004) express that organisations have Formal aspects (Overt) and Behavioural aspects (Covert), and using an iceberg metaphor, they argue that organisations often fail due to factors that cannot be seen (covert aspects). The overt part of Hellriegel and Slocum (2004) model is represented by formal goals, physical facilities, rules and regulations, financial resources, technologies, surface level competencies and skills. While the covert aspects are represented by attitudes, communication patterns, informal team processes, personality conflicts, and politics. Hladik (2013) refers to these factors as the 'social and human aspects' of the organisational that play a critical role in the successful implementation of organisational change.

Several facets of socio-human aspects of organisation have been studied. Kang et al. (2010) highlight the importance of language, as a critical aspect of the socio-human aspects of organisational culture. Language defined as having two components, syntax (signs or terminology) and semantics (the interpretation of the sign or terminology in a particular context) (Liu and Weizi, 2015). Pankratz and Basten (2013), in their systematic study of causes of failure of projects (a project typically results in some sort of organisation change offering value to the organisation), state that ineffective communication and improper contextual interpretation of terms used in the project are significant causes of failure. It is conceivable that, while individuals with different backgrounds (say sales, finance, and

technical) may read the same term and/or sentence then very likely visualize different things, resulting in different (and potentially contradictory) actions taken.

Hladik (2013) states that in spite of the recommendations made by various models for implementing successful change (referring to Kotter (2008) and the IBM's Comprehensive study on the success of change (IBM, 2008)), the rate of failure is in excess of 70% (Kotter 2008). Hladik (2013) further explains that some of the root causes of failure are attributed to inadequate understanding of the environment, within which the organisation operates, the potential impact of the change, the organisational capabilities and preparedness to undertake change, and the support required to implement change. Examples of tools commonly used to implement organisational change include Enterprise Architecture (EA), the Benefits Dependency Network (Peppard, 2006), Open System Planning, Structural Inertia Model, ADKAR, Macro Process Model, and Change Management Continuum Model. Appendix (2) lists established change management models.

Luecke (2003) findings show that social and human aspects are critical to successful change and highlights the importance of understanding the organisational attitude towards the change, both at the individual level and the group level. In so doing, it is then possible to detect those likely to resist change and those supportive of change. Realizing the reasons and motivations for their attitudes, change planners can institute appropriate measures to mitigate risks.

Enterprise Architecture approaches help organisations plan for and implement change. There is ample reference for the broad use of these tools such as The Open Group Architecture Framework or TOGAF (Urbaczewski. and Mrdalj, 2006). Studies show varying levels of success and adoption and that current Enterprise Architecture approaches do not explicitly include the social and human aspects of the organisation. For example, TOGAF encapsulates people aspects of change in the business architecture layer of the model Hladik (2012, 2013).

Pankratz and Basten's (2013) comprehensive study of factors that contribute to the failure of projects (organisation change) found that the majority of the 54 factors identified are non-technical. Examples of failure factors include lack of stakeholder involvement, project

team are insufficiently skilled and the lack of trust (horizontally among team members and vertically with management and leaders). While some of these factors may be process related, others such as relationships and working dynamics within and across team, and communication strategies are more closely aligned with social and human factors. This is consistent with Hellriegel and Slocum's (2004) description of the 'covert' aspect of the organisation and Iceberg model. However, they do not specify whether the methodologies used to implement the projects or the lack of social and human aspects of the organisation led to the project failure. This study focuses on social and human aspects of change recognizing the importance of methodologies and tools and the extent to which they incorporate these factors.

In lack of clear evidence in relation to 'soft' aspects of organisational change, a broader perspective has been adopted. Literature on social and human factors was reviewed for emerging trends. Firstly, research highlights the pivotal role of social and human factors, for example (Subramaniam and Youndt, 2005) argue that human capital as moderated by social capital enhance radical innovation.

Moreover, it is evident that the majority of root causes for project failures are due to non-technical causes, according to Pankratz and Basten (2013). It is also evident that while change management models recognize the importance of human and social aspects of the organisation, they do not explicitly incorporate these aspects of change into their models (Hammer and Champy (2001). Instead, assume that it will be handled somewhere by other actors in the change process. Hladik (2013) states that there is a correlation between existing Enterprise Architecture standard approaches omission of human and social factors and projects failure. The study postulates that this omission is critical to successful change and present a gap that requires investigation.

The remaining sections of this chapter explore the literature in the fields of change management, review of established change models, including the Enterprise Architecture approaches (the Open Group Architecture Framework, TOGAF). The aim is to establish the theoretical framework for this study and identify the gaps that this study attempts to address. Furthermore, it attempts to motivate the hypothesis proposed by this study that

incorporating explicit articulation of social and human factors in the change model brings benefits and contributes to successful change.

Change Management Theory view of Human and Social Aspect of the organisation

Newton's law states that any force has an equal yet opposite reaction. Likewise, in organisational change, the human tendency is to resist change. There are several reasons human resists change such as fear of the unknown (Leonard-Barton, 1992). However, to manage this figurative 'opposite reaction' (resistance force), organisational theory suggests different approaches to implement change. Cuban (1996) articulates two different types of change: Incremental and Transformational (also referred to as Fundamental).

Incremental Change lies at one end of the change spectrum, which encompasses smaller and surface level change that does not require deep-rooted transformation in the organisation. Incremental change may be characterised as a consolidation of small improvements that could result in several benefits like productivity gains, cost reduction and efficiency enhancement (Abernathy and Utterback, 1978).

In contrast, deep-rooted changes lead to profound cultural transformations in an organisation and are examples of Transformational Change. Thus, institutionalisation of fundamental change requires new practices, processes and policies.

Courtney Tomlie (Results for Development Institute, 2015) explains that the theory of change describes a pathway through which specific result(s) can be achieved. Typically, there are three components to the theory of change:

1. Definition of the results an organisation aims to achieve
2. A set of activities or steps to achieve the results
3. Information of how the activities/steps can lead to the desired results

There are two perspectives on the Theory of Change: Simple Linear Pathways represented in figures 2.2 and Complex Pathway represented in figure 2.3.

The Simple Linear Pathway reflects systematic approach to change where the outcome of each stage or step in the change process feeds into the subsequent stage. This leads to (anticipated) results at the conclusion of the process. The author recognizes that this approach, while systematic, is not always realistic due to the dynamic nature of change and the potential for unpredictable outcomes at each stage of the process.

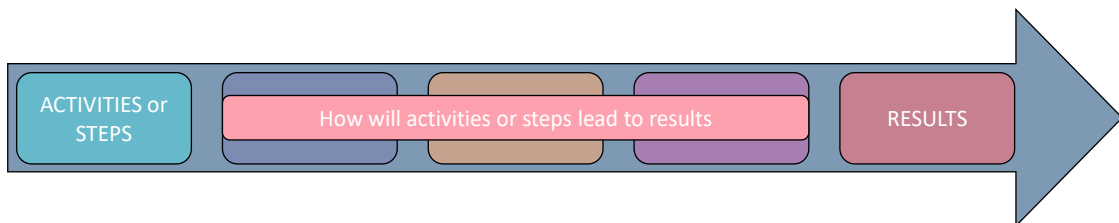


Figure 2.2
A simple view of the theory of change

The second is a more realistic view of the theory in practice in that multiple results are identified and multiple activities or steps can support one or more result, thereby forming a one-to-many or a many-to-many relationship, rather than a linear relationship.

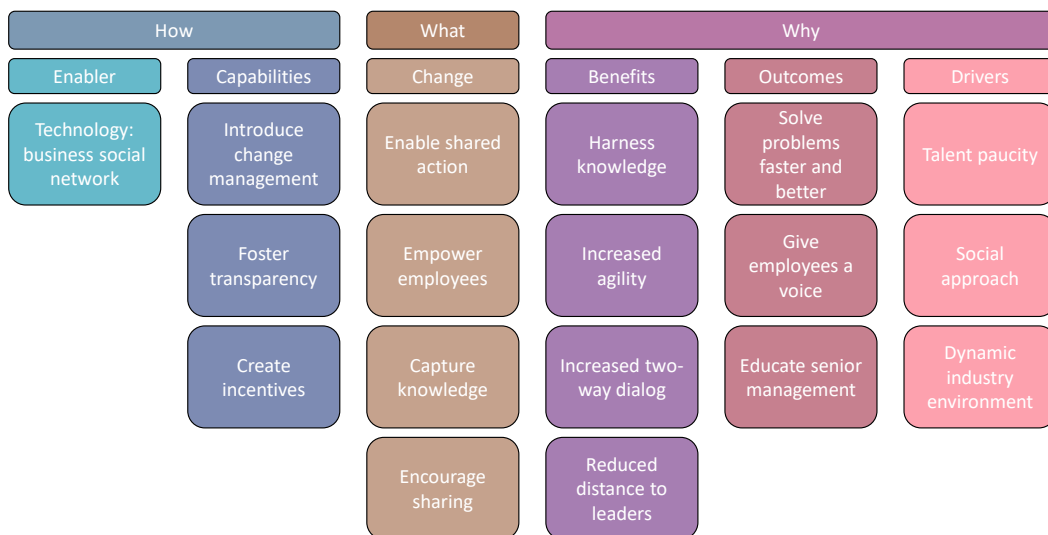


Figure 2.3
Benefits dependency network, adapted from Wikipedia

A similar model to the Theory of Change is the Benefits Dependency Network (BDN), which is captured in Figure 2.3. According to Joe Peppard (2016). A BDN is an analytical tool for connecting Drivers to Benefits to the Change required to achieve the benefits and ultimately a response to the drivers. BDN is represented in a visual diagram showing 'multiple cause-

effect relationships between capabilities, changes and benefits.’ According to Peppard, BDN ‘can be considered a business-oriented method of what engineers would call goal modelling.’

While Theory of Change and BDN can be useful tools in supporting organisations define their plans for change whether at the project level (Technical Change) or at the Adaptive level (Fundamental Change), neither provides explicit direction on how to incorporate People (human and social) aspect of change. Both make implicit reference and assumption that the People aspect of change ‘needs’ to be addressed. For BDN, in the ‘Change component and of the Theory of Change in the Activities/Steps component.

Kotter (2006) estimates that over 60% of projects (which can be defined as organisational change) fail in one way or another. This is so despite the availability of such models as BDN, Theory of Change, and others. A common thread among the different models is an implicit articulation, directly or indirectly, of People (human and social) factors affecting change. This provide further evidence that investigating more explicitly the role of People (and dimensions that impact their behaviour, participation, and motivations) in the context of organisational change is warranted.

Review of Change Management Models

The present study aims to develop better understanding of current change model’s inclusion of factors such as social and human.

Managing the processes or sequences of events that unfold in organisational change such as transitions in individuals' jobs and careers, group formation and development, organisational innovation, growth, reorganisation, and decline have been very difficult (Van de Ven and Poole, 1999) independent of the change model organisations selects. Partially, due to the intangibles and covert factors involved such as feelings, values, relationships, biases, and motivations. Factors relate to social and human part of the organisation. Establishing an understanding of how these change models deal with these intangible brings insights that serves the purpose of this study by establishing a theoretical framework for present study.

There is extensive research and development in the field of change management (Moore, 2018). On the other hand, this study attempts to benefit from scholarly work that provides comparative review of established change models. Non-exhaustive search of literature revealed limited published work with this narrow focus. Adhikari (2017), Burke (2014), and Weick and Quinn (1999) conducted reviews of established change models.

Weick and Quinn (1999) suggest that change starts with failures to adapt and that change is continuous. 'It never starts because it never stops.' Reconciliation of these disparate themes is a source of ongoing tension and energy in recent change research. Most organisations have pockets of people somewhere who are already adjusting to the new environment. The challenge is to gain acceptance of continuous change throughout the organisation so that these isolated innovations will travel and be seen as relevant to a wider range of purposes at hand (p. 381).

Adhikari (2017) explores the change models referenced by Weick and Quinn (1999) to discuss change models' evolution and their role in implementation of change initiatives, stressing caution in selecting one change model over another due to pronounced similarities and 'thin' differences (p.1). Adhikari conducted a comparative study of established change model by analyses each of the models using an adaptation of the Van de Ven and Poole (1995) framework.

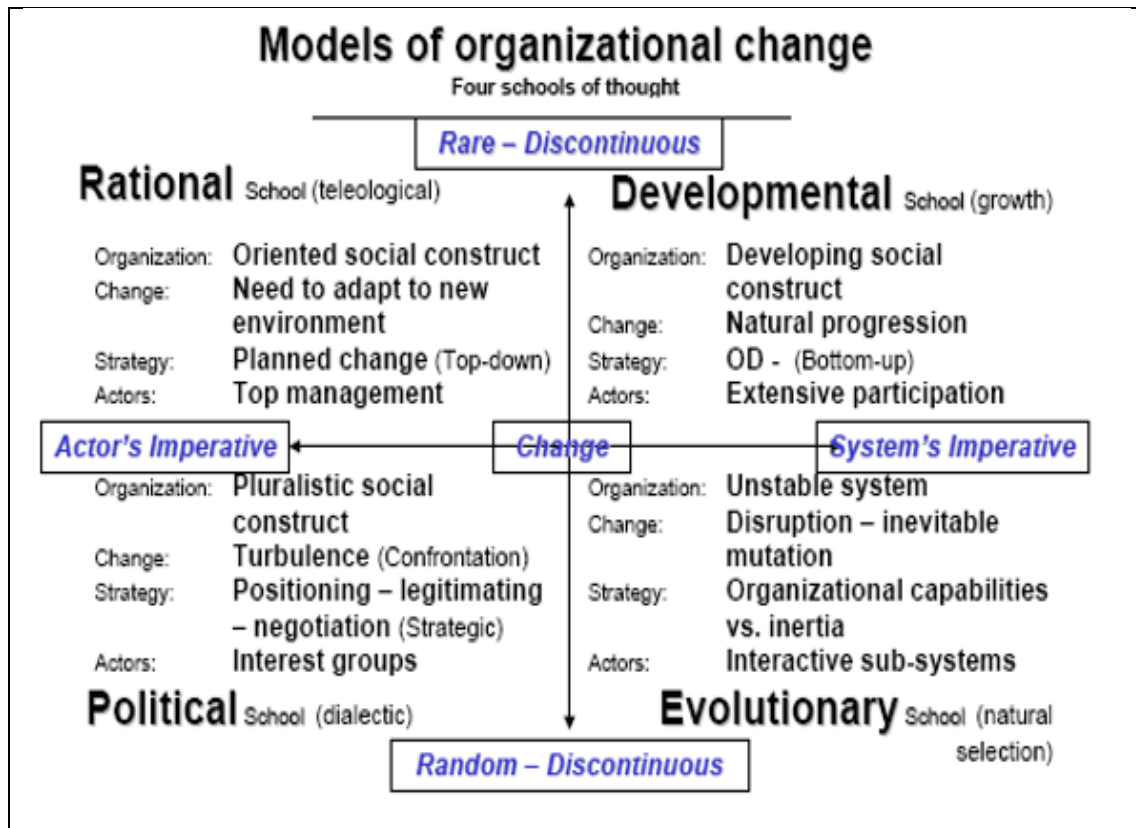


Table 2.1 Illustrates Van De Ven and Pool (1995) model for organisational change

Language used in this study for social and human aspects of the organisation are congruent with Van de Ven and Pool's model for organisational change. The four dimension Adhikari uses to conduct to conduct the comparison:

- Organisational context, for selecting most suited change model
- Drivers for change, what factors are making change necessary
- The strategy for change presented by the change model
- People's involvement, referred to as actors involved in the change process for the change models.

The list of models reviewed by Adhikari include:

- Structural Inertia Model
- Kurt Lewin's Equilibrium Model
- Open Systems Planning
- Macro Process Model
- Constant Adaptation Model

- Kubler – Ross Model
- Gleicher’s formula
- ADKAR model
- Change Management Continuum Model
- John Kotter’s Transformation Process
- POMC Model
- Transformational Leadership
- Cultural Indicator Tree Model
- Appreciative enquiry

In addition, this study explores Enterprise Architecture (EA) approaches represented Open Group’s (2011) TOGAF framework as another model organisations use to achieve change. Saade (2013) exploration of EA as a change model demonstrated evidence that EA exhibits characteristics similar to common change models in application and theory. The relevance of EA for this study is that it takes a holistic, multi-layered (domain) view of the organisation. Each domain such as Business Architecture, Technology Architecture, and Information Architecture presents a set of practices to drive change within and across layers. The framework stresses the importance of ‘people’ to the change process, but puts greater emphasis on the technical aspects of change.

Outcome of comparative reviews change models

The comparative reviews revealed a series of outcomes, some are more relevant to this study than others. Below is a summary of most relevant outcomes as they related to people (actors of change).

- Structural Inertia Model:
Strong inertia at the top but propagate across the organisation. For change to take place, the change process would need to address forces across the organisational layers requiring extensive stakeholders’ involvement
- Kurt Lewin’s Equilibrium model
Top management are the most serious restraining forces in the organisation. Lower level may not be instrumental in preventing the change from happening. Actors of

change are top management with involvement from layers of middle and lower management.

- Systems Approach model

To bring about change this model calls for extensive participation across the subsystems including senior management's support and extensive participation at all levels.

- Open system's planning model

This model calls for extensive employee participation by way of the planning process, across the organisational hierarchy and functions.

- Macro Process Model

Change is driven competition and external environment. Continuous improvement, macro processes across the organisation, with focus on measurement. The model calls for employee involvement across the organisational hierarchy and functions using measurement data.

- Constant Adoption Model

Embracing positive change as calling for extensive participation of all employees in the change process

- Kubler-Ross Model

This approach calls for extensive involvement of employees across the organisation focusing on interactions of groups and sub groups (interaction amongst sub-systems)

- Gletcher's formula

The model calls for senior management to lead the change with clear articulation of the vision and an implementation plan, at least for the first phase of the change program.

- ADKAR model

Change leadership can occur at any level within the organisational hierarchy. People at different levels in the organisation can implement change. Involvement depends on the nature and level at which the change process is undertaken.

- Change management continuum model

The driver of change is the individual assigned ownership of change, independent of organisational hierarchy. Process managers or process owners of various change initiatives can lead the change.

- Kotter's Transformation Process

Change owner is the individual assigned ownership of change, independent of organisational hierarchy, to lead the change process.

- Planning, Organizing, Motivating, Controlling (POMC) model

Calls for motivating individuals to work in the best interest of the group (organisation). Change participants (employees) perform all the functions, not at equal levels of effort, but at the level of specificity their hierarchy. Flexibility is required by implementation manager.

- Transformational leadership

Calls for extensive participant and consensus in aligning individual and organisational interests. Some individual members' interests may be sacrificed.

- Cultural Indicator Tree Model

Calls for a clear understanding of an organisation's culture to support change initiatives. Diversity of change participants including change consultant, top management, interest groups, and subsystems (groups, team, departments).

The above analysis suggests all models emphasize the important role of employees in the change process. Some models stress hierarchy, referring to top managers to lead the change. All models included a process for change. Only a subset of the models include a provision that emphasised culture, relationships, interactions, and ownership. All are factors relevant to social and human side of change initiatives.

Enterprise Architecture as Change Management Approach

The modern business environment is becoming increasingly complex. Today organisations are exploring multi-faceted opportunities for expansion in terms of the products and services they offer globally. Moreover, businesses are working in an extremely competitive environment wherein competitors are looking to leverage similar opportunities. In a crowded market place consisting of dynamic attributes, organisations seeking to grow

strategically and increase profitability are likely to miss the metaphorical bus unless their business is aligned to, and taking full advantage of, information technology and information services (Hugoson, et al. 2011; Khaiata and Zualkernan, 2009).

Enterprise Architecture (EA)'s purpose is to support wide organisational change (the Open Group, 2009). It is also viewed as a 'suitable means' to manage change because it aims to ensure all business units and operations are working cohesively towards a common goal based on the company strategy and target state (Hladik, 2013). Schekkerman (2011) review of Enterprise Tool Selection Guide (2011, p.1) defines EA as "the organisation-wide roadmap to achieve an organisation's mission through optimal performance of its core business processes within an efficient Information Technology (IT) environment." Another paper by the Institute of Enterprise Architecture Development on Enterprise Architecture Score Card (2004), clarifies that EA should be driven by the mission of the organisation.

Kang, et al. (2010) explains that EA should bring coherence across business processes, data and information technologies. Hugoson et al. (2011) describe the extrinsic value of EA in terms of resource-related performance (e.g. savings and quality), process and activity performance (e.g. business attractiveness), and strategic performance (e.g. stakeholders' satisfaction and social responsibility). Schekkerman (2011) also highlights numerous advantages of this process with the most important one being that EA ensures that organisations build systems, which are non-duplicative, compatible and cost-effective. The paper lists the factors (primarily technical) which influence the functionality of EA tools such as, tool automation and deployment architecture, and the stakeholders (primarily technical) such as, solution architects and software engineers, and the differing impact of an EA tool on the stakeholders. The challenges relating to communication amongst different stakeholders and complicated business processes is acknowledged. Schekkerman (2011) proposes three important elements of a common EA language: 1) Coherent modelling language 2) Visualization techniques in order to provide insights to different stakeholder across the organisational hierarchy and across roles. 3) Analysis techniques to facilitate interpretation and understanding of the complex models, components within the models, the interrelationships and dependencies. (p. 9).

Tamm, et al. (2011, p.143) define EA as “the definition and representation of a high-level view of an enterprise’s business processes and IT systems, their interrelationships, and the extent to which these processes and systems are shared by different parts of the enterprise.” EA enables organisations to move from the ‘as-is’ or the baseline architecture to the ‘to-be’ or the target architecture (Tamm, et al. 2011).

Tong et al. (2011) discuss the use of EA in the telecommunications industry. They emphasize that for EA to have its intended positive impact on the alignment between IT and business strategy, EA needs to be embedded in the early stages of business transformation cycle (Strategic Planning phase) rather than relegating it to just developing transformation initiatives (Execution phase).

According to Tamm et al. (2011), EA enables benefits with regard to organisational alignment, information availability, resource portfolio optimisation and resource complementarity. In addition, the authors based on their review of EA literature, state that some benefits to the organisation flow from EA planning and other benefits emerge from the implementation of EA plans. EA planning is useful in itself as it increases the key stakeholders’ knowledge of the organisation’s current IT systems and business processes. Tamm et al. (2011, p.148) also note that organisations’ IT systems can evolve even in the absence of EA and for EA to demonstrate real value to the organisation, it must “(a) build an operating platform that would otherwise have not been possible, or (b) improve the delivery of the platform in some way.” Research shows that Enterprise Architecture approaches offer guidance to support organisational transformation.

Scholarly research revealed that for Enterprise Architecture approach to improve odds of successful organisational change, it needs to take into account the technology, the business, and the people aspect of the organisation, throughout the change lifecycle. This emphasises the role of multiple stakeholders and it also brings to the foreground, the idea that organisational transformation cannot take place in isolation, and it certainly cannot be successful without engaging the people in the organisation. However, while some studies allude to the Enterprise Architecture and its role in organisational transformation, no research study fully clarifies the scope and influence of the social and human aspect of the organisation in Enterprise Architecture discipline.

Enterprise Architecture Challenges

Whilst experts in the field of organisational transformation agree that EA is critical for facilitating transformation, there is a lack of consensus about the meaning and scope of EA (Shuja, 2011; Lapalme, 2012; Strano and Rehmani, 2007). Some people view EA conceptually and consider it to be a process for understanding the needs of an organisation and related changes. Whereas, others, view EA as the implementation strategy of the transformation initiatives decided as the result of an initial analysis of the transformation requirements of an organisation (Shuja, 2011).

Lapalme (2012, p.37) explains that the heterogeneity in definitions has implications for the scope of work constituted as part of EA, ranging from “small and well-defined boundaries” which would include software applications to “broad and ill-defined boundaries.” which would include the entire enterprise, including the socio-cultural and techno-economics facets. The author goes on to distinguish among three main schools of EA:

- In the first school, ‘Enterprise IT architecting’, the main objective of EA is to align business with IT and it does not participate in an enquiry of the business strategies and objectives. The role of the architect in this school is to be a master planner or designer.
- In the second school, ‘Enterprise Integrating’, the main objective of EA is to approach enterprise design holistically and be the link between strategy and execution. Similar to the first school of thought, Enterprise Integrating does not question the business strategy and objectives. The role of the architect in this school is to be a facilitator.
- In the third school, ‘Enterprise Ecological Adaptation’, the main objective of EA is to drive innovation in an organisation by considering its entire set of relationships internally within the organisation and its relationship to the external environment. The role of the architect is that of a nurturer. Lapalme (2012) suggests that if organisations are seeking the full benefit of EA, then the conceptualisation should move away from a focus on IT to a broader facilitative and holistic role of EA. This wider focus is reflected in Zachman’s EA framework which takes into account the organisation as a whole, not just its IT systems (Oduntan, et al. 2012).

The difficulties emerging from a lack of common conceptual understanding of EA processes are addressed by Tong et al. (2011) through the use of visual diagrams that contain information for key stakeholders, about key business processes and the necessary changes for reaching the intended stage of transformation. Tong et al. (2011) build on a method developed by Nokia Siemens Network called Service Provider Enterprise Architecture Vision (SEAV). "SEAV serves to apply an EA view to business transformation challenges. For a given challenge, it helps to clarify the business transformation requirements, identify a suitable set of strategy initiatives and optionally establish linkages between strategy initiatives and the supporting set of solutions" (Tong et al. 2011, p. 36). SEAV contains information about four segments: business, process, stakeholder and asset.

This information was incorporated into a SEAV and two further EA diagrams were created for communicating the transformation needs: a vision view diagram and a strategy view diagram. The researchers recounted the experiences and challenges of developing these diagrams and conclude that while these diagrams provide a clearer understanding of the organisation's transformation requirements and can be used to articulate the transformation process to different stakeholders, the creation of these diagrams is time-consuming. Additionally, they conclude that these diagrams could be made more robust and concrete by customising the common glossary of SEAV concept definitions to the particular domains and cases. The importance of appropriately formatting the document so that it has the intended visual impact is also proposed by the researchers.

TOGAF recommends a standard way of defining EA principles. The recommendations relate to four aspects of EA principles: Name, Statement, Rationale and Implications. For each of these four aspects, use of clear, precise, commonly understood and unambiguous language is proposed. TOGAF lists five criteria that underlie good EA principles: 1) Understandable, 2) Robust, 3) Complete, 4) Consistent, and 5) Stable. Wortman, et al. (2012) propose yet another way of ensuring that EA models are clear and comprehensive by conducting enterprise modelling on the same basis as product modelling. This, according to the researchers, will enable the stakeholders to understand different versions of enterprise designs and components therein. The research reviewed here acknowledges a variety of challenges stemming from different interpretations and understanding of the purpose and

the process of EA frameworks. While some of this research proposes solutions for addressing these challenges by developing shared vocabularies, commonly understood visual and textual references, the solutions do not consider the holistic socio-technical system of an organisation. Holistic solutions would have to be more complex as they would need to consider the variety of human factors in developing common EA references.

Communication-based challenges emerging from a lack of common vocabulary and shared interpretations of the same vocabulary between business and IT stakeholders, and also between humans and systems were also discussed by Kang, et al. (2010). There is a risk to effective implementation of EA in the absence of commonly understood semantics: “although a process of an enterprise is defined systematically, if a process manager, a process operator and systems understand details of the process incorrectly and differently, the process cannot be executed correctly and effectively” (Kang, et al. 2010, p. 1456). The authors propose an ontology-based solution for this communication challenge. They recommend a three-level ontology-based solution: Ontologies of business terms in the first level, ontologies of EA components in the second level, and ontologies of relationships among EA components in third/top level. According to Kang, et al. (2010) these ontologies will harmonise the stakeholders’ understanding of EA amongst themselves and with the IT systems. Ontologies included definitions of terms, concepts and components as well as their inter-relationships. This brings an advantage of limiting the possible interpretations of these terms and concepts thereby minimizing potential confusion. Kang (2010) use the Zachman model for EA as a basis and build their ontology-based solution into it. Firstly, The WordNet (an ontology database terms in the English language) is used to impose common understandings on business terms, for instance, productivity. The WordNet database provides similar, opposite, subordinate, part and manner categories for each English term, therefore, increasing the logic with EA documentation. So, the term ‘productivity’ is defined and its synonyms provided (output, production, capacity, and yield) to overcome the possibility of misinterpretation by different stakeholders. Secondly, Semantics of Business Vocabulary and Business Rules (SBVR) are used for creating an ontology for EA components. Kang et al. (2010, p. 1461-1462) explain that the “SBVR is based on fact-oriented approach which is a conceptual modelling method that enables one to model and query business domains in terms of the underlying facts of interest, where all facts and rules may be

verbalised in language readily understandable by non-technical users of those business domains...the SBVR provides Structured English which uses a small number of English structures and common words to provide a simple and straightforward mapping to its concepts, fact types, and facts.” Thirdly, in Kang (2010) model, to ensure a shared understanding of relationships between EA components, the ontology of relationships is included in the third level which clarifies, for instance, if the relationships between concepts in the same or different domains are identical, supportive or subordinate. Kang (2010) work show that EA frameworks which were primarily situated in the IT domain will need to be enhanced to support collaborations between the IT and non IT stakeholders in facilitating organisational transformation. The ontology-based solution offered by Kang et al. (2010) is a useful starting point. The field of organisational transformation will benefit from further analysis of additional non-technical aspects of EA frameworks have an important impact on the success of EA implementation.

Not only is the conceptual understanding of EA and the scope of its work understood differently, the role of the enterprise architect is also interpreted in a variety of ways (Strano and Rehmani, 2007). Strano and Rehmani (2007) emphasise that an enterprise architect is different from existing management, analysis and engineering roles. They explain that, “Architecting the enterprise requires establishing a strategy, formulating a conceptual approach to achieving the strategy, and directing the execution of the concept to fulfil the strategic plan. The role of the enterprise architect changes with each of these stages” (Theuerkorn, 2005, p. 382). Strano and Rehmani (2007) developed their thesis about the role of the enterprise architect in the context of qualitative study they conducted to understand the knowledge and skills required of enterprise architects in the context of US Federal Government. The findings revealed that the role of an enterprise architect is multi-dimensional and can be abstracted into five categories: change agent, communicator, leader, manager, and modeller. Overall, the role of an enterprise architect is crucial in ensuring that an enterprise evolves without confusion, inefficiency, incomplete information, increased risk of duplication, or incorrect solutions. The skills required of an enterprise architect transcend technological know-how to business acumen and interpersonal effectiveness. As with the inaccuracy of placing EA solely within the technological domain of an organisation (Lapalme, 2012), there is a related problem of positioning enterprise

architects within IT departments rather than more widely across the organisation (Strano and Rehmani, 2007). Arguments posted on LinkedIn EA 'communities of practice' such as the 'Enterprise Architecture Network', support the notion that while most EA roles sit within the IT function of the organisation, a more effective EA function is more likely to be situated in the business function of the organisation.

The discussants in this community of practice also collectively acknowledge the need to articulate and communicate the role of EA function in a language that business stakeholders (for example, sales, operations, marketing and HR) can relate to, in order to establish a clearer appreciation of how and why EA fits within an organisation, including the interdependencies and relationships of EA and sub-organisations.

EA plays an important role in facilitating communication across different units of a business. However, depending on the complexity of the organisation, structure and the results that it wants to achieve, EA specifications will differ accordingly. Hugoson, et al. (2011) suggest two main factors which influence the EA specifications: 1) to what extent should information systems be differentiated across different departments in an organisation, and 2) to what extent should the information systems be integrated across different departments. The principles of information and responsibility are used to make the decisions about differentiation and integration. The principle selected for developing EA specifications will impose restrictions on the amount of flexibility that can be built into the systems. Further, these principles also have cost and time implications. The researchers summarise two case studies of a chemical company and a pump company, of which, the former selected the information-based principle for developing integrated IT systems, and the latter organisation selected the responsibility-based principle for developing differentiated IT systems. Hugoson, et al. (2011) discuss the specific organisational needs leading to these different decisions and their implications. A particularly interesting aspect of their research relates to the decision-making process at each of the two case study organisations which are alluded to only briefly, but offers some insights into how stakeholders at the same organisation can hold opposite views about information systems. At the chemical company, the Managing Director and the central IT Manager had different views on the effectiveness of the possible IT solutions and the final decision implemented

was taken by the IT Manager. At the organisation manufacturing and selling pumps, which decided to implement a differentiated IT system led by the responsibility-principle, the final decisions were taken by the Chief Administration Officer. The vendor, in this case, suggested alternative solutions which were rejected.

While the researchers in this study do not comment on the dynamics or the implications of these decision-making processes, it is interesting to note that similar situations probably occur in all organisations that are considering improvements to their business using EA. Additionally, it could also be noted that these interpersonal dynamics have short-term and long-term implications not only on the success of decisions, but also on how technology changes and the implications of the changes on people, processes, and team are communicated to, and received by, stakeholders across the organisation.

The interaction between the key pillars (people, processes and technology/tools) is an important narrative in the research by Hugoson et al. (2011). The present study aims to build on this concept by exploring in depth, the meaning and attributes of the 'people' pillar.

The success of EA depends on a number of factors. Adoption and habitation of technology solutions resulting from EA is an important driver of EA's success. Shuja (2011, p.11) recommends that for complete integration of EA solutions within an organisation, EA should focus on key "domains of interest (DOI)." These domains of interest include: 1) Operations, Innovation and Emerging Technologies, 2) People, 3) Process, 4) Policies and Governance. To understand how organisations transform themselves and the drivers of change (across the organisation) that result in successful transformations, Rouse (2011) conducted a survey across four organisations from different industries. It is important to note that across all participating organisations, the respondents placed greater value on non-technological changes over aspects like supply-chain management and industrial engineering. "They [the respondents] placed great emphasis on leadership, vision, planning, strategy, culture and change, and collaboration, teamwork, and social networking" Rouse (2011, p.88).

Amongst the twenty principles listed by TOGAF, the third principle 'Information Management is Everybody's Business' is a particularly significant one when considering the

importance of communication about EA processes and outcomes to stakeholders within an organisation. According to this principle, the business and technical experts from across the organisation are supposed to collaborate to jointly define the goals and objectives of IT. This is an important area that could potentially lead to inaccuracies and inefficiencies in business-IT alignment if the stakeholders are unable to communicate in a mutually understood language.

Enterprise Architecture and Organisational Culture

It is recognized in the literature that EA is considered to be crucial for enabling change in organisations; however, lack of consensus about what EA means and its scope contributes to inconsistency and unpredictability in the application of EA frameworks. Research has also shown that a significant proportion of EA initiatives are unsuccessful. Some studies estimate that over 60% of EA projects fail (Shaw, 2010). The failure of change projects has been attributed to a number of factors. These include: unrealistic expectations, emphasis on technology instead of business and poor organisation support. Ideally, change initiatives require the collaborative effort of multidisciplinary, multifunctional and multi-expertise groups (Shaw, 2010). However, in practice, there is a tendency to situate enterprise architect practices in the IT, thereby hindering the implementation and slowing realization of potential benefit brought about by the change program. Aier (2013) and Shaw (2010) emphasise that for Enterprise Architecture practices to be successful as approach for change, EA champions must demonstrate benefits to stakeholders across the organisation, not merely within the information technology community. However, as mentioned earlier, historically EA has been carried out as a passive exercise by the IT department. Another aspect which mediates the success of EA is the organisational culture. Aier (2012; 2013) uses the competing values model (CVM) to ascertain (1) whether organisations are focused on change or stability, and (2) whether organisations are internal or external focused. This type of profiling of the organisational culture is useful in identifying the specific EA interventions that will be suitable for an organisation. According to Besson and Rowe (2012, p.105), “organisational transformation is a global phenomenon in which psychological, socio-cognitive, socio-technical, economics and political considerations intertwine.” These researchers refer to a number of people-attributes alluded to in the literature reviewed on

organisational transformation, for instance, leadership, consensus or lack of amongst key stakeholders and attitudes towards learning from failure. Similar to Aier (2013), Kloeckner and Birkmeier (2010) also believe that EA (implementations) often ignores or underrepresent the business dimension, implicit in that are the social and human dimensions. They state that enterprise should be viewed as a “socio-technical system” and also stated that “especially human actors, as most flexible and agile elements of enterprises, are not adequately included in current architectures” Kloeckner and Birkmeier (2010, p.22). Communication challenges resulting from the complexity of the concepts and the variety of stakeholders are acknowledged. Some studies show that the impact of EA and related challenges will depend on who is making EA decisions in an organisation. Communication and complexity challenges within EA have been addressed in a number of ways – developing a shared vocabulary to establish a common understanding, using more efficient visual models, learning from product modelling and so forth. However, the challenges recognised and the solutions offered are restricted to the technical side, not accounting for the human or interpersonal factors.

Whilst EA is an important framework for making large-scale changes across the organisation, the planning and implementation of EA cannot be carried out as an exercise in isolation without understanding what type of change an organisation is ready for, and how its people will react to the different types of change. Besson and Rowe (2012) present a two-fold classification of organisational change: convergent change and deep structural change. Using Tushman and Romanelli’s (1985, p. 104) conceptualisation of convergent change, they define it as “a process occurring within a relatively stable structure. An example of convergent change is an organisation that improves its efficiency and effectiveness without rethinking its business model or key processes.” Kloeckner and Birkmeier (2010, p.23) endorse the process of thinking about the organisation as a system (including the technical and human components) whilst initiating EA because according to them this organisational context can have a significant impact on the overall success [of business and IT transformation] and is one of the main reasons of budget overruns or even complete failings, as stakeholders are resistant to change or do not adopt new technologies.

These researchers discuss two aspects of EA – one which is related to the future state that an organisation aspires to achieve and a second which is related to the process of reaching that ideal future state by making changes to the current state of the organisation. The aspirational state or ‘to-be-state’ is known as the design system and the implementation of the changes in the existing state is known as the run-time system. The researchers further postulate that each of these systems is made up of “socio-technical sub-systems” Kloeckner and Birkmeier (2010, p.29). The success of each system depends upon the participation of certain “agents” (technical artefacts and human beings).

The following figure taken from Kloeckner and Birkmeier (2010) shows which agents are important during the different phases of the design and run-time systems:

	Design system		Run-Time System	
	Action	Agent	Action	Agent
Global setting subsystem	(Re-)Define targets of system and actions	Humans only	Control and/or set goal of executed action	Humans and technical artefacts (goals are set implicitly)
Information subsystem	(Re-)Define necessary flows and tasks to achieve goals	Mostly humans, sometimes technical artefacts	Execute control flow or function templates, call necessary functions	Humans and technical artefacts
Execution subsystem	Create and acquire necessary flow and function templates	Humans and technical artefacts	Realize and execute certain function	Humans and technical artefacts

Figure 2.4: Agents of change, Kloeckner and Birkmeier (2010) p.29

Survey with Chief Information Officers (Lindstrom, et al. 2006) pointed that the use of IT to reduce costs to the business, improve the quality of interplay between IT and business dimensions and providing new computer-aided support to the business is prioritised by the CIOs. However, whilst the CIOs place emphasis on using IT to bring value to the business, a mapping exercise of the two important EA frameworks (Zachman model, DoDAF) shows that these priorities are not covered adequately in the frameworks.

In conclusion, most organisations today are focused on transforming their business by not only aligning business with information technology, but also by redefining their business models, processes and structures to take advantage of the latest development in technological advancements.

Daft (2008) states that identifying key socio-human aspects of successful change can be achieved by considering three critical areas of the organisation. First, understanding the Organisation, second, the team responsible for implementing the change, and third, the organisational support (in terms of Organisational Readiness for change and executive sponsorship to facilitate appropriate resources such as financial and people). Hladik (2013) builds on Daft (2008) and proposes three factors to help extend EA framework:

- 1) Influencing factors, which refer to identification and classification of resisters and supporters of change, which can be people, culture, or the environment. He further proposes the creation of 'agents of change' as described by (Christensen, 1996).
- 2) Readiness for Change, defined as the organisation's ability to adapt itself to change, including the impact on the human and structural aspects of the organisation
- 3) Communication Strategy, referring to the planning and governing of the communication plan both internal and external audiences.

Hladik (2013) associates these factors with the Business layer of EA framework. Yet, TOGAF defines the Business Architecture, referring to the Business Layer of the Architecture Development Model (ADM), as develop the target business architecture that describes how the enterprise needs to operate to achieve the business goals, and respond to the strategic drivers set out in the Architecture Vision, in a way that addresses the Request for Architecture Work and stakeholder concerns (Open Group, 2011).

It is conceivable that the socio-human factors extend in their scope to other layers of the ADM. Furthermore, Hladik (2013) proposed model provides a high-level definition of the factors and lacks validation and a process for using these factors in real scenarios.

Enterprise Architecture concerns itself with a holistic change in the organisation starting with Vision, Mission, and Values and drivers for change to specific changes that must occur in order to achieve the organisational goals and objectives. As digital technology plays an increasingly important role in leading and enabling organisational change, the Enterprise

Architecture frameworks which form the basis of holistic organisational alignment need to be reviewed to assess their fitness-for-purpose and bridge gaps or omissions that might be identified. Research in this area has pointed out that while EA is paramount to structuring coherent changes across an organisation; its focus tends to remain largely on the IT dimension. This narrow focus leads to challenges in planning and implementing EA initiatives designed to institute a desired organisational change. Research also points out that the traditional EA frameworks will need to be bolstered so that they have the full-intended impact across the organisation.

Based on the above, it is reasonable to deduce the following logical argument to motivate this study and establish its framework:

- 1) The importance of Covert factors in the iceberg model for running successful organisations, and
- 2) The non-technical (social and human-related) factors contributing to high level of failure rate in organisational change as articulated by Pankratz and Basten (2013), and
- 3) The omission of explicit considerations of socio-human factors in change management framework and models such as EA framework,

Therefore,

- 4) An important area for enhancing change models is the explicit inclusion of socio-human factors at the appropriate stages. This is likely to help mitigate some of the failure-factors of change.

While, research in this field suggests some features (such as leadership styles, organisational culture, attitude towards technology) that mediate the success of EA projects, the socio-human element is not clearly defined or fully articulated and needs further description.

The present study builds on Hladik (2013) model and seeks to articulate the proposed factors, their definition where appropriate, extend with additional factors and provide real scenarios that help validate or otherwise exclude certain factors. The enhanced EA model incorporates social and human artefacts bridges this gap.

Industry View of Human and Social Aspects of the Organisation

In order to provide a broader perspective of human and social factors in organisations, it is helpful to understand how organisations in different industries and disciplines consider these concepts. Realizing how different industries, disciplines and organisations view the notion of human and social aspects of change can help identify change approaches that encompass the different views. In addition, examination of how the terms are understood and applied in different industries and identifying common-thread, it might be possible to derive a set of common factors as the basis for universal definition that is accepted by most. This section explores how different contexts view and make use of the terms and attempts at identifying common threads.

In the Aviation industry, for example, the term human factor is defined as the application of science and engineering to ensure people (human) can work safely and efficiently and ensure they perform the job correctly; it is about people doing the right thing. The definition goes on to include procedures, education, and the use of tools such as checklist and procedures to help minimize issues that affect human performance. This definition focuses on the human performance and reduction/elimination of errors, while almost omitting certain aspects of human and social that are critical to change, such as relationships and language. It is, however, worth acknowledging that the way Aviation industry approaches the definition of the human factor is operational and the change is tactic (such as following a procedure) and interventions to minimize issues (failures) is introduced reactively in response to something have gone wrong. In digital change, it is critical that the human and social factors are considered early on in the process at the planning stage of change.

The Project Management Institute (PMI) describes the human aspects of Project Management (discipline) as the qualities and skills (project) managers' needs to have to facilitate desirable change at either organisational level or project level. Further highlights that the human sides of Project Manager as the most important qualities in identifying the right people for the right job. PMI elaborates on human sides (or characteristics) by categorizing them into three buckets: 1) Decision-making: entrepreneur, change agent, motivator, foresighted and fighter. 2) Traits: Leadership, negotiation, versatility, time

management. 3) Skills: Financial, Time and Risk management, a good listener and a good communicator. In addition, PMI states that Change Management is about how best to reduce negative perception of change.

AT&T Bell Labs (1981), a technology firm define human factor as the art and science of making technology useable by people; presenting users with the right information at the right time. This interpretation of human factors focuses on how people use technology for the betterment of their productivity by observing how people do their job and use computers to automate repetitive processes. Training required for employees to do their job (more effectively using computers) is a consideration when designing and implementing software solutions (leading to change in the organisation).

Ergonomics is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance. Ergonomics considers three dimensions of human factors:

- Physiology, which focuses on the work environment
- Anatomy, the biomechanics and anthropometry (the study of the measurements and proportions of the human body)
- Psychology, human information processing, organisational

Pew (1983) asserts that in building systems and defining business processes (implying change in the organisation), that the design begins with an understanding of the people role in overall system and that systems exist to serve their users both internal (employees) and external (customers).

The related discipline of Cognitive Ergonomics is concerned with mental processes, such as perception, memory, reasoning, and motor response, as they affect interactions among humans and other elements of a system (in this context during and after the change process). For example, it considers workload, decision-making, skilled performance, human-computer interaction, human reliability, and work stress and training. These two disciplines articulate human and social aspects of the organisation in systems design and implementation as important considerations.

Research Question and Industry View of Human and Social

While different industries and disciplines view and utilize the social and human aspect of the organisation differently, there are commonalities such as decision making processes (which is part of the organisational culture), skills, training, the psychological aspect of the employee (such as motivation, values, mental workload), and communication and listening, just to name a few. These factors establish a baseline on which to build a common set of social and human factors to help govern organisational change. These findings are congruent with the central theme of this study: Exploring the omission of social and human aspects of change and developing extensions to existing change model to provide more explicit guidance with the aim of improving rates of successful change.

Summary

This chapter provided a critical review of the literature across relevant theory as pertain to organisational change such as Organisation Theory, Organisation Behaviour, Change Management Theory, and Enterprise Architecture approach. In addition, literature and practice show a gap in established change management models suggesting omission of human and social factors. Scholarly studies suggest that change is 'increasing in speed, frequency, and significance' (Moore, 218 p. 13) and is multifaceted and complex. Managing the processes or sequences of events that unfold in organisational change such as transitions in individuals and groups had been very difficult independent of the chosen change model. The intangibles and covert factors involved such as feelings, values, relationships, biases, and motivations are difficult to capture and measure. These related to social and human part of the organisation. Establishing an understanding of how these change models deal with these intangible brings insights to support this study.

Table 2.2 summarizes the key finding and gaps in literature particular at the intersection of the three domains of knowledge and the comparative review of commonly used change models

Key findings and gaps

- Bodies of knowledge relating to people aspects of change are abstract, incoherent, dispersed, and superficial
- Organisations are complex social systems with unwritten contracts
- Organisations consists of people and their relationships with covert and overt aspects
- The 'covert' aspects of the organisation is critical to decision making, therefore, recognition and understanding of the 'iceberg' model is critical to the change process
- Root causes of failure are attributed to in inadequate understanding of the environment, the potential impact of change, over estimating the organisational competencies, capabilities, and preparedness, and of the required support to implement change
- Social and human aspects of change are relevant whether the change is incremental or transformational
- Change models provide insufficient guidance to address intangible (social and humans) aspects of the organisation
- Change models and literature stress the importance of the role of employees, but only a subset of the change models included provision for culture and relationship interactions
- Enterprise Architecture approaches can be viewed as change models. EA emphasis the technical aspects of change; yet, deferring the human aspects to other parts of the organisation
- The human science approach to change proposed by the discipline of change management tends to be post-mortem, after the fact, and reactionary to people's feeling about organisational change. Yet, modern scholarly studies suggest more direct and tangible involvement of people throughout the change process

Table 2.2 summary of key literature findings

The next chapter explains the research design underpinning this study and the reasoning for paradigm and data collection approaches.

Chapter Three: Research Methodology

Introduction

The previous section reviewed the literature on Organisation Theory, Organisation behaviour, Change Management Theory, Enterprise Architecture and related research on the factors influencing the success of change management initiatives. The concept of 'human' and 'social' (socio-human) factors was introduced and provided arguments, based on scholarly literature that established change models provide insufficient guidance.

Literature points out failure rates of change initiatives remain as high as 80% and the majority of the root causes are non-technical (Peppard, 2016; Pankratz and Basted, 2013; Kotter, 2012). Change management models provide adequate guidance to implement the technical aspects of change such as processes, performance management, roles and responsibilities, and training. Aspects of the organisation such as culture and sub-cultures, interactions, personal values, organisational politics, engagement receive insufficient guidance. Yet, change models stress the importance of non-technical aspects of the organisation as critical to achieving successful change. For example, industry change model ADKAR provides a level of guidance, arguably more so than other models; yet, gaps exist. There is an implicit assumption that non-technical aspects of change will be handled (Lewis, 2019). This chasm between stressing the critical of social and human aspects of the organisation and providing insufficient guidance is the central theme for this study.

Consequences of high rate of failure on companies transcends financial losses. Opportunity costs, hampered innovation, productivity loss, lower morale, and change fatigue. In addition, there is negative impact on the broader economy.

Literature and empirical evidence suggests that there is an omission of the social and human aspects of the organisation in established change models.

This study explores the omission of social and human aspects of change and attempts to provide insights driven by research data, whether extensions to bridge the gap is possible. If so, what are the constituencies of and features of these extensions and how do they complementary features to address the gap.

This chapter explains the positioning of this study in relation to the research paradigm and explains the research methodology used to collect and analyse the data. Furthermore, this chapter provides an explanation and justification for the choice of research methods, techniques and instruments used in this study. The critical theory, action research, and mixed methods align with the present study and are fit for purpose because they provide opportunities for close observations of actors in their natural habitat and facilitate deeper understanding of the issues related to the research.

Overview

The overarching research question explores how change processes and models can incorporate social and human aspects of the organisation more explicitly. It builds on the hypothesis that the omission of social and human aspects during the change process is a root cause for the high rate of failure.

Fifteen established change models constitute the theoretical framework for this study, including Enterprise Architecture approaches, represented primarily by the Open Group Enterprise Architecture Framework, TOGAF (Open Group, 2011).

Enterprise Architecture approaches are commonly recognized as a useful approach for organisations aiming to create greater alignment between different layers of the organisation, particularly business and technology. However, while Enterprise Architecture approaches such as TOGAF (Open Group, 2011) propose architecture development methods (ADM) that have layered view of the organisation, in practice, most Enterprise Architecture initiatives focus primarily on the technology dimension of change. Enterprise Architecture practices, similar to other change models, suffer from insufficient focus on the social and human aspects of change. For example, Enterprise Architecture frameworks, while stressing their importance in the change process, tend to exclude the most active and influential agents or artefacts of change, that is, the people. Kloeckner and Birkmeier (2010) refer to this these artefacts of change as *social and human factors*.

The current study hypothesises the need to include the socio-human factor in the application of change models to help improve rates of successful organisational change,

particularly digital technology driven change, commonly referred to as digital transformation.

Literature and preliminary investigation in the context of this study point out that organisational change implementations are largely a people management issue (Mullins, 2013).

An omission of the socio-human factors (social and human dimensions of change) in the traditional change models including Enterprise Architecture approach results in challenges related to cost, inefficiencies, time delays, resistance to change and a lack of coherence in organisational transformation. Kloeckner and Birkmeier (2010) in describing the role of people in supporting organisational alignment point out the following:

“It becomes obvious that humans and groupings of them play an important role in today’s enterprises and the negligence of their actions and properties result in incomplete models, especially, as humans are the only components in the system “enterprise”, which are able to act in an agile way” (p. 23).

It is equally important to note that the inclusion of the socio-human factor in Enterprise Architecture approaches also creates several open questions that align with the present study’s overarching question and sub questions:

- How can additional capabilities of human individuals (e.g. social networks), not directly connected with their role in the organisation, be reflected in the change models?
- What side effects are created by the inclusion of the socio-human factor?

These two points are significant to the research question and sub-questions. The reason is that change models and processes, of which EA is an example, often place greater emphasis on internal processes, stakeholders and artefacts. However, an individual engages with and is influenced by factors that are external and not related to the work environment.

Recognition of the outside influences that directly impact that individual’s ability, desire, and motivations to make-decision should be considered in exploring potential extensions to

change models. Furthermore, incorporating social and human attributes or extensions into change model may introduce complexities that is not immediate evident.

Building on the premise that 'people' are a key pillar of successful organisational change enabled through EA approaches, and EA is a key enabler of organisational change; this study aims to address the omissions in the traditional EA framework to articulate fully the missing element of the socio-human factors. The study also aims to use the findings to develop a set of extensions in order to incorporate social and human aspects of the organisation into change models. Specifically, the overarching research question build on the hypothesis that the omission of social and human aspects of the organisation during the change process is a root cause of high rate of failure and states:

How can change processes and models incorporate social and human aspects of the organisation more explicitly?

The overarching question gives rise to several relevant sub-questions:

- **How do organisations interpret the terms 'social' and 'human'?**
- **What does 'explicit' articulation of social and human aspects in the context of organisational change look like? What are the elements?**
- **How will these features fit into and extend change models and processes?**

Relevant and related questions that are not included in the scope of this study include:

- *What are the practical implications of incorporating these extensions on individual(s) and on the team?*
- *How will these extension impact the complexity and practicality of the effecting change?*
- What is the varying degree of importance of each dimension with respect to the different layers (Application, Business, and Technology) in the organisation?

The remainder of this chapter explores the following: research paradigms considered, research design and research methods. The following chapter explains data collection approaches, anticipated challenges and limitation in the context of Action Research method.

Qualitative and Quantitative Research

In scientific social science research, Punch (2014) classifies data broadly into two types: quantitative data which are data in the form of numbers (or measurements), and qualitative data which are data not in the form of numbers (most of the time though not always, this means words). While distinguishing between the two approaches can be useful in scientific writing (Bryman and Bell, 2015).

Quantitative approach deals with empirical studies and research questions that required measurements, numbers and statistical calculations to support the research question or to assert or nullify a hypothesis. The concern is with the quantity (or measure) of a given object or person and of things that can be counted.

Qualitative approach, on the other hand, is concerned with the quality and attributes of a person or object under study. Quality is a property or an attribute that a person or an object under observation or being studied and is something that cannot be measured but can only be experienced.

According to Strauss and Corbin (1998), qualitative research stresses understanding of people, experiences, beliefs, attitudes, behaviour, and interactions. The data gathered in this approach tends to be detailed, reflective of the individual's perception of the world, and the form in which data is gathered is mostly non-numerical. These themes are central themes to this study. Furthermore, Islam (2016) explains that qualitative methodologies use more flexible, iterative style of eliciting and categorizing responses to questions thereby serving the purpose of this study, as explained in the sections below.

This study applies qualitative research considering the characteristics and flexibility of the qualitative instruments and data interpretation. The primary methods for collecting data are two focus-group workshops and a series of semi-structured interviews with open-end questions. The researchers aims to explore additional data sources from novel sources such as professional communities of practice on LinkedIn. Engaging communities of practice is optional component of the data gathering.

Research Paradigm

This section explores the different research paradigms and provides reasoning for the selection of Critical Theory and Action Research for this study.

A paradigm is a set of beliefs or rules for engaging with the environment and the research questions. The paradigm selected for conducting research has implications for research design, data collection and analysis (Guba and Lincoln, 1994). Broadly speaking, there are four main paradigms available to researchers: *positivism*, *post-positivism*, *critical theory* and *constructivism* (Guba and Lincoln, 1994). **Positivism** lends itself to experimental research designs where certain variables are controlled and others manipulated to understand the impact of these manipulations on the area of study. **Post-positivism** acknowledges that in order to study most situations involving *human action* and *attitudes*, the context is an integral part of the research and needs to be introduced in order to explore these issues more meaningfully. Research as per positivism is devoid of the context. The **critical theory** builds on post-Positivism further by asserting that any area of research is not free from the researcher's perspective or bias, and this bias should be articulated. Finally, the paradigm of **Constructivism** is embedded in the philosophy that each individual brings their own interpretation to the area under study, and therefore, research should acknowledge that multiple realities exist in relation to any research question.

This study falls within the scope of the **critical theory** paradigm because it considers and takes on-board both the context in which the research is conducted (organisations planning for or currently undergoing transformation) and the researcher's own perspectives, experience, and role, both as a practitioner and a researcher. Critical theory was developed by Jürgen Habermas as a basis for investigation and action in the social sciences (Kincheloe and McLaren, 1994). A researcher working within this paradigm will have one or more of the three main interests with regard to extending knowledge: an interest in understanding the physical environment; an interest in understanding the meaning of the situation; and, an interest in growth or advancement within a particular context. The researcher in the current study has a vested interest in all three areas of knowledge advancement.

The study aims to explore the place and significance of the 'social' and 'human' factors in planning for organisational change utilizing established change management models, including Enterprise Architecture approaches. The study also seeks to explore ways to extend and enhance change models by proposing steps that more explicitly incorporate 'social' and 'human' aspects of the organisation.

The researcher in the study is immersed in this research context due to his professional role in enabling organisational transformation. Examples of the researcher's roles include an Integration Program Lead, Head of Organisational Readiness, Chief Operating Officer, and Principal Consultant on Digital Transformation. This gives the researcher a vantage point from where it is possible to engage meaningfully with the organisational change process, how change models and approach are implemented. Proximity to real context of change presents opportunities for the research to observe people in action, their attitudes, interactions, biases, leading to richer data and enhanced insights.

This section provided an overview of different Research Paradigm and reasoning for the suitable paradigm for this study, namely critical theory. The next section discusses Action Research and its relevance and suitability for this study.

Action Research

As explained in the previous section, the most suitable research paradigm for conducting the current study is Critical Theory. A meaningful approach for studying the research questions within this paradigm is Action Research (Zuber-Skerritt, 2001). The origins of action research lie in health and education settings where professionals engaged with their own professional contexts through systematic enquiries to improve their own practices. These enquiries were led mainly by observations and interviews and enabled health and education professionals to identify solutions to practical problems in their settings. The researcher is a critical element of action-research and is involved in all stages of data collection and analysis.

Action research is the most relevant approach to investigating the research questions in this study. The researcher in the present study is immersed in the context of the research, which

enables him to observe and identify problem areas with regard to design and implementation of Enterprise Architecture practices. Enterprise Architecture as a subject matter is concerned with enabling change in business environments in a way that contributes to the successful implementation of information technology projects (Hugoson et al., 2011). In the context of this study, the researcher is also an important member of the change program responsible for bringing about the desired change in the organisation. The researcher acknowledges the complexities and potential conflicts of being in a dual role of a researcher and practitioner. Such areas will be noted and their impact will be assessed and factored into any potential conclusions drawn from the research.

Reflection is a crucial aspect of action research (Brydon-Miller, 2003). In this study, the researcher reflects on the findings that emerge from each stage of data collection which influence the specific questions included in the subsequent stages of data collection. It is important to comment on the reliability and validity of data stemming from action research. As Chandler and Torbert (2003) ask: *“How does one generate valid information about a present situation when one is one of the interested parties and action is urgent?”* Their response to this question is situated in particular data collection techniques, where information is collected about the present and the future, from a number of stakeholders and, in a number of ways (mixed methods). According to the authors (Chandler and Torbert, 2003), this ensures that all views are considered equally important and are triangulated using different techniques for eliciting views about the same process/topic.

The challenge of being one of the interested parties where action is urgent is vivid and pronounced in this study. As the researcher is an active participant in the change programme within which this study is situated, there is an expectation that the researcher delivers appropriate and effective [positive] change to the organisation. Therefore, the researcher operates in a context where data collection is combined with the professional responsibility of planning and designing workable change program. This requires reflection, intellectual flexibility, and integrity so that the researcher is able to fulfil the dual roles effectively and critically.

Moore (2018) stating that change management scholarly work was done by academics and or research organisation with little to no direct involvement in the change process. Lack of

opportunities to be involved in the day-to-day experiences of the change program and limited access prevents external researcher from valuable observations which can only be achieved by those on the 'inside.' Therefore, external researcher may miss out on learnings and knowledge that can only be gained by direct participation in change programs.

Action research is governed by ethics that a researcher must embody. As an action researcher, being mindful and able to distinguish between my role as a researcher and my role in the company, my intervention is measured and thoughtful. It does not influence the enquiry process or outcome of the research. Doing so, allows focus-group participants and interviewees to behave naturally and be authentic in their responses.

Being in such unique position provides opportunities to observe patterns of behaviour that would not be possible otherwise, leading to more informed research and outcomes.

It is sometimes difficult to separate one's sentiment as an 'action researcher' and as professional. However, being conscious of the necessity of that separation for the validity of the study, a researcher endeavours to do. A researcher judiciously and carefully provide input to, for example, facilitated the flow of discussion, however, without impeding the nature of information exchange among participants.

This section discussed the suitability of action research for this study and the responsibilities of the researcher's dual role. The next section explains the data collection methods and instruments and the reasoning behind the design decisions.

Research Design

A mixed-methods approach is used in this study to collect data which helps to triangulate and corroborate findings in relation to the research questions. A mixed-methods approach is consistent with action research in that it enables the researcher to understand the same issue from different perspectives, covering it in breadth and in depth (Palak and Walls, 2009). Creswell & Plano Clark (2011) also outline similar reasons for using mixed methods research. Citing Greene, Caracelli, & Graham (1989) these reasons include triangulation, complementarity, development, initiation, and expansion. Lund (2012) identifies four principle advantages of using mixed methods: 1) mixed methods research is more able to

answer certain complex research questions than single qualitative or quantitative research methods. 2) Qualitative and quantitative results may relate to different objects or phenomena, but may be complementary to each other in allowing the combination of different perspectives. 3) Mixed methods research may provide more valid inferences where results converge, and 4) divergent or contradictory results can lead to extra reflection, revised hypotheses, and further research to generate new insights (Lund, 2012).

The present study uses a sequential design for three of the four aspects of data collection wherein the findings from each stage of data collection feeds into the following stage (Teddlie & Tashakkori, 2006). Data collected from the fourth technique is exploratory and aim to provide insights into the other three techniques. In this study, four main techniques are used to collect data:

- ***Focus-group workshops***

The workshops are interactive sessions designed to uncover the full breadth of issues relating to peoples' attitude, behaviour and roles, and the extent to which these attributes influence decision making with regard to organisational transformation. Types of workshop include:

- *Stakeholders' alignment*: cross functional stakeholders to validate common understanding of the transformation programme objectives and scope, operating models, and reconcile boundaries and perspectives. Includes *technology selection and change discussions* to establish consensus on a fit-for-purpose technology platform to enable the organisation to achieve the desired outcomes.
- *Operating models alignment*: the most comprehensive workshop in which representation from the Sales, Products, Operations, and IT are present with the aim of aligning the priorities and plans. The discussions investigate the key business priorities for the different stakeholders that are within the scope of the transformation program.

- ***Semi-structured interviews***

These interviews explore in depth and triangulate the perspectives that emerged from the focus-group workshops.

- ***Discussions on LinkedIn Forums***

This is a novel approach to gather data from like-minded professionals with interest and expertise in Enterprise Architecture approaches and organisational transformation planning. It servers to understand the consensuses and

disagreements within the Change Management community of practice regarding the extent to which the notion of socio-human factors influences their practice. Data collected through this technique provides insights to enhance the questions used in the other three techniques.

Research Philosophy, Methodology and Strategy

The 'research onion' model illustrated in figure 3.1 enables researchers to create fit for purpose research philosophy by working from outer layers to the centre of the onion model. Understanding and choosing a philosophy is an important step in planning and carrying out research. Sanders et al (2019), describe the stages through which a researcher must pass when developing an effective methodology in order achieve maximum credibility and validity of the research discourse. It also enables the researcher to provide explanations and justifications for each level of the methodological decisions.

Sahay (2016) investigated the phenomena of researchers in business and technical field and found that a few of them were aware of the 'Philosophy of Science' and 'Theory of Research'. However, their research methodologies focused on the research objectives and the research questions, and on obtaining data and mechanistically analysing them. This means that they start 'peeling the onion' from the centre and paying insufficient attention to the outer layer of the metaphorical onion. The researcher's understandings and associated decisions with regard to outer layers of the onion is what provide the context and boundaries within which data collection techniques, processing of data and analysis procedures. The core of the research onion needs to be considered in line with other design elements which are contained in the outer and middle layers of the research onion. The outer layers of the onion form the root and the middle layers the building blocks of the research. They are crucial to the development of an appropriate research design which is coherent with the objectives and the research questions.

According to Saunders (2019) and Sahay (2016), the premise of the different layers in the research onion is that a researcher starts from the outside and peel each layer until the core is reached. These layers are broken up into six main areas:

- Research philosophy
- Research approach
- Research strategy
- Research choices;
- Time horizons
- Techniques for data collection and analysis

Research philosophy refers to the set of beliefs concerning the nature of the reality being investigated. It is generally examined in terms of ontology and epistemology. Epistemology refers to what constitutes valid knowledge and how to obtain it. Ontology refers to what constitutes reality, the understanding of this reality and how it is interpreted.

Research approach, the deductive approach starts small and gets bigger. It starts with a specific hypothesis or hypotheses that has been developed based on information or patterns that have been observed by the researcher. It then seeks to test this hypothesis and develop a broader theory from it. The inductive approach is the opposite. It starts with a broad theory and then focuses later on the smaller, more specific details. This is sometimes referred to as a move from the specific to the general. Typically, a deductive approach is associated with quantitative research and an inductive approach is associated with qualitative research.

Research strategy, Choice and Time Horizon

The strategy layer of the research onion refers to how the researcher intends to carry out the work, i.e. what method of data collection will be used. The choices outlined in the research onion include the mono method, the mixed method, and the multi-method. The mono-method involves using one research approach for the study. The mixed-methods required the use of two or more methods of research, and usually refers to the use of both a qualitative and a quantitative methodology. In the multi-method, a wider selection of methods can be used. The Time Horizon refers to the time frame within which the project is intended for completion. According to the research onion, there are two types of time

horizons: cross-sectional and the longitudinal. The cross-sectional time horizon is when there is a pre-set time established for the collection of data. A longitudinal time horizon refers to the collection of data repeatedly over an extended period.

Techniques for data collection and analysis

This layer of the onion model is about the tactical steps the researcher undertakes to conduct the research. For example, primary data collection which refers to data collected first-hand for purposes of the research projects, or secondary data that was collected by somebody else and subsequently published. At this stage, the research design becomes clearer supported by valid justifications and provides a framework the appropriateness of the chosen methodology, the way the researcher participants are selected, and approach for analysing the data.

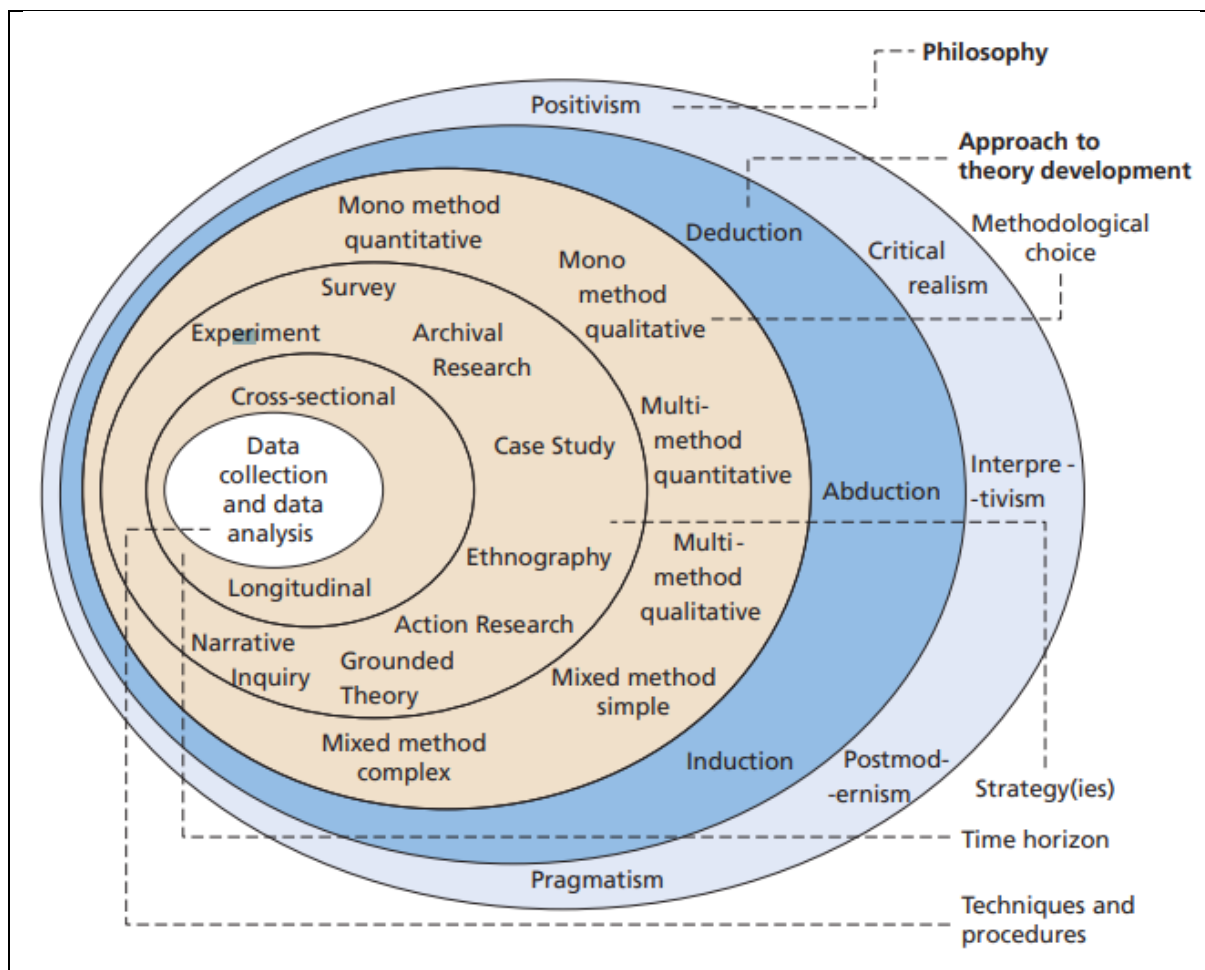


Figure 3.1, The Research Onion
Source: Saunders et al (2019)

Contextualizing this Study into the ‘Research Onion’ Model

The present study proposes a hypothesis that is derived from assimilation and synthesising of previous scholarly research. Then, through the discourse of this study, explores the extent to which this hypothesis is supported by empirical evidence. Figure 3.2 provides a representation of the research design in the context of an adaptation of the research onion.

- Research philosophy: the Critical Theory
- Research approach: a hypothesis is proposed based on synthesising the outcomes and findings of previous scholarly research in the area of projects failure and organizational change
- Research strategy: Qualitative, Mixed Methods
- Research choices: semi-structured interviews, focus-group sessions
- Time horizons: cross-sectional, the research constraints included limited time and scope
- Techniques for data collection and analysis: Semi-structured interview questions, templates for capturing responses, criteria for selecting interviewees and focus-group participants, thematic approach to analysis and derivation of outcomes.

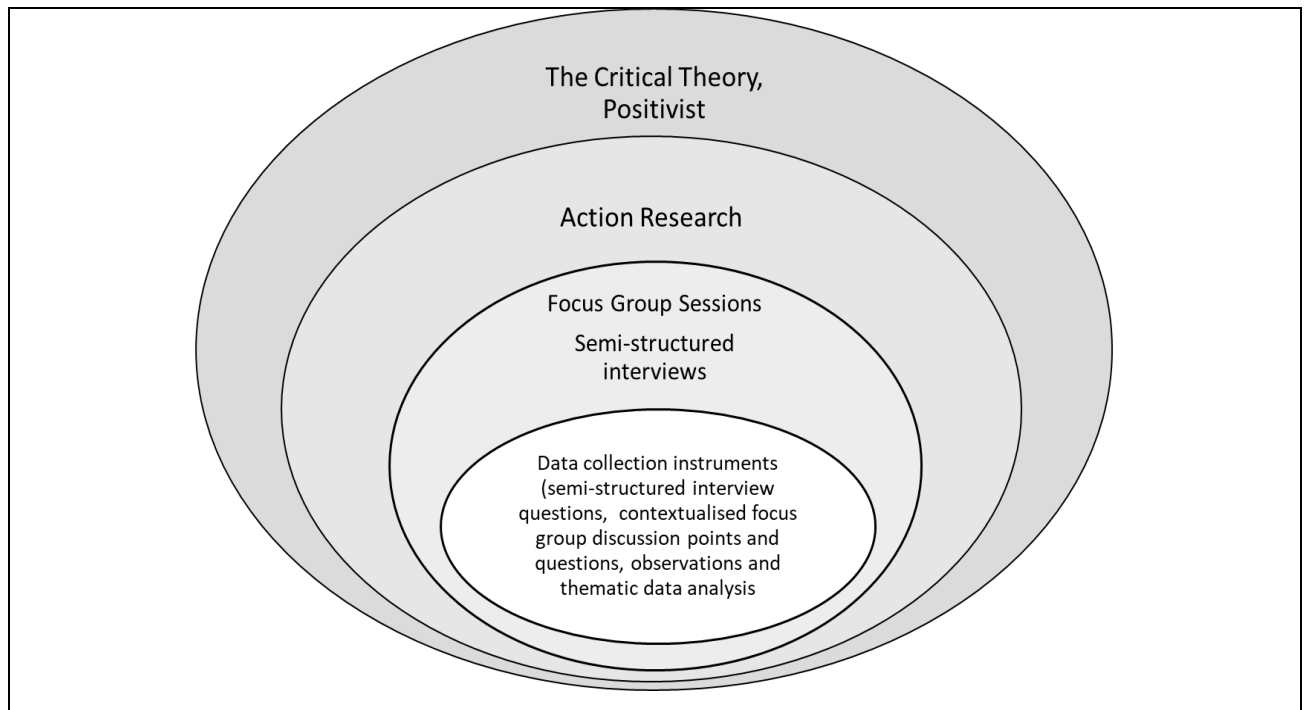


Figure 3.2
 Research design underpinning this study represented as a research onion
 Adaptation of Saunders 'research onion' model

Dual Data Analysis Approach: Phenomenological and Thematic Analysis

Qualitative research, as defined earlier in this chapter, represent a composite of diverse range of epistemological, theoretical, and disciplinary perspectives. It combines elements and techniques from across traditions and patterns providing the theoretical or philosophical foundation for a framework for enquiry. However, it is the data collection and analysis processes and the outcomes of these processes that are paramount (Guest, 2012). Deductive and inductive reasoning is then possible based on the argument that researchers come to know based on the process by which the knowledge is acquired (Agar, 1996). Thematic analysis is a process that moves beyond counting explicit words or phrases and focuses on identifying and describing both implicit and explicit ideas within the data, producing themes (Guest, 2012, p. 10).

Thematic analysis is a qualitative data analysis method that works by clustering and interpreting research data, identifying patterns and meanings, and continuing the process for 'themes' to emerge. Then, use these themes to derive relevant conclusions, observations, and or

outcomes. Thematic analysis does not equate to summarizing the data. It is the repetitive clustering and interpreting of the research data that provides substance and rigour (Boyatzis, 1998).

In addition to flexibility, thematic analysis is exciting because the researcher discovers themes and concepts embedded throughout the data collection process such as interviews and focus-groups sessions. A theme captures something important about the data in relation to the research question and represents some level of patterned response within the research data (Braun and Clarke, 2006). Deciding on what constitutes a theme is an important aspect of thematic analysis. While there will be a number of instances of the theme across the data set, the number of instances does not necessarily mean that it is a theme. Braun and Clarke (2006, p.10) state that thematic analysis is a qualitative research method therefore there is no hard and fast rule the percentage of the data that must reflect a data item to be considered a theme, 'keyness' is important. Keyness is about the prevalence of the theme to the research question.

Blandford (2016) describes six steps to thematic analysis: 1) Familiarize yourself with your data, 2) Assign preliminary codes to your data in order to describe the content, 3) Search for patterns or themes in your codes across the different interviews, 4) Review themes, 5) Define and name themes, and 6) Produce your report. This approach while straightforward and simple process that allows the researcher to quick start analysing semi-structured interview data, there are pitfalls. Often an important thing to ensure is that the analysis delivers insights relevant to the research question and research aims. This approach may lead into interesting information that is not relevant to the research question and therefore the researcher must exercise diligence to avoid entering a not relevant rabbit hole.

Similar approach to thematic analysis is the phenomenological approach presented by Giorgi (1997). The goal of phenomenology is to develop an understanding of a phenomenon through the specific human experience of the phenomenon, in order to better understand that experience of being in that 'life-world'. It serves to understand a person's experiences rather than to provide causal explanation of those experiences. Englander (2016) states that in developing a qualitative methods, researcher is also explicitly dealing with various obstacles in the logical relation between scientific aim, method, and research object.

Researchers modify their approach to adhere to scientific (i.e., human scientific) criteria in order to meet the demands of the new research situation to be congruent with the overall aim of a qualitative human science. “Human science relies on the method developed in a phenomenological philosophy, because this particular method is better suited for disclosing the subject matter we are studying” (Englander, 2015, p.2). From a phenomenological perspective “the object always transcends the act in which it appears” (Giorgi, 1997, p. 237).

The phenomenological approach, derived from the field of human psychology and study of social phenomenon, provides a multi-step approach to analysing the data, starting with ‘induction’ to ‘deduction’ (Moore, 2018, p. 151) by starting with a set of data and systematically distilling and collated ‘human’ centric data resulting from qualitative, scientific methods to derive patterns and themes.

Giorgi (1997) approach consists of five step synthesized and summarized by Moore (2018) as follows:

- Collecting verbal data, a process of interviewing participants for their “natural description” of the phenomenon
- Reading the data for understanding at a macro level
- Breaking the data into parts (in Giorgi’s terms, “meaning units”)
- Organizing and expressing the data from a disciplinary perspective (bracketing or categorizing)
- Synthesizing or summarizing the data

While there are similarities between thematic analysis approach and the phenomenological approach to research data collection and analysis, there are key differences. The phenomenological approach concerns itself with providing rich description of the lived-experience revealing meanings that may appear hidden and understanding of the phenomena. The researcher may in turn develop better understanding of the possibilities embedded in the experience of phenomena and serves to understand a person’s experiences, rather than to provide explanation of those experiences. The thematic analysis focuses on deriving themes from the data sets by refining the data.

Step	Phenomenological approach	Thematic Analysis approach
1	Collecting verbal data, a process of interviewing participants for their natural description of the phenomenon	Familiarize yourself with your data
2	Reading the data for understanding at a macro level	Assign preliminary codes to your data in order to describe the content
3	Breaking the data into parts (in Giorgi's terms, meaning units)	Search for patterns or themes in your codes across the different interviews
4	Organizing and expressing the data from a disciplinary perspective (bracketing or categorizing)	Review themes
5	Synthesizing or summarizing the data	Define and name themes
6		Produce your report.

Table 3.1
Phenomenological approach vs Thematic Analysis to data collection and analysis

Template Analysis

King (2012) defines 'template analysis' as a mechanism researcher use to analyse qualitative data that allows for theme to emerge. The analysis involves the development of coding that summarises themes that emerge from the data sets and organizes them in a meaningful and usable format. Themes are recurrent features of participants perceptions, description and characterisation of a particular experience that researcher sees as relevant to their research question. Coding is the process of identifying themes in accounts and attaching labels (codes) to index them. Once codes are defined, they are organised so as to represent meaningful relationships between the different themes.

Brooks and King (2014) describe Template Analysis as 'a pragmatic technique which can be applied within a range of different qualitative research approaches' (p.5). For example, it can be used by qualitative researchers concerned with the 'discovery' of underlying causes of human action and particular human phenomena. The aim of the present study call for multiple, iterative, interpretations the phenomena of decision-making by individuals and by

groups in the context of digital transformation. Also, the role of the researcher and the specific human and social context of the research. There is focus on researcher's reflexivity, acknowledgement of multiple potential perspectives and concern with the generation of rich description.

The main steps involved in the Template Analysis approach are:

Step-1: Familiarisation with the raw data by reading through the full data and select a subset of the data as a starter.

Step-2: Conducting a preliminary coding of the data and highlight anything in the datasets that is of potential relevance to the research question and aims. In preliminary data coding in Template Analysis, it is common to use a priori-themes, these are tentative themes that have been identified in advance of coding. King (2012) recommends restricting the number of priori-themes as much as possible and selecting only those identified as most relevant to the research question and aims.

Step-3: Creating an initial coding template based on the themes identified in Step 2.

Step-4: The initial template can now be applied to further data and modified as necessary. Where existing themes can accommodate new data, they are incorporated. Otherwise, the existing themes can be modified or new themes can be introduced.

Step-5: This iterative process of trying out successive versions of the template, modifying and trying again can continue for as long as seems necessary to allow a rich and comprehensive representation of the data.

Step-6: Once the data set is exhausted, the final template serves as the basis for the interpretation of the data set and structure for deriving the research outcomes.

This study considers a combined approach, one that follows the thematic analysis approach and the second adopts the phenomenological philosophy to capture and analysing data. Qualitative data provides for flexibility in enabling the researcher to derive data and conduct the analysis using both approaches and allowing for themes to emerge.

The data collection process for this study follows a Mixed Method approach, a set of 11 semi-structured interviews and two focus-group sessions. For analysis, the research aggregates the data sets generated by the two methods and applies a combined Template Analysis and a Phenomenological approach to allow for relevant themes to emerge from the data.

Limitations

Scope and duration

Actions related to social and human aspect of the organisation tend to be lagging indicators and their results may not become evident for some time. Fullan (1991) estimates that it takes at least from three to five years to see the effect of a moderately complex change programme (referring to the change that impacts human behaviour, attitudes and culture). In the present study, consideration of time and resource constraints allowed for limited number and duration of interviews, focus group workshops, and semi-structured evaluation interviews. Ward et al. (2004) suggests application of the Benefits Dependency Network process, a workshop conducted over a number of days, followed by a period of reflection, analysis and documentation. In contrast, constraint with time and availability of participants, the focus group workshops and evaluation sessions were conducted in a relatively shorter duration proceeded with careful planning and pre-workshop tasks. The duration of each, while limited, resulted in rich content and useful insights.

Methodological limitations

The study assumes a naturalist approach looking at patterns and commonalities arising from the data to capture emerging themes that could be translated into extensions that support change models. This constitutes a product of this study. However, this approach does not prevent incorporating data in literature and archives (Pandit, 1996); thereby legitimising incorporating the classification of social and human factors as proposed by Hladik (2013) into the study.

The limitations articulated above are revisited in the next chapter showing the relevance and impact of each on data collection. Furthermore, these limitations create an opportunity for further research endowed with larger sample size, longer duration, and more resources.

Participant selection criteria

There are limitations relates to participants selection and the criteria by which they were selected. Due diligence and careful selection process was used to identify and subsequently invite interview research participants and the focus-group participants. However, because of the nature of Action Research and the fact that data collection was being done in an actual change program, the focus-group participants send delegates to attend on their behalf. This did not pose a significant issue since the alternate was a peer of or next in command of the individual invited.

In addition, a number of factors contributed to determining and limiting the sample size including: scope of study, time, resources, and participant's availability. As such, it afforded the participant the opportunity to exchange perspectives on the central theme to this study, empirically develop extensions to change model that incorporate social and human aspect of the organisation into the change process and effect successful change.

It would not be prudent to claim their views substituted for the all the departments across the company, nor is this claim being suggested. Yet, participants represented a subset of the change team, which in turn represented the enterprise. The change team participants brought unique perspectives to the study that would have otherwise been difficult to attain. The Change team's insights helped corroborate the findings throughout the study by virtue of their continued involvement with the broader change team and the broader enterprise. While the study's claims are modest, the findings reflect an authentic thinking of participants and represent a comprehensive account of their views in relation to organisational change.

Ethical Statement

The central theme of this research is 'people' aspect of organisation taking two perspectives 1) 'Human' referring to the *individual*, their perceptions, interpretation, readiness, competencies, biases in relation to change in their organisation. 2) 'Social' referring to team, group, and the organisation at large. The process of inquiry explores the organisation from individuals and team perspective and therefore it is important to state that this research adhered to the highest level of standard, as should be the case when working with people. Confidentiality of individuals, team and organisations is critical and therefore their identity is kept confidential.

Research participants in the focus groups and in interviews understood the purpose of the study and how information they provide will be used. The researcher explained to participants that data collected is used in aggregation to detect patterns. Furthermore, the researcher explained that quotes may be used to draw conclusions or support a particular argument or a position. In such cases, the quote will be anonymous.

Finally, there is ample evidence and precedence of the usefulness of Action Research particularly in the field of education and social sciences. In the present study, the researcher is also a practitioner in the field of organisational leadership and organisational change. Some of the organisations participating in the research were places of employment for the researcher. This presents both challenges and opportunity. The challenge is that the researcher must separate their own feelings and motivations from the inquiry process, analysis, and bias-influenced interpretation of data. On the other hand, the research context presents an immersive experience for the researcher and a first-hand perspective to observe behaviour and decision making in its natural settings. The researcher is fully aware of both the challenges, opportunities, and ethical constraints associated with Action Research and fully adheres to the highest standards of ethics in conducting this study.

Summary

This chapter explained the research methodology and design underpinning this study and provided justification for situating the research in the Critical Theory paradigm and

reasoning for using Action Research and Mixed Methods for data collection. The paradigm and choice of data collection methods provide depth and breadth of data and provide the opportunity to triangulate the data to minimize potential errors. The next chapter explores how the data was collected and sets the stage for discussion of the finding and the resulting model.

Chapter Four: Data Gathering and Results

Introduction

Previous chapter explained the research paradigm and overall research design underpinning this study and provided reasoning to show fitness-for-purpose. This chapter describes how data was gathered, synthesised, and how results were derived. This section explains the instruments used to collect data and discuss challenges and constraints faced by the researcher, as an action researcher.

Scholarly literature suggests two observations related to organisational change management in the context of undergoing change, transformational and incremental. One is that the rate of failure is extraordinarily high approaching 80%, the second is that the majority of the root causes of failure are non-technical, or people related (Pankratz and Basten, 2013).

As explained in previous chapter, common change management models tend to focus on the technical elements such as processes, structures, and technologies. The people aspect of change remains narrow, often focusing on defining roles and responsibilities of individuals and team. These technical aspects of change are relevant and important to the change process (Kotter, 2016), but insufficient, according to Moore (2018,) who directs attention toward the social aspect of the organisation and its critical role in enabling success or failure. Moore (2018, p.28) state that 'change models might have 'misunderstood the culture and politics of the organisations they studied, and their findings might differ from the perspectives of organisation employees.'

Fundamental aspects of successful change processes, specifically considerations related to employees as individuals (human), and team or groups of employees bound by common goal (social) are underrepresented.

Hellriegel (2004) description of the 'covert' aspects of the organisation which may not be visible to decisions makers and could perpetuate failure if not addressed adequately is consistent with Moore (2018) view states that 'social structure, the grapevine' could derail a project if not sufficiently considered and integrated into the change process.

‘Explicit’ and ‘adequate’ representation of social and human dimensions in the change process are of particular significance. Change models and processes often declare the importance of ‘people’ to the change process, however, provide insufficient guidance for practitioners to plan for and mitigate this aspect of change.

This study hypothesises that the explicit and adequate articulation of socio-human aspects of the organisation in the change models and process may begin to mitigate certain failure factors and contribute to improving rate of successful change.

The purpose of this study is to explore this extraordinary phenomena focusing on the omission related to employees as individuals (the phrase ‘human’ is used in this study to refer to an individual employee), and team or groups of employees bound by common goal (the phrase ‘social’ is used in this study to refer to groups and team more broadly).

The overarching questions underpinning this study explores how can change processes and models incorporate social and human dimensions more explicitly in order to promote successful digital transformation. Three relevant sub-questions:

- What does ‘explicit’ articulation of social and human aspects in the context of organisational change look like? What are the elements?
- How do organisations interpret the terms ‘social’ and ‘human’?
- How will these features fit into and extend change models and processes?

This chapter breaks down the process by which data was gathered and analysed and results drawn starting with a description of the pilot study, designed and implemented to test the research question and the interview questions, followed by description of the environment and demographics of the research participants, for both the semi-structured interviews as well as the focused group sessions. A presentation of data gathering and analysis follows, concluding with a chapter summary and presentation of results.

Verification through Pilot Study

The purpose of the pilot study was to test the research questions and interview questions, data gathering instruments, and the overall process. The initial test yielded useful feedback and minor modifications were made to the interview questions and to the structure of the focused-group.

The pilot study was conducted twice. Initially, the pilot test was conducted with a research participant (RP1), who was leading a digital transformation initiative for a global, multi-national company in the field of telecommunication. RP1 was the transformation program manager lead with broad visibility across commercial, technology, and operational aspects of the organisation. Having such a broad perspective with appropriate organisational hierarchy, RP1 was in a suitable position to envisage and contextualize the research and interview questions across the organisation and provide constructive feedback. The interview questions are provided in Appendix (1).

A second round of verification was conducted to ensure RP1 feedback was successfully and completely incorporated into the research instruments. RP1 feedback focused on conducting the focused-group sessions. For example, minor tweaks to the points of discussion. Also, agreement on rules such as voice or video recording would not be allowed. Confidentiality was of paramount importance and it was agreed that should confidential information arise that it is flagged, anonymized, and if necessary, excluded from study. However, no confidential information was shared during any of the sessions or interviews.

The questions designed to conduct the semi-structured interviews were open-ended, with the exception of one aimed at gauging the participants' level of satisfaction with their current change model and/or process. The interview questions aligned with the underlying research question and sub-questions. The question kept the interview focused while allowing for flexibility to discuss relevant and tangential points.

RP1 proposed using the phrase 'points of discussion' rather than questions for the focused-group discussions, a nomenclature preferred by the company's culture. The philosophy, RP1 explained, was that it is not a Question and Answer session, rather an environment for

exchanging points of views. Given the number of participants in the focused-group, RP1 suggested simplifying the process of obtaining consent by incorporating a brief consent statement in the email invite; therefore, participants are giving consent by accepting the meeting invite. To ensure transparency and awareness, the consent was raised at the start of the focused-group sessions. No objections were raised.

The theoretical framework for the pilot followed the same framework for the actual study. The interview with RP1 yielded relevant and useful insights that contributed directly to the research questions and sub questions. However, certain input was visceral and required further propping, which is consistent with semi-structure, open-end interview questions.

The pilot study validated the enquiry process, research design, and the research instruments. The data captured during the pilot interview was consistent in form and relevance with other participants. It was not possible to pilot the focused-group was not piloted due to logistical complexities.

Research Setting

As an 'action researcher' in the field of digital transformation and organisational change, access to change professional fitting the profile and in a position to support the research was possible. However, there was flexibility in selecting suitable research participants for the interview part of the data collection process, such flexibility was not afforded for the focused groups.

For interviews, it was possible to identify suitable participants based on their professional profile, experience, seniority, and level of visibility with their respect companies. The desired profile were individuals with over 10 years of professional experience leading and or participating in digital transformation and or organisational change program, particularly where technology was a key driver for the change. The reason for this type of profile was to ensure participants are in a position to provide experiential content and cite anecdotes to help illustrate a particular challenges and opportunities.

The interview processes included an initial conversation with the potential participant where I shared information about the aims of the research and expectation from the

participants. I explained the nature of the study and its relevance, the research questions, and a one hour time commitment to go through the interview. Confidentiality was emphasized as well. All research participants agreed to participate in the interview. Consent was obtained via email.

All but for two of the interviews were conducted face-to-face at the company's facilities. The interview locations were London and Reading in the United Kingdom. The two participants who opted for telephone interviews due to logistical and timing constraints.

The focus-groups were conducted with two different companies, one was a global telecommunication operator and the second was a financial institutions. In both instances, the companies were undergoing a major digital transformation program spanning technology, processes and people. One company was using a combination of Enterprise Architecture and Kotter's approach to drive change. While the financial institution approach was home-grown driven by intuition of the change leader.

The actual setting was in the context for the telecommunication operator was technology selection workshop. The second was digital transformation program with focus on operations centralization. These change programs deemed suitable for this study for three reasons:

- Both change programs impact people and processes, not just technology
- Both they both involve broad spectrum of stakeholders
- Access to the context and data by virtue of my role in supporting the program

Moore (2018) stating that change management scholarly work was done by academics and or research organisation with little to no direct involvement in the change process. Lack of opportunities to be involved in the day-to-day experiences of the change program and limited access prevents external researcher from valuable observations which can only be achieved by those on the 'inside.' Therefore, external researcher may miss out on learnings and knowledge that can only be gained by direct participation in change programs.

Action research is governed by ethics that a researcher must embody. As an action researcher, being mindful and able to distinguish between my role as a researcher and my

role in the company, my intervention is measured and thoughtful. It does not influence the enquiry process or outcome of the research. Doing so, allows focus-group participants and interviewees to behave naturally and be authentic in their responses.

Being in such unique position provides opportunities to observe patterns of behaviour that would not be possible otherwise, leading to more informed research and outcomes.

The strategy for collecting the data was to raise a point of discussion which was previously agreed with the change lead (RP1), and observe. For example, there was a point of discussion about selecting technology 'A' vs technology 'B' based on feature set. As the debate ensued, it became plenty obvious the polarity of the groups, each aligned to their preferred technology in which they are skilled and experienced. This is relevant to the change process. The change program leader could propose interventions that could minimize or neutralize participants' concern as it relates to their skillset and or role on the digital transformation project.

The second focus-group with a financial institution also undergoing significant digital transformation program. My dual role, an action researcher and an employee of the bank (Chief Operating Officer), my role was that of a facilitator.

It is sometimes difficult to separate one's sentiment as an 'action researcher' and as professional. However, being conscious of the necessity of that separate for the validity of the study, a researcher endeavours to do as, as I did in both instances. There were opportunities to judiciously and carefully provide input that facilitated the discussion, however, without impeding the flow and exchange of information among participants.

In both instances, the focus group sessions lasted 2-3 hours. The number of participants ranged from 11 to 14 as people had to leave and other join throughout the workshop. They were held in board-room style meeting room with video conferencing and recording equipment. However, these were not used as per agreement with the companies. Consent was obtained via email invite with the stipulation that participants have the right to view the data after the workshop if they choose to do so.

Interview participants receive a transcript of the interview in the form of a Word document reflecting the essence of the discussion and verbatim remarks they made. They were asked to make changes as they see fit and were allowed ample time to do so. No significant changes were reported.

The focus-group participants were invited to review summary of the proceedings, but no substantial changes were suggested.

This section provided detail of the data gathering settings for the interviews and the focus-group session. In addition, provided descriptions of research participants' profiles, and constraints relevant to data capturing.

The next section describes in more detail the profile of participants and their employers.

Demographics

A set of criteria were developed for selecting interview research participants. For the focus groups, there was little control over the individuals who would be invited to participate in these workshops. As an action researcher, taking advantage of the opportunity to observe first-hand the dynamics of the group was compelling. Having had an opportunity to review the workshops participants in advance enabled me to assess their profile and ensure suitability for the study. Participants' profiles were consistent with the profile of individuals this study would have required. Therefore, the integrity of the research was always maintained.

The focus groups were conducted in the context of a technology selection workshop for the telecommunication operator and for an operation centralization planning workshop for the financial institutions. Both are part of broader digital transformation programs underway for each of the participating companies. The focus-group sessions discussed issues that directly touch individuals' skillset, experience, competencies, core values, motivations and relationships. Thus, suitable environment for this study.

The selection criteria for the interview participants was as follows

- Experienced in leading change management and or digital transformation programs

- Actively leading or participating in a change program
- Has the capacity and authority to influence the change management process
- Of sufficient seniority as to have sufficient visibility of the organisation beyond the current change program
- Willingness to share information openly (without compromising organisational confidentiality)

The selection criteria for workshop participants

- Actively participating or recently participate in a change management or a digital transformation program
- Willingness to share information openly (without compromising organisational confidentiality)

The participants' profiles reflect individuals with the experience, breadth of responsibility, and visibility to assimilate the multi-dimensional complexities impacting individual and team during the times of change. Also, critical to the study is that the perspective is that of an employee rather than an external consultant or entity (Moore, 2018). An employee experiences the impact of change directly and in their own context and role. Their tenure, as an employee, with in organisation participating in change programs and living the consequence lends to deeper and richer data for purposes of this study. Employee involved in change programs, either as recipients of change or leaders of change, have actual experience using common change models and change processes. Adapting these models to compensate for missing features, so that they are more suitable for the organisation's environment, and gauging the degree to which these modifications are helpful, employees who are living and experiencing the change are best positioned to provide insights relevant for this study.

Interview Participants coding	Title and Responsibility
RP1	Head of Transformation, global telecommunication company, responsible for delivery of enterprise transformation program
RP2	Chief Enterprise Architect and Change Management Lead, Microsoft
RP3	Head of Business Change and Target Operating Model, global telecom, responsible for people and business process change
RP4	Senior Director of Program Architecture, global information technology companies, responsible for delivering change to clients in different sector and size
RP5	CTO, global financial institution, merger of two multi-national financial institutions, harmonization and adoption of new operating model
RP6	VP, Technology and Process Adoption, global systems integrator
RP7	Director, digital transformation, global telecom operator
RP8	CEO, financial institution
RP9	PMO, financial institution
RP10	Director of change management, financial services
RP11	Organisational change leader for a global software company. RP11 is in charge of change and readiness programs

Table 4.1 Interview participants

Data Collection

The process of gathering data ensued after concluding the pilot study and making minor changes made to the interview questions and the focus-group points of discussions. In total, eleven professional who were actively involved in digital transformation and change management programs participated in the interviews. Two interviews were conducted remotely via Skype and telephone, while the rest were conducted face to face. Both sets of

interviews yielded useful data without compromising quality or thoroughness for the remote interviews. The only advantage to the face to face interviews was physical proximity and the ability to read body language, but this did not materially impact the quality of the conversation or the data gathered.

Data collection followed an iterative approach. After each interview the data is collected, collated into a spreadsheet then reviewed. Basic themes begin to emerge. This process continued as subsequent interviews we conducted. Six interviews had been conducted when the first focus-groups was held, giving opportunity to incorporate, as appropriate and to the extent that it can promote deeper discussion, insights gained from the interviews into the focus-group. Data gathered from the focus group was collated and integrated using a similar data model to that for the interviews. The purpose of using similar data model is to enable aggregation of the data and ease analysis at the completion of the data collection process. Additional interviews were conducted for a total of eleven interviews and two focused group workshops.

The interviews were schedule for one hour each. All interviews lasted for at least one hour. However, the formal part of the interview in which interview questions were discussed, became progressively shorter. This can be attributed the two factors: 1) the interviewer (the researcher in this case) becoming more skills are asking the question in a way to solicit relevant data. 2) New data became progressively less as more interviews were conducted, suggesting a level of saturation.

The last three interviews were conducted to verify the suitability of the proposed extensions to change models and process.

Interviews

Semi-structure interviews were conducted with business and IT stakeholders. The purpose of the interviews was to understand the participant's perspectives on the current Business and IT engagement in the context of the transformation programme and ways by which this engagement could be improved. The dimensions for assessing the 'effectiveness' of the relationship between Business and IT were:

- Time to Market in providing effective IT solutions—how quickly can IT capture business requirement and deliver appropriate IT systems and associated change
- The extent to which such systems contribute or drive business objectives—revenue and growth
- User Experience of the process and the resulting system

The interviewees were also asked about their understanding of the ‘human factor’ in the context of Business-IT interactions, and specifically asked to comment on the extent to which they perceived the ‘human factor’ to be a critical part of implementing suitable IT interventions. The discussion on the ‘human factor’ included a consideration of the following aspects:

- The ‘emotional connection’ with systems, people and the organisation
- The importance of communication, including the development of shared understandings The notion of ‘rhythm of communication’ emerged
- Understanding and managing behaviour (influenced by particular cultural factors) to drive effective change (business and IT)
- People and organisational readiness (Internal and external) influences such as the senior managers’ vision for the future or the organisation and external market conditions

A conversational-style interview proved most effective for purposes of capturing useful insights. The researcher created a setting to allow the interviewees to engage meaningfully with the questions. The interviewee understood that the purpose of the conversation was to help improve the effectiveness of Business and IT engagement in the context of the organisational transformation programme. Due to the distributed nature of the work environment, the interviewees were located in different countries including: the United Kingdom, Germany, Italy, Spain and South Africa. Some interviews were conducted in-person and other using video conferencing. However, while the participants were geographically dispersed, they belonged to the same overarching organisation and shared the same set of objectives, but each interviewee came with a different set of (human) factors that influenced their perception and contribution. These human factors included culture, language, role, position, attitudes and personal bias.

Data Analysis

Previous chapter, Research Methodology, explained Giorgi (1997) approach to derive themes and patterns. Moore (2018) finds this approach useful in synthesizing large data sets into 'meaning units' (p.150). Moore (2018) summarizing Giorgi (1997) five step approach as follows:

- Collecting verbal data, a process of interviewing participants for their "natural description" of the phenomenon
- Reading the data for understanding at a macro level
- Breaking the data into parts (in Giorgi's terms, 'meaning units')
- Organizing and expressing the data from a disciplinary perspective (bracketing or categorizing)
- Synthesizing or summarizing the data

The analysis process started with collating and codifying the interview data and focus-group data into first level set of category thereby reducing the size of data and enabling better synthetization and understanding.

The combined data sets yielded nine themes. The primary criteria for classifying a set of data into a theme is commonality across multiple interviews and or concepts articulated in both the interviews and the focus-groups. For example, a common theme was understanding emerged as a strong theme shared among 100% of the interview participants and unanimously agreed by all focus-group participants. Prompting further revealed variation is the depth and breadth of understanding that stakeholders find valuable.

Stakeholders (interview participants and focus-group participants) stated that they would want to 'understand' the internal and external drivers for the change, their role in effecting the change and then after the change is implemented. Still under the umbrella of 'understanding', a subset of the stakeholders in the focus-groups and interviews stated that having a 'line of sight' between one's role and the target operating model (how the company will operate after the change is implemented) promotes confidence and a 'sense of comfort.'

Other participants expressed a sense of frustration and dissatisfaction at the level (lack) of transparency during the change process. The consequence is that stakeholders' feeling of 'uneasiness', 'disengagement', 'apathy', 'loss of focus' and overall 'dis-engagement.'

Feeling of anxiety during the change process (of any kind) whether at work or personal life is a common and natural human reaction. Often such anxiety is caused by perceived cause rather than actual. Nonetheless, the potential for undesired outcomes is the same.

Scholarly research of common change models suggest that most if not all change models put emphasis of the need for continuous communication (Iacovini, 2019; Adhikari, 2017; Kotter, 2012, Hladik, 2013; McLennan, 1989). The phenomena suggest two possible scenarios and they are not mutually exclusive:

- There is insufficient guidance in the change models about the 'how to' conduct communication and at what level, during the change process
- Change leaders are insufficiently communicating with the stakeholder

The latter suggest a competency concern including knowledge of the 'know how' but this is precisely where the change models can step in to fill the gap.

On the other hand, change models providers such as Prosci, the Open Group, and Kotter include a communication aspect as part of applying their model however the details of how to conduct communication is outside their scope and is organisation specific.

It is feasible to sympathize with the provider's position, however, RP3 and RP7 suggest that it is not sufficient to provide high level statements about the need and importance of communication. Also, 'is communication the only way to facilitate understanding?' (RP3) questions. RP6 raised a similar concern about the execution of the 'communication' function in the context of the change strategy. RP6 stated that often the communication strategy sits in the marketing department or the human resources department, who may or may not be equipped with the knowledge, experience, and know-how in the change model or the change process to enable 'understanding' of the change across the organisation.

The same point was raised during the workshop and two prongs approach was suggested. First, the overwhelming sentiment is that for change models providers to build-into their

change model more explicit processes for enabling 'understanding'. The change model ADKAR (Prosci) was proposed by some of the participants are providing a workable level of guidance, but there is opportunity for richer guidance. Second, incorporating into the change team 'change and or transformation communication' specialist. A professional with combined expertise in change management and communication (some stated 'enablement').

It is worth mentioning that some of the research participants, both interviewees and focus-group, used the phrase 'transformation' and 'change' interchangeably. To ensure common understanding and avoid confusion, definitions of the terms was provided and discussed. Nonetheless, some participants continue to use the terms interchangeable.

Identifying 'resistors' was another key theme that emerged. The study participants stated that sometimes 'resistors can be like an iceberg' other times 'like a small ice cube'. The challenge for the organisation and the change team is to be sufficiently savvy and have a sense of 'organisational and people awareness' (RP1) to detect such resisters, understand the root-causes, and intervene as appropriate so as to avoid obstacles further down the line that could hinder the progress of change.

In the context of a study of change management practices used by successful change leaders, Moore (2018, p. 152) asked whether 'employee resistance or an apathetic or non-supportive senior leadership mind-set present that needed addressing?' and received overwhelming that 'these factors were not a problem.' (p.152). It is conceivable that in the context of that particular study with that sample group, that 'resistance' was not a significant factor. However, in the context of understanding the human and social side of change, and understanding drivers and inhibitors of successful, according to interview participants (samples size 11) and focus-group participants (two session totalling 20 participants), there was overwhelming agreement that 'resistance' can have an 'iceberg effect' (Hellriegel, 2004) or can be as innocuous as an ice cube (RP1). Adequate consideration should be given to understanding root causes of 'resistors' in order to mitigate risk by intervening appropriately.

Summary of study result

This study explored the social and human dimensions of change in the context of companies undergoing actual change (some used the phrase digital transformation referring the change). Human dimension of change, as defined for purposes of this study, refers to attributes relevant to individual employee (singular such as biases, values, motivations, understanding, competencies, and relationships). Social refers to team or groups (plural such as communication, collaboration, decision making/bureaucracy, cultures and sub-cultures, and organisational politics).

The overarching research question is ‘what capacity and opportunities are there, if any, for change processes and models to incorporate more explicitly social and human aspects of the organisation?’ and the sub questions are:

- What does ‘explicit’ articulation of social and human aspects in the context of organisational change look like? What are the elements?
- How do organisations interpret the terms ‘social’ and ‘human’?
- How will these features fit into and extend change models and processes?

As stated in the previous section, the data gathered was collated and analysed resulting in a set of themes that can be the basis for proposing extensions to change models and processes. Figure 4.1 illustrates the structure for the deductive reasoning process used to generating themes.



Figure 4.1 Analysis process for emerging themes

Similar to scaffolding, starting with the research questions and leading to key themes. Table 5 provides a list of the key themes and definitions of the themes as derived from the data.

Table 5 presents a list of themes correlated with the interview participants' frequency, for example, input from the participant contributed to establishing the theme. The balance of this section presents analysis of the themes contextualized in the research question and sub question.

Major themes	Frequency (interviews)	Frequency (focus-groups)
Understanding the change	100%	FG1 and FG2
Readiness to implement and adopt the change	100%	FG1 and FG2
Methodological, how the change is being implemented (suitable change model/process for the context)	60%	FG2 (lacked formal methodology)
Recognition of the covert aspect of the organisation	70%	FG1 (politically charged)
Stakeholder classification	70%	FG1, FG2
Power of Influence	50%	FG1
Types of resistance	40%	FG1
Shifting sentiment	80%	FG1, FG2
Interventions	100%	FG1, FG2
Table 4.2 themes mapped to participants and focus-groups		
Focus Groups: specifies whether the theme emerged out of data collected during the focus group session. FG1 (telecom operator), FG2 (financial services)		
Percentage value reflects the number of participants who explicitly stated the theme		

Research question

The overarching research question is about how can change processes and model incorporate, and more explicitly articulate, the social and human aspects of the organisation. To explore the question, I conducted a full review of the data and observations and noted critical themes. For example, certain phrases were common among multiple interviewees and in some instances the same phrases surfaced during the focus-group workshop. 'Clarity', 'understand', 'awareness', 'engaging', 'communication',

'relationship' are such examples. This process continued in order to refine the raw data into meaningful themes. The interview questions used to conduct the interviews with change leaders are listed in Appendix (1). Below is detailed analysis of each of the sub-questions and related sub-themes.

Research sub question 1

'What does explicit articulation of social and human aspects in the context of organisational change look like? What are the elements?'

***Themes:** Understanding, Readiness, Methodological, Types of Resistance, Power of Influence, Stakeholder classification. Table 4.4 provides summary of themes and definitions*

In response to this question, RP4 stated that language, culture and sub culture would be suitable components to consider stating that 'what is considered norm and acceptable can be considered a (social rules) in terms of actions, decision making, communication, and freedom to innovate.' RP4 took the perspective of having a set of rules (written or experientially understood) to being to understand and define parameters, elements, and components. Two key words phrases in RP4 contribution that was common with 7 other participants expressing the importance of 'decision making' and 'communication'.

The phrase 'communication' was used frequently both during the interviews as well as during the focus-groups workshop. It is recognized and widely accepted as an important pillar for any successful change program. Implicit and intuitive understanding of the phrase 'communication' is common. The majority of the participants (80%) expressed comfort with phrase, yet there was inconsistencies with respect to its practical applications. RP6 and RP8 RP4 and others expanded on their initial response by offering (employee and or stakeholder's) real-time 'understanding' of the change process is evidence that communication strategy is successful. This lead to further discussion about 'verification' to ensure understanding, raising yet another challenge for change leaders to consider.

RP7, RP8, RP9 described individuals' and team' competency, knowledge, and skillset. Although they did not use the same exact words in their description, the essence of their

explanation implied readiness is an integral element of change models and change processes. RP7 added 'training alone is insufficient, they must be more...' and concluded adding the phrase 'experiential learning' which transcends traditional training. Furthermore, RP6 suggested incorporating 'circles of knowledge' into change programs, informal gatherings that create 'suitable environment for employees to have deliberate, targeted conversation, but are not considered business meeting.' RP6 further proposed some level of mandatory testing to ensure minimum level of knowledge in relation to change programs. RP6 further suggested that these tests should be role based and are 'baked into the change program.'

Insights from the interviews and the focus-groups are congruent in relation to elements that is most relevant to individual employees as well as team: 'understanding' and 'readiness' with the latter contributing the first. Two quantitative interview questions are:

4. Does the change model or process you use provide adequate guidance to supporting 'people'?
5. On a scale of 1-5, how happy are you with the level of guidance provided?

The purpose for interview question 4 is to collect data about the perceived richness and completeness of common change models and processes in relation to 'people' (code for social and human aspects of the organisation). A low score supports the perception that common change models provide insufficient guidance to support the human and social side of the organisation during the change process. A high score implies the opposite.

- *Interview question 4 results: 4 out of 11 respondents (36%) feel the change model they use offer adequate level of detail for supporting 'people' agenda during the change process.*
- *Interview question 5 results: average score of 2.27 out of 5 (54%) are happy with their change model or process.*

In addition, there is a correlation between happiness with the change model and perceived level of guidance. Overall, some may perceive this low score indicting that richer guidance is in demand.

Respondent	Question 4	Question 5
RP1	Yes	3
RP	No	2
RP	No	1
RP	No	2
RP	Yes	3
RP	No	1
RP	Yes	3
RP	No	2
RP	No	2
RP	Yes	3
RP	No	3
Average score	4/11	25/11 = 2.27

Table 4.3, responses to interview Q4 and Q5

Question 5 satisfaction score:

1 = very dissatisfied; 5=very satisfied

Research sub question 2

'How do organisations interpret the terms social and human?'

Related interview questions:

Question 7. *How does the change leaders detect biases and minimize its impact?*

Question 8. *What does the company do to ensure individual employees understands the change process and the impact their role brings?*

Question 9. *Does do change leaders do to reach and motivate the individual employee?*

Themes: *Types of Resistance, Power of Influence, Stakeholder classification, Intervention, shifting sentiments. Table 4.4 provide Themes definitions*

Scholarly work shows that definitions of these term, as well as the more general term 'human factor', are industry specific and can be organisation specific. For example, the field of Project Management (PMI), takes functional perspective and defines the terms in relation to skillset demonstrated by an individual who is a project manager: 'human aspects is about qualities and skills managers needs to have to facilitate desirable change at either organisational level or project level...most important quality is identifying the right people for the right job.' (PMI). The definition continues to encapsulate skills such as entrepreneurial, motivator; foresighted, fighter, leadership, negotiation, versatility, time management, and communicator.

In response to this question, the interviews revealed diverse interpretations of these aspects of the organisation. But the most common responses equated 'social' with culture and corporate values, level of bureaucracy, language, and leadership style. While the phrase 'human' seemed a bit confusing at first. But once research participants read the definition adopted by this study, they were able to understand it and contextualize their responses. Phrases such as emotional connection, biases, influencing, emotional connection, roles, interpersonal communication, and competencies where common among most participants.

In response to phrase such as 'bias' as stated by interview question 7 drilled deeper by asking 'How does the change leaders detect biases and minimize its impact?'

Most responses to this question where similar in nature, observe their behaviour, note their decision making process, and subtleties. RP4 highlighted 'confirmation bias as probably easier to detect than others' because pattern can be easily detected. The majority of participants focused on the required intervention when bias is detected.

The phrases where coded and categorized as part of the analysis process.

Research sub question 3

'How will these features fit into and extend change models and processes?'

Related interview questions:

11. Reflecting on your own change process, where in the change model would you incorporate these extensions?

Themes: Methodological, Stakeholders classification, Shifting Sentiments.

Table 4.4 lists the themes and provides summary description

This question required additional considerations because two assumptions were required: 1) data captured during the enquiry process will yield useful information construct novel additions to change models and process that enhances the social and human considerations. 2) Research participants are able to visualize these components and their construct. An additional complexity relates to underlying assumption that that employees (interview and focus groups participants) are aware and potentially have a level of expertise of their change model. If participant does not have sufficient awareness of their change model, it may be difficult to provide insights helpful in identifying entry that can accommodate novel extensions. This complexity proved to be innocuous as 70% of the interview participant were well-versed with their change model. The remaining 30%, their broader experience in change program bridged the gap.

Interview question (1a), supporting research sub-question (1), asked interview participants 'what industry change management model do you use?'

- 70% (8 participants) were able to provide an answer to this question
- 30% (3) were not certain (RP5, RP6, RP8)

A common strand across interview participants RP5 (CTO), RP6 (VP), and RP8 (CEO) is that they are all part of the 'C-Suite' (executive management). It is understandable however that while being involved in the change processes, members of the C-suite are not always know the names of specific tools.

Responses to interview question (11) varied depending on the change model or change process (home-grown). Also, different models have different structures and patterns, and language

RP1 and RP3 were using Enterprise Architecture principles and a modified version of TOGAF (the Open Group). Their distilled response was to create 'external' mechanism to the model

and ‘selectively bring the guidance’ based on the situation, environment, and model. This allows for flexibility without compromising the integrity of existing models.

RP4, RP7, and RP9, their distilled response was to create the identify ‘the gaps’ and create ‘building blocks’ (RP4) offering practitioners a choice to identify and integrate components deemed impactful.

RP5, RP6, and RP8 advised that new elements may result in higher complexity. A convoluted model has less chance of adoption.

Here is a distilled synopsis of focus-groups data contextualize for sub-research (3). More in depth analysis of focus-groups data is provided later in this chapter. Focus group-1 and focus group-2 was consistent with interview insights, highlighting the importance of ‘simplification’, ‘less theoretical’, and ‘employee focussed.’ The notion of ‘modular’ was cited as an important feature of integration potential extensions.

Major themes	Definition
Understanding the change (What)	Why change and What is the change in terms of scope, outcomes, and impact. It is critical that Understanding of the ‘what’ is assured for both Individuals and Teams/Groups. Appropriate mechanism that builds on language, culture and sub culture should be implemented to validate individuals as well as group understandings.
Readiness	Readiness: defined as the ‘ability’ for individual/group/organisation to complete a particular tasks. This is a corner stone to change. It touches people directly at multiple levels: emotional, biases, values, knowledge, processes, and technical skills. Organisation can conduct Readiness Assessment for pre-change, Just-in-time Readiness for during the change so that appropriate interventions
Methodological (How)	Methodology: the HOW to implement the change, focuses on the change model most suitable for the stakeholders, environment, and other critical factors. Skills and knowledge of the relevant to the ‘HOW’ is fulfilled through the Readiness component.

Recognition of the covert aspect of the organisation	Explicit Recognition of the Social and Human aspects of the organisation. This is another corner stone of change. It transcends implicit acknowledgment of these factors to more explicit recognition of the impact of change on stakeholder and understanding WHO the stakeholders are, analysing the 'covert' part of the organisation by examining their motivation, behaviour, attitudes, biases, actions, knowledge, and skillset.
Stakeholder classification	Categorization of the stakeholders into Resistors, Supporters, and Neutrals helps identify strategies for addressing the concerns of each. Stakeholders classifications into Resistors, Supporters and Neutrals and understanding the type of resistance (Power, Ideological, Cognitive, Psychological) helps define a more targeted intervention strategy. Also, identifying the most relevant stakeholders to focus on (power vs support)
Power of Influence	Stakeholder Influence and Support Matrix is an outcome of the analysis and classification of stakeholder
Types of resistance	<p>Four types of resistance</p> <p>Cognitive – based on their own information and experience people believe that the original diagnosis and action plan for change are wrong.</p> <p>Ideological – people believe the proposed change breaks the fundamental values that give the organisation its identity.</p> <p>Psychological – people are unwilling to try new things because they may be less successful than the earlier ones. They also see the cost of changing greater than the benefits and probably have a low-level of tolerance for uncertainty.</p> <p>Power-Driven – people perceive that the proposed change will lead to a loss of power, autonomy and self-control. That is, they fear reduced status and autonomy.</p>
Shifting sentiment	Moving stakeholders from neutral, resistors to supportive

Interventions	Actions organisations and change leaders can take such as implementing communication strategy, incentives strategy, persuasion, engagement
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Table 4.4 Summary of the themes

Focus-group 1

Focus group 1 was conducted in the form of a workshop with a group of employee participating in a digital transformation program for a telecommunication operator based in the United Kingdom. The participants represented cross section of the company including commercial/business group, information technology, and organisational change. While I, as an Action Researcher, orchestrated the focus group discussion, the session chair was the head of transformation (who is also RP1). The focus group session served two purposes. First, it was part of the company's transformation program during which operating model design and readiness strategies were the topic of discussion. Second, to serve as a medium for data collection in support of this study. Participants were made aware of the agenda and the purpose of the session in advance. Consent was communicated via email. Participants were supportive of this arrangement and raised no objections. I was able to take notes both hand written and on the computer without much difficulty.

My dual role was that of an action researcher and the integration program lead. In my capacity as employee, my role was to orchestrate the session and ensure it runs according to plan. As an action researcher, my role was to observe the dynamics of the discussions, participants' perceptions, acceptance or rejection of contribution from others. This particular session was relevant for the research because it focused on two important topics that are central managing change and human and social aspects of change. 1) Discussions around the operating model impacts people and processes. 2) Discussions about readiness is of immense important to individual and team alike. Both topics promoted strong, passionate and in some instances emotional debates. Worth noting that emotions became high and it was abundantly clear positions and stances people were taking. For example, sub set of the change process was being discussed that would have dictated moving certain members of (his) team to a different location (to support the target operating model). While his unhappiness was not immediately visible, subtle actions and objection to derail

other decision was evident. Noting that those other decisions directly relate to the part of the change process with which he was unhappy. In this particular instance, the debate went in a round-robin until the chair intervened to postpone the decision. This is an example of scenario where bias prevented productive conclusions and consequently hindering the change process. Understanding stakeholder's behaviour and root-causes for their subtle objection create an opportunity for change leaders to identify early in the process resistors of change and take the necessary steps to neutralize the root causes that led to the resistance. However, it may not always be possible to neutralize the root-causes and alternative, novel interventions might be required.

Readiness in the context of this particular setting refers to people (i.e. employees) are equipped with the know-how, skillsets, and competencies to be productive during and post change. Similarly, processes and system are designed and configured to enable efficient operations. The people aspect of readiness can be complex because it challenges individual's and team abilities, capabilities, and values.

At least on five different occasion the focus-group participants expressed concerns about lack of information (understanding) with respect to certain aspects of the transformation program. For example, as this transformation program was the result of a merger of two large companies, it was unclear to participants the portfolio of products services that will be sold. That aspect of the change program was being developed by another, parallel team.

'It would be a disservice and short sighted stance to blame this on just communication,' one of the participants. The implication there is participants wanted to know, and 'understand' the broader aspects of the change program so that they can be well-positioned to make appropriate decisions.

Reflecting on the overarching research question, and more specifically research sub question-1 *'(RQ1) what does 'explicit' articulation of social and human aspects in the context of organisational change look like? What are the elements?'* notions of 'understanding' and establishing vehicle through which individual employees and team are empowered to refresh their skillset and build relevant capabilities provide useful insights towards this question.

Focus-group 2

The context for this focus group is a financial institution undergoing change as part of a broader digital transformation program. The goal of the project was centralizing and automating back-office operations. The project required changes in the technology platform, the operational processes, and the operating model. Central operations touches most functional areas of the financial institutions. Therefore, the change was directly impacting individual employees, managers, team and the overall organisation.

The setting was a project execution review workshop for the team involved, consisting of cross-functional team representing Information Technology, Commercial group, Project Management Office, Audit, Risk, Compliance, and Finance. The financial institution's objective of the workshop was to review the change management aspects of the project specifically people movement into new roles.

I had a dual role in this context, a senior employee of the financial institution and an action researcher. My responsibilities in this dual role were congruent, raise questions, keep the discussions flowing, and make observations. My interest as an action researcher was to gain a deeper understanding of the drivers and inhibitors of successful implementation of change.

The workshop was held on a board-room with access to video and audio. However, it was not possible to record or video tape the session as that would violate the financial institution's compliance policy.

The workshop duration was 2 hours. The stakeholders (participants) included managers, business analysts, and subject matter experts (product managers, process specialist, engineers, change specialist, finance, and human resources).

A total of 14 participants attended.

Participants were in roles that were relevant to the context of this study and therefore, their views provided useful data that contributed to the research questions.

The researcher took-on different roles across during the workshop – a participant observer, a subject matter expert and a facilitator. This varied nature of participation allows the researcher to fully understand and engage with the nuances and the views presented by different participants, and gain a deeper appreciation of the changes in participants' attitudes, as the subject of discussion shifts to the participant's specific area of responsibility. For example, certain participants were agreeable and supportive of the process of the change process when the discussions were general; however, the very same individual(s) became more 'reserved' and sometime 'defensive' when the focus shifted to their particular area. A sense of ownership and a sense of 'emotional tie' began to emerge as the discussion became more specific. Aspects of human bias became more detectible.

Verification of study outcomes

A full-scale validation of the outcome was not practical considering time and resource constrains. Instead, an approach of verification of the outcomes with interview participants proved practical and constructive. Logistical constraints prevented the researcher to conduct the verification process in the form of a focus-group. Instead, a practical approach was to arrange for four different individual meetings in the greater London area.

Three research participants reviewed the outcomes of the research.

- RP2, Chief Enterprise Architect and Change Management lead for a global software company
- RP4, Senior Director delivering change programs for a global IT solutions company
- RP5, CTO for a multi-national financial institution

The participants reviewed the following outcomes:

- The key themes resulting from this study
- The translation key themes into a workflow
- The power of influence spectrum in relation to the workflow model
- The stakeholder categorization framework in relation to the workflow

The participants were are to review the outcomes for completeness, practicality, and clarity:

- Reflective of input they (or other research participants provided)
Anonymized, notes and roughly distilled data was made available during
- Practical relevance
- Clarity (vs potential complexity)

Verification summary

The following table reflects average scores given by the three research participants

Outcome	Reflective of input	Practical relevance	Clarity
Language, definitions of 'social' and 'human' aspects of organisational change	4	4	4
A set of themes supporting social and human dimensions of change	4	3	3
Weaving of the themes into a practical workflow	4	3	3
The stakeholder categorization framework (Resistive-Supportive)	4	3	4
The power of influence spectrum	3	2	3
Interconnected Organisational Model: Human, Business, and Environment	3	3	3

Table 4.5 Verification Summary

Scale 1-5; 1=poor, 5=excellent

Chapter five provides further explanation of the research outcomes including scholarly and practical relevance.

Discussions on LinkedIn Forums

LinkedIn forums provide an interesting and innovative approach to data collection. It allows the data collection net to be cast widely as the members on LinkedIn discussions are spread out over different regions and contexts.

LinkedIn is a global, professional networking site which enables individuals interested in similar topics to engage in discussions and exchange point of views. Thereby forming a 'community of practice' (Wenger, 1998). Consensuses, disagreements, and other positions can be debated and formed on a topic that is of interest to that community.

The present study took advantage of this medium and considered LinkedIn forums as an opportunity to raise questions and obtain expeditious and diverse insights from practitioners in change management. Polling the 'community of practice' for their perspective on 'human' and 'social' aspects of change yielded useful insights.

Limitations

Participant selection criteria

The first limitation relates to participants selection and the criteria by which they were selected. Due diligence and careful selection process was used to identify and subsequently invite interview research participants and the focus-group participants. However, because of the nature of Action Research and the fact that data collection was being done in an actual change program, the focus-group participants send delegates to attend on their behalf. This did not pose a significant issue since the alternate was a peer of or next in command of the individual invited.

In addition, a number of factors contributed to determining and limiting the sample size including: scope of study, time, resources, and participant's availability. As such, it afforded the participant the opportunity to exchange perspectives on the central theme to this study, empirically develop extensions to change model that incorporate social and human aspect of the organisation into the change process and effect successful change.

It would not be prudent to claim their views substituted for the all the departments across the company, nor is this claim being suggested. Yet, participants represented a subset of the change team, which in turn represented the enterprise. The change team participants brought unique perspectives to the study that would have otherwise been difficult to attain. The Change team's insights helped corroborate the findings throughout the study by virtue of their continued involvement with the broader change team and the broader enterprise.

While the study's claims are modest, the findings reflect an authentic thinking of participants and represent a comprehensive account of their views in relation to organisational change.

Summary

This chapter described the data gathering process and the results of the study. The description included how the study was conducted and how the data was analysed. Starting with the pilot study to verify the soundness of the research design, research question, interview questions, and focus-group setup.

Research participants profiles was discussed highlighting their relevance to the present study based on their professional experience and active role in a change program.

The data collection process build on the research methodology provided in Chapter 3, where action research is central to this study. The research plays dual-roles in this study, one a professional accountable for digital transformation projects and the other is that of a researcher.

The insights derived from the data provided by research participants identified a set of themes relevant to the central question underpinning this study. The analysis of the data started with the overarching research question, then sub-question and weaved in distilled participants' responses allowing for key themes. The result is a set of themes congruent with social and human dimensions of change. It is possible to reflect on the research question and provide commentary or answers to these question base on the data. The table below provides a list of the overarching question and sub-questions and data derived commentary answering the questions.

The study yielded the following:

- The key themes resulting from this study
 - Understanding the change (What)
 - Culture, sub cultures, and language

- Readiness
 - Methodological (How)
 - Recognition of the covert aspect of the organisation
 - Stakeholder classification
 - Power of Influence
 - Types of resistance
 - Shifting sentiment
 - Interventions
- The translation of key themes into an applied workflow
It would be possible to incorporate this workflow into a change model or a change process. The constructs takes on-board research participants feedback of maintaining simplicity and keeping things modular.
 - The power of influence spectrum in relation to the workflow model
 - The stakeholder categorization framework in relation to the workflow

Chapter 5 takes a deeper look at the research outcomes and discusses the practicality, constraints, and scholarly relevance.

Chapter Five: Analysis, discussion, outcomes

Introduction

The purpose of this study is to explore the settings, attitude, and perceptions of stakeholders in organisations undergoing change, specifically technology enabled.

Understanding the models and processes they use to drive change, and the extent to which the 'social' and 'human' dimensions of change are incorporated into the change process.

The previous chapter, Data Collection, described the methodological approach and rationale for collecting and collating the data for the present study. The research model is multi-phased building on the hypothesis that the social and human aspects of the organisation are important, arguably most important, considerations to the success or failure of organisational change.

As outlined in previous chapters, this study hypothesises that existing change models (Kotter's, Kurt Lewin's, POMC, Macro Process, and EA approaches) while stating the importance of 'people in the change process, provide insufficient account and guidance for the socio-human factor. Extending change models with elements that bring more focus to these critical aspects of change creates opportunities to bridge the gap and improve odds of successful organisational change.

This chapter builds on concepts and discussions presented in chapter the previous chapter by presenting a consolidated analysis of the perspectives of the research participants and triangulating findings from different data sets collected. Then, propose a set of extensions that complement commonly used change models.

These extensions aim to offer possible solutions for filling the recognized gaps in current change model and processes relating to the social and human side of change.

Scholarly literature states the majority of the root causes contributing to high rate of failure in change programs are non-technical (Pankratz and Basten, 2013). The findings of this study are based on data collected in the context of active change programs support. There are indicators that social and human aspect of change, while important components of the

change process, often do not receive adequate attention. Considering the following three factors, it is reasonable to deduce an argument that points to a gap in change processes:

- 1) High rate of change program failure is due to non-technical, instead are human related,
- 2) Human and social side of change, often referred to 'people' in change models is a critical factor contributing to success or failure of change programs,
- 3) Empirical evidence suggests change models and processes provide insufficient guidance about how to effectively deal with and address social and human side of change

This study argues that the omission and or lack of explicit articulation and insufficient clarity around social and human aspect of organisational change was a basis for this study. Data collected during the interview process and focus-groups supports this premise. Moore (2018, p.140) agrees and argues that “most of the writers in change management theory lacked the experience of conducting an organisational change effort. There is much research about what causes change initiatives to fail and what a change manager should do to avoid failure, but little describing the activities and behaviours of successful change leaders who, as employees are responsible for ensuring successful change.”

In the present study, the author is a practitioner of organisational change and therefore draws on own experiences in providing insights while being fully conscious and cautious against own bias. This is a common practice in 'action research' and a recognized as a valid scholarly research methodology as previously substantiated in the Research Methodology chapter of this study.

Chapter 4 presented a discussion of the findings that connected the research questions and sub-questions underpinning this study to data collected and findings. The presentation included examples of how a given theme was derived from research data sets. As appropriate and to provide further clarity, there are direct quotes from the research participants, the interviews and the focused groups. Each research participants has a code, RP followed by a number. This code associated quotes to participants.

This chapter brings the research question, the data gathered, the analysis, and the themes together and presents the outcomes of this study.

Summary of the study outcomes

- Articulation of the phrases ‘human’ and ‘social in the context of technology enabled change
- Themes as applied workflow
Visual representation of the themes into an applied workflow. An applied approach for integrating key themes resulting from this study into change models.
Simplification is key requirement emerged from the data. The approach suggests a seamless integration of extensions by way of a stand-a-lone workflow encapsulating the themes
- The stakeholder categorization framework supporting the workflow
- The Influence Spectrum with visual representation to help identify and prioritize stakeholders
- Interconnected organisational model: Human, Business, and Environment

These outcomes constitute the distilled results of this study. The following sections explore each of the constituents and explain the working and interworking of its components.

The novel outcomes of this study is not limited to the individual themes. It is the weaving of the themes into constructs and workflow that facilitates their practical application during the change process.

The chapter concludes with a discussion of the verification of these extensions, limitations associated with these findings and provides a brief summary of recognized and potential complexities that may arise in the practical applications of these extensions.

Research question

The structure of this section follows statements of the overarching research questions and sub questions, followed by relevant themes that emerged from data, and a discussion of the theme. Appendix (4) describes the research question and sub questions, the purpose of the

each question, and the sought data. Each question is then discussed in the context of the interviews and the focused groups in which the data was collected. As stated in Chapter 1, the overarching explores how can change processes and models incorporate social and human aspects of the organisation more explicitly?

Sub questions are:

- How do organisations interpret the terms ‘social’ and ‘human’?
- What does ‘explicit’ articulation of social and human aspects in the context of organisational change look like? What are the elements?
- How will these features fit into and extend change models and processes?

The data sought by asking a set of interview questions to help identify gaps in commonly in change models, identifying attributes and components that can bridge the gap, in commonly used change models, building a construct that complements current change models and processes. Finally, verification of the results and outcomes.

Following this structure made it possible to aggregate, analyse and synthesize the data with logical alignment with the semi-structured interviews questions. A set of common themes emerged along with supporting constructs and flows.

The collective findings are brought together in a set of proposed extensions flows that can be integrated into change models as follows:

- Analysis framework for social and human dimensions of change. The aim is that this framework can be incorporated into common change models to bridge the gaps identified by literature and research participants
- Present an influence model bringing together the level of influence and sentiment of support, the extent to which an individual supports or resists the change, across a spectrum. The aim is to help categorize stakeholders accordingly and apply suitable interventions
- Direction of motion framework builds on the spectrum of influence to provide direction and trajectory of micro and macro intervention

Themes emerging from data through thematic analysis

Almost all participants in this current study expressed dissatisfaction with the change model or process they are utilizing. A common sentiment was that the change processes provided 'lip service' (RP1) and 'little tangible, actionable guidance' (RP7) as it relates to 'people'. Training, however, was consistently mentioned by participants as one aspect of the change processes that was highlighted by their management. 70% of the participants stating infrequent, terse communication contributed to cynicism among employees. Apathy, disengagement and productivity decline where some of the behaviour that research participants considered counter-productive. In addition, nearly 100% of the interview participants and respondents highlighted that there is opportunity to enhance the change models and processes by identifying the perceived 'missing' dimensions, providing clarification of terms (such as definition of 'human', 'social' and 'people' in the context of the organisation and include scope and attributes) and articulating more explicitly practical guidance. There was a consensus among participants and respondents that incorporating such extensions is likely to contribute to addressing a significant gap in the change process. Examples of common thoughts include:

- Change models and process do not provide adequate guidance to tackle social and human aspects of organisational change
- There can be a sense of cynicism and scepticism associated with organisation change. This is particularly the case when an individual employee (human dimension of change) and groups (social dimension of change) do not see a correlation between what they do and the change process or the outcome of the change
- Communication is an important part of successful change, but on its own, it is not sufficient. It needs to be part of a broader set of activities that collectively create a sense of belonging, relevance, and community
- It is critical to identify, analyse, understand, and categorize the stakeholders impacted by intended change. This level of organisational intelligence can become a powerful tool to utilize suitable interventions that effectively deals with employee's sentiment towards change: resisters, supporters, and those who are neutral

- Recognizing and understanding stakeholder's power of influence can be crucial to driving successful change. In this context, a stakeholder is an individual or a group who is part of the organisation who have a level of influence on the change program. A stakeholder of high power of influence regardless of placement within the organisational hierarchy, who is supportive of the change process can be instrumental to change process. Conversely, a stakeholder who is resistive may consciously and deliberately, or subconsciously hinder the process of change
- Skillset, knowledge, and Readiness
- The notion of bias, particularly subconscious and confirmation biases, were highlighted as critical to change process. For example, RP1, RP2, and RP5 were involved in technology selection process, as part of the overall digital transformation of their respective organisation. They stated that decisions of agreement or disagreements (with respect to target technology choices) were likely influenced by the presence of more senior staff who they know to hold a particular preference. This is consistent with observations made the Action Researcher in this study during similar situations in which decisions required participants to make their choices known.
- Language, culture and subcultures, organisational values, and individual's core value systems. Change program's success is rooted in our culture' (Focus-group 1). Culture identifies core beliefs, values and 'how things are done around here' (RP1)

Summary of subthemes:

- Insufficient guidance in change models and processes
- A sense of scepticism and cynicism associated with organisational change
- Communication needs to be embedded in the change process
- Understanding of Stakeholders and their role and needs is critical
- Skillset and knowledge
- Biases impact decision-making (at the individual and at the group levels)
- Language, culture, and subculture
- The 'emotional connection' with systems, people and the organisation
- The importance of communication
- the development of shared understandings The notion of 'rhythm of communication'
- Understanding and managing behaviour (influenced by particular cultural factors) to drive effective change (business and IT)
- People and organisational readiness (Internal and external)
- Desire for more guidance in the change models about the 'how to' conduct communication and at what level, during the change process
- Change leaders are involvement and ownership

Table 5.1 list of subthemes

This following section discusses the key themes that emerged out and lays the foundation for a set of complementary extensions to common change management frameworks. The next section weaves the themes into a logical workflow that facilitates the practical applications of the themes.

Study Outcome-1: Language, definitions of 'social' and 'human' aspects of organisational change

The phrase 'human' is singular referring to the individual. In concern itself with values, virtues, skillset, readiness, and biases that are specific to the individual. While the phrase 'social' refers any to organisational constructs beyond the individual that is team, groups, departments, and the organisation at large. The scope of concern is one vs many. This

distinction enables examination of concerns, attributes and characteristics with specific scope (individual, group/organisation) and teasing out the differences, where relevant. The significance of the proposed definition are industry and organisation agnostic.

Study Outcome-2: A set of themes supporting social and human dimensions of change

- Understanding the change
- Culture, sub cultures and language
- Readiness
- Methodological (How)
- Recognition of the covert aspect of the organisation
- Stakeholder classification
- Power of Influence
- Types of resistance
- Shifting sentiment
- Interventions

Study Outcome-3: Weaving of the themes into a practical workflow

The analysis of research data led to distilled set of themes as outlined in this section. Detailed description of the themes was presented in previously in Chapter 4.

Themes: Understanding and Readiness

The study suggests that the themes provide useful insights to enhancing change models and change processes. Yet, as stand-a-lone entities, they seem fragmented. Researchers and practitioners could incorporate individual or multiple component into their change process and find value in doing so. For example, during the validation process, RP5 stated that ‘yes, the understanding is important’ and agreed with the details of encapsulating in the ‘understanding’ component.

The question that followed was 'well, but how do we do that?' (RP5). The construct 'Understanding' answers the 'what' that individual and team want and need to know in relation to the change program. Interview and focus-group data highlighted the important culture, subculture and language in aiding the understanding of change. RP1 referred to culture as the 'written rules' that govern 'how things get done around here' (RP6).

The study shows that interpretation of social and human aspects of the organisation vary depending on the organisation, discipline, or industry. For example, the phrase 'human' (human factors) in aviation refers to issues that affect human performance defining the phrase to mean 'application of science engineering to ensure people (human) can work safely and efficiently; ensure they perform the job correctly; it is about people doing the right thing; it includes procedures, tools, education.' While the same phrase in Project Management discipline, as explained by the Project Management Institute (PMI), provide multiple interpretation. One interpretation refers to the qualities of the individual assigned the role of Project Manager, 'motivator, leadership, foresight, listener, good communicator.' Another interpretation refers to the technical competencies of individuals.

The varying interpretations of the phrases human and social require definition to avoid confusion. Thus, the theme 'Understanding' emphasises the role of language in promoting successful change.

As discussed above, in addition to language, cultures and sub cultures, how to achieve 'Understanding' requires incorporating another theme, Readiness. Organisational Readiness is an aspect of organisational capability focused on ensuring *individual employees, team, and the holistic organisation* are equipped with the knowledge, skills, and competencies (technical aspects of change programs) to do their job. Yet, *behavioural change* remains as the holy-grail of successful change (Mullen, 2013). Organisational readiness for 'change is considered a critical precursor to the successful implementation of complex changes' (Weiner, 2009).

Competency and skills are formal, overt aspects of the organisation. A complementary, yet critical, aspect of the organisation is the overt, referring the informal, intangible, submerged part of the iceberg model. Creating opportunities for individuals and team to interact and

cross-pollinate can minimize the effect of covert part of the organisation Hellriegel and Slocum (2004).

The author proposes that readiness can be viewed as an aspect of the organisational construct to facilitate these types of opportunities, in the context of implementing change programs.

Connecting 'Understanding' with 'Readiness' begins to answer the question raised by RP5, as part of the verification process. Readiness can be a practical mechanism to facilitate 'Understanding.' Of the different change models and processes reviewed during the course of this study, all included a variation of readiness. Some referred to it as training. It is important to note that readiness is broader.

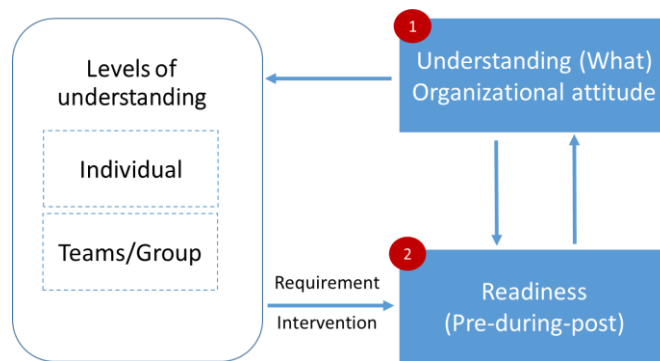


Figure 5.1 Readiness enabling Understanding

Figure 5.1 illustrates the result of joining two themes, Understanding and Readiness, and steps in workflow. The illustration suggests Understanding occurs at two levels, the individual (human) and the team/group (social). This is consistent with study data, both scholarly and empirical, showing that critical aspects of successful change programs is individual understanding of both the overall change and their role within the broader change.

Readiness process start early and is continuous. The phases of readiness are pre-during-post. The 'pre' refers to activities to prepare employees, team, and the broader stakeholders for the change. The 'during' phase of readiness focuses on activities while the change program is in flight. Lastly, the 'post' is about continuous improvement.

Drivers for change can vary. However, congruency between the individual's core values and the drivers for change as well as the mechanism by which change is implemented is likely to boost individual employee's engagement, commitment, and participation. The case is similar for team and groups. Articulated and understood congruency between the purpose and mission of the team with that of the overarching change is likely to contribute to improved harmony amongst team members and across team.

Theme: Methodological

Beyond 'Understanding' and 'Readiness' themes, one aspect of this study's findings was the criticality of 'how' the change process works. This is articulated by the Methodological theme. There are two aspects to this component:

- 1) Selection of fit-for-purpose change model. Model and process selection is a complex process and is outside the scope of this study. High level discussion is for provided completeness.

The model can be a standard, off the shelf, industry change model, a home grown process or a hybrid. Sufficient due diligence is required to select a model and or a process that is most suitable for the organisational context such as culture, scope change desired, and type of change (incremental vs transformational), among other criteria. To remain consistent with the purpose and motivation for this study, the extent to which the model or process engages 'people' and providing explicit provision for social and human aspects of the organisation would be essential.

- 2) Knowledge, competency and awareness

The second aspect of the Methodological theme relates to the first to the first team in purpose (Understanding) and is enabled by the second theme (Readiness).

It is therefore possible to build on the previous construct illustrated in figure 10 and incorporate the Methodological theme. Figure 5.2 illustrates the interconnectivity between understanding, readiness, and methodological theme.

The data gathered shows that understanding of the process instils 'confidence' (focus-groups 1 and 2), noting that a focus-group participant stated that 'I don't want to know the microscopic detail...' suggesting that an awareness and knowledge

of the overall process and the stages of change contributes to, but does not guarantee, improved employee engagement.

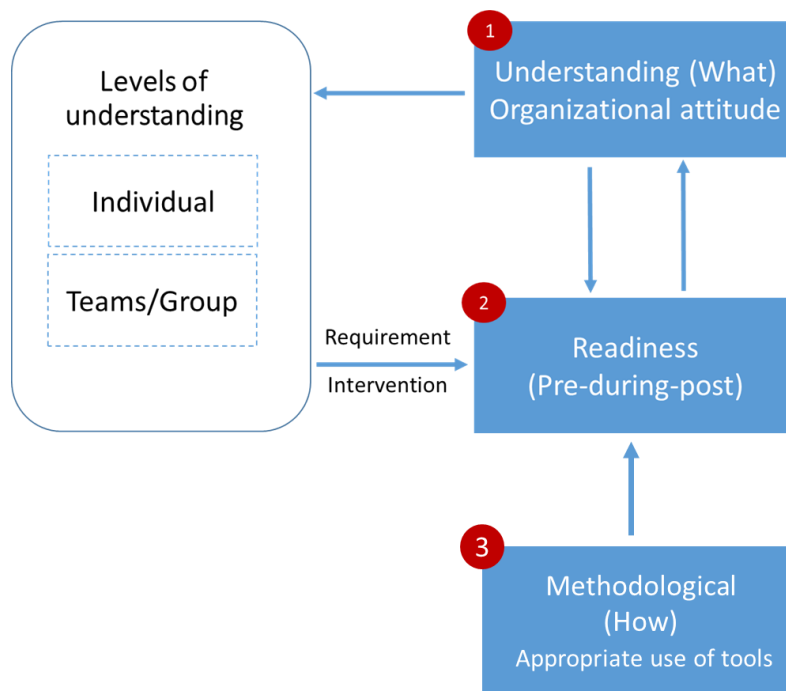


Figure 5.2 Readiness enabling Understanding the change Methodology

Understanding of the drivers, strategies, objectives, and methodology underpinning change programs contributes to improving employee engagement, but does not guarantee it. The next theme explores the ‘covert’ aspect of the organisation, detecting and understanding motivations and attitudes at the individual and team levels.

Themes: Recognition of the covert aspect of the organisation and stakeholders classification

Previous chapters described ‘covert’ aspect of the organisation. Hellriegel (2004) stressed its importance of the behavioural or human aspects of organisational behaviour. It may not be visible to decisions makers and could perpetuate failure if not addressed adequately.

The notion of ‘covert’ was recognized by research participants indicating that it is often under represented or missed. Explicit recognition of these factors can mitigate certain failure factors.

Insights derived from this study suggests that an approach for detecting and mitigating undesired risk native to 'covert' behaviour is to explicitly recognize it and include it in the change progress. Focus group-1 and focus group-2 suggested that better understanding of the stakeholders involved in or impacted by the change process could be an anchor from which to start. A participant in one of the focus groups suggested that examining stakeholders' motivations, behaviour, attitudes, biases, actions, knowledge, and skillset can helps establish a better understanding of their sentiment (supportive-resistive spectrum). Another research participants suggested categorizing stakeholders into Resistors, Supporters, and Neutrals helps implement suitable intervention strategies.

Both points proved contentious prompting privacy concerns, excessive intrusion, and potential impact on morale. Yet, other participants argued that it is intention and scope matter. Understanding the stakeholder's role, aspirations, working style, preferences, core values, and motivations provides insights for change leaders to create opportunities to thrive.

The present study takes a balanced approach based on presumption of good intentions. Organisations must adhere to professional ethical standards and legal practices.

Similar to above, the question was the 'how'. The study did not reveal methodical, regimented step-by-step for unbundling the 'covert' aspects of change program, and 'how to' and identifying a stakeholder's sentiments.

On the other hand, the study suggested building a map categorizing stakeholders and teams to: 1) Resistor, 2) Supporters and 3) Neutrals

The categorization applies to both individuals and teams.

Analysing stakeholders (in this context, individuals and team) helps change leaders create appropriate interventions that mitigate risk and enable the change program progress.

Figure 5.3 builds on the previous diagram illustrating the interplay of the additional themes.

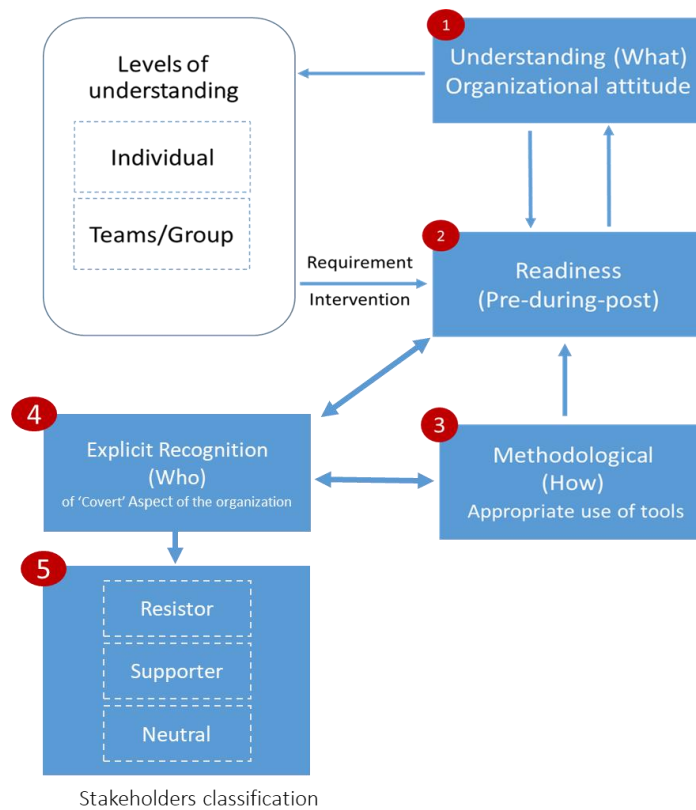


Figure 5.3 Incorporating Explicit Recognition of 'cover' aspects of the organisation and stakeholder classification

Study Outcome-4: The stakeholder categorization framework (Resistive-Supportive)

Theme: types of resistance

Webster and Webster (2013) explain four types of resistance to change that could hinder organisation in achieving successful change. Ideological, Cognitive, Psychological and Power Driven.

- **Cognitive** refers to individuals own knowledge, experience, perceptions, and values. Their disposition is that the change program is unnecessary and is wrong. The drivers for change, anticipated outcomes, the change process and the plan are not fit for purpose and do not serve the organisation
- **Ideological** refers to individuals whose core beliefs are not congruent with the change program and that the change program is in direct contrast with the

organisation's missions, vision, and values. They feel the change program causes the organisation to lose its identity

- **Psychological** refers to individual who are set in their ways, fear change, can be anxious due to ambiguities or uncertainty. They perceive the business case for change (at a personal, individual level) is not sound, therefore any change would not be welcome. They perceive their existing skillset, competencies and experience servers their current scope of responsibility. A change implies unwanted disruption
- **Power Driven** refers to individuals who perceive that change adversely impacts their power and status.

The four category seem sufficiently broad to encompass additional root causes of resistance cited by research participants as relevant such as biases (particular confirmation bias), fear of movement (for example change of location or team), motivations, and quality of relationships. Therefore, the four stage framework be a useful analysis tool for categorizing individual stakeholders and team.

Stakeholders and team can be divided into three categories:

- Resisters
- Supporters
- Neutrals

Stakeholders who are resisters can hinder the change process and adversely affect outcomes. Supporters can promote and potentially accelerate desired change leading to more desired outcomes.

Classification of stakeholders (teams and individuals) coupled for understanding of the root causes for their resistance facilitates suitable interventions.

Study Outcome-5: The power of influence spectrum

Themes: Power of influence and intervention

The previous section described the notion and types of resistance aiming to improve rate of success by analysing and understanding stakeholder in relation to their level and type of resistance.

Another relevant dimension is influence, a powerful tool in organisation context. Level of influence is a spectrum: high, medium or low. Level of influence is not always synonyms with level within the organisational hierarchy. In some instances, individual contributors (such as subject matter experts) possess greater influence than more senior individuals. Widely acceptance phrase 'influence without authority' demonstrates this social and professional belief.

As suggested by research participants in this study, relevant and timely intervention to address resistance to change increases can mitigate risk of a no-action and contribute to successful change. Incorporating appropriate tools into the change process that enables change leaders to create and execute intervention strategies is congruent with the spirit of improving odds of success.

Three themes reviewed above are

- Stakeholders classification
- Types and level of resistance
- Influence spectrum

Integrating level of resistance with level of influence create a lens to support the analysis of stakeholder. Figure 5.4 illustrates the spectrum of influence framework for stakeholder analysis. Intuitively, change leader may focus on individuals and team in the categories of High Power Supportive, High Power neutral, and High Power resistive. Then, triangulate with types of resistance (root cause), their role in the change process, and bring to the mix other relevant information. The combined intelligence empowers change leaders to develop fit-for-purpose intervention strategies and actions.

Spectrum of influence	Action
High Power Supportive	Evangelist
High Power Resistive	Assess type of resistance and mitigate, entice, motivate, bring on-board
High Power Neutral	Educate, create relevance

Table 5.2 Mapping type and Level of Influence to Actions

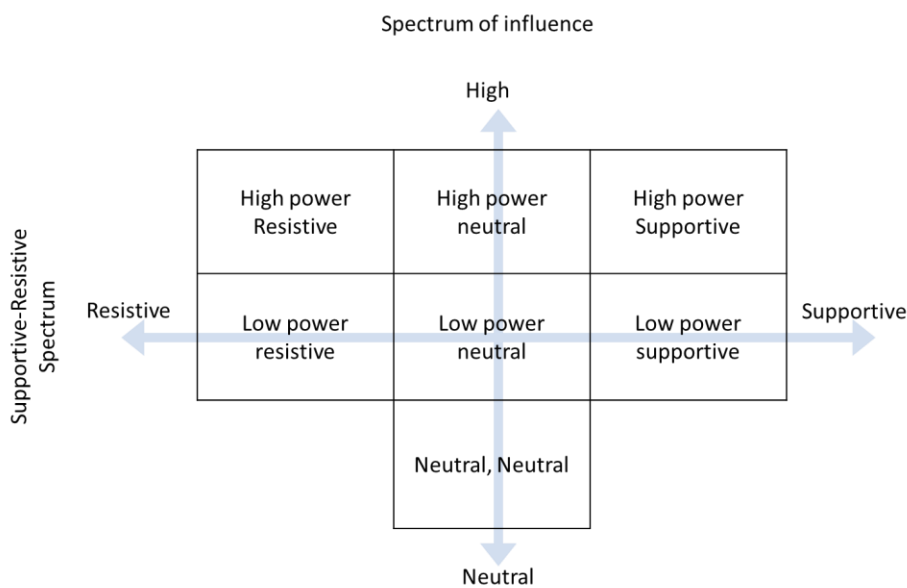


Figure 5.4 Spectrum of influence

Adapted from Webster and Webster (2013) 'The Stakeholder Influence Map'

Study outcome-6: Interconnected Organisational Model: Human, Business, and Environment

Current literature in organisational behaviour theory views an organisation as consisting of three integral parts:

- The Environment: Internal and external.
- Business: company's products and services, commercial model and sources of revenue

- Application: how products or services are produced and manufactured

However, research participants (RP1, RP2, RP5, and RP6) independently stated that in their context of implementing change they considered the applications, the technology, and the business as discrete yet interdependent components. Furthermore, they separated these components (of change) from the social and human aspects of the organisation.

In discussing the Environment, interviewees understood that to be influencing factors, both internal and external, which is consistent with Mullin (2013) representation of the organisation.

Internal environment referred aspects within the organisation influencing their decision making. Behaviour of employees, culture, and work style are examples cited as internal. Respondents consistently viewed these factors as both strength and weakness depending on how they are implemented and the extent to which they are complementary and drive cohesion. For example, leadership style that is 'deadline driven and focused entirely and solely on results' (RP3) said, can lead to a sense of apathy, detachment, and low morale. The consequence of which is poorer overall engagement, higher unwanted attrition, and ultimately negative impact on the change program.

Similarly, participants expressed understanding that it is not always possible to control external drivers, or the operating environment within which the organisation operates. It is within this environment that an organisation considers the 'surrounding' conditions and take appropriate measure to assess level of threat and or opportunities. Such conditions can refer to economic, competitive, or regulatory drivers. However, how the organisation responds to external drivers 'has direct impact on the confidence of its employees on its leadership' resulting in a higher or lower employee engagement (RP6). In the Verification phase of this study, research participants were asked whether they agree with (RP6) statement. All agreed.

Bringing together the research participants collective input: the environment (internal and external), the business, applications, technology, human, and social aspects of the organisation, it is possible to create a fresh and novel representation of the organisational model that highlights the interplay of the different entities, as illustrated in Figure 5.6.

The significance of this representation is that it unpacks, untangles, and brings to the surface hidden complexities that sometimes can only be discovered when organisations are well into their change programs. Having these influencing factors visible and highlighted early on in the process, such as the planning phase, is likely to contribute higher probability of successful change program.

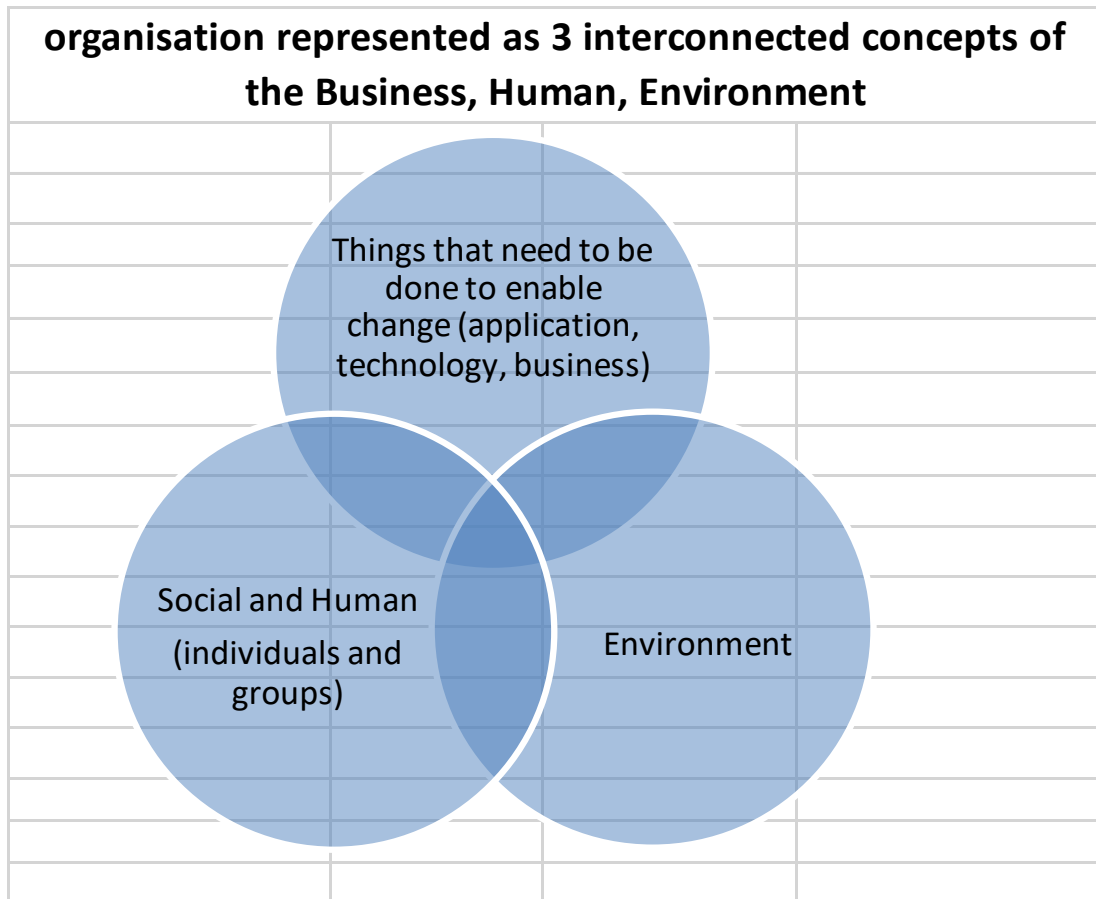


Figure 5.5 Organisation and as interconnect ecosystem of Business, Social and Human, and Environment

Bringing it all together

The previous sections discussed the proposed extensions and weaved them together into a partially integrated, Figure 5.6. There are three additional components to integrate: Spectrum of influence (stakeholder’s influence and support matrix), Shifting Sentiment, and Intervention.

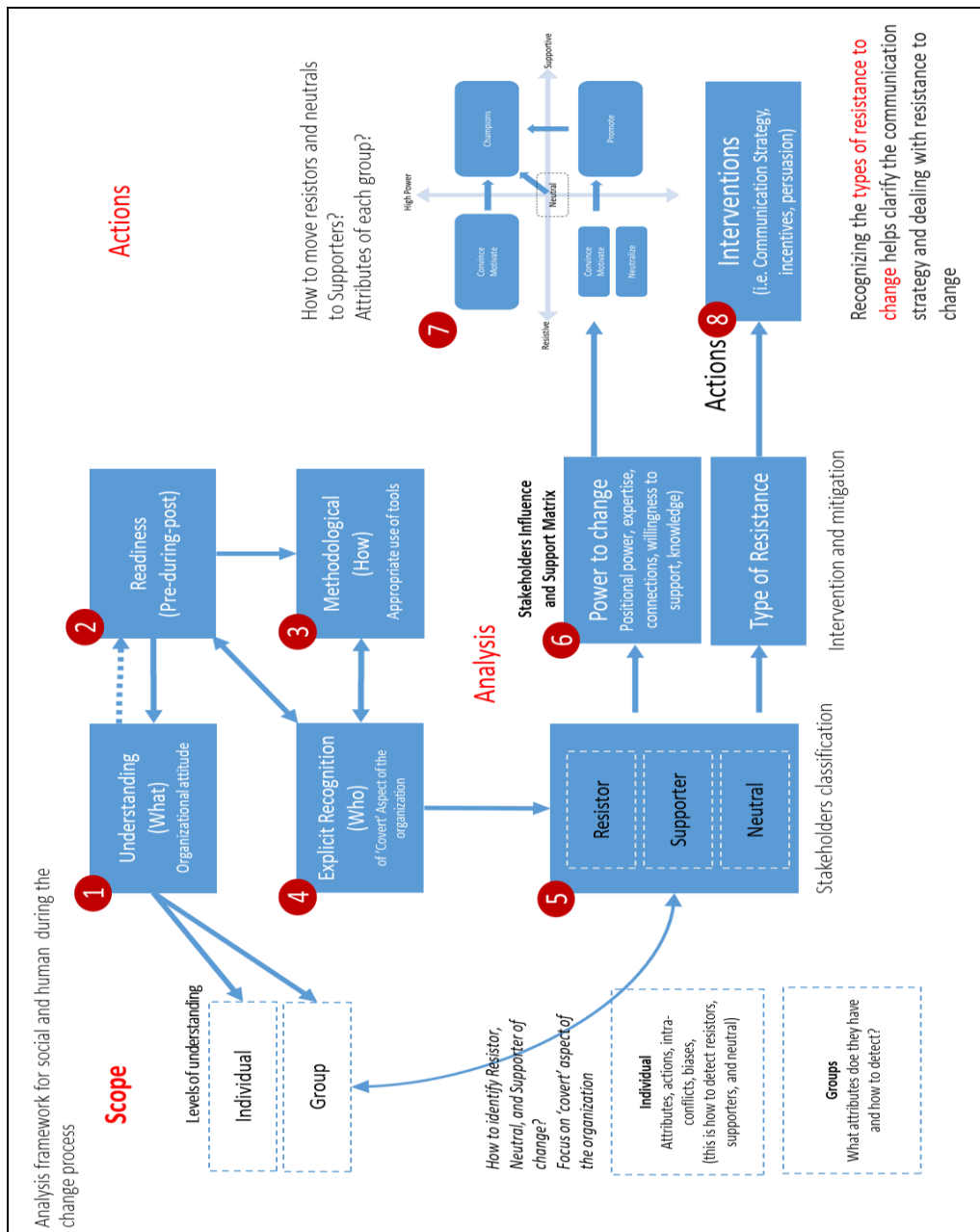


Figure 5.6 illustrates extensions relevant to social and human aspect of change weaved into a workflow

Figure 5.6 illustrates the themes (extensions relevant to social and humans aspects of the change) weaved into a workflow. This section explains the steps in the workflow.

- **Step-1:** it is about understanding the 'what' in relation to the change program. There are two levels of perceptions (understanding) individual and groups or team

- **Step-2:** Readiness address both the technical aspect and the behavioural aspects of change. Readiness support 'Understanding', 'Methodological' and 'Explicit Recognition' (covert) aspects of change
- **Step-3:** has two parts. 1) is about the selection of fit-for-purpose change model. (Methodological, or the method and processes organisation will use to implement change). 2) is about supporting 'Understanding', 'Explicit Recognition' of 'cover' aspects of change, and ensuring stakeholders and employees understand the change model itself. This component is served by Readiness
- **Step-4:** identifies 'covert' aspect of change and creates a stakeholders map
- **Step-5:** Stakeholders are categorized based on their sentiment (Resisting, Supportive, Neutral)
- **Step-6:** map stakeholders to their level of influence and type of resistance. The result of this analysis brings a focus to stakeholders in terms of their sentiment, type of resistance, and influence.
- **Step-7:** Triangulating the information from Step-6 enables change leaders to make decisions about type of intervention
- **Step-8:** build on Steps 6 and 7 to create targeted intervention

Summary

The central question motivating this study explores how change processes and models can incorporate extensions that more explicitly address the social and human aspects of the organisation. This gives rise to issues of capacity and opportunities. **Capacity** is about whether current change models can accommodate extensions. **Opportunity** is about the openness of organisations to utilize these extensions. In both instances, research participants were receptive but expresses potential increase in complexity, time, and effort.

However, considering the high rate of failure and the potential benefits of addressing the omissions in change models and processes, the risk of accommodating and incorporating the extensions proposed by this study outweigh the cost. Furthermore, the present study creates opportunity for future scholarly work to validate the relevance and practicality of the proposed extensions.

Chapter Six: Conclusion

The fast pace of change in technology and its implication on companies business, environment, and people is unprecedented. Change is accelerating and will continue to accelerate. The driver for this speed of change is attributed to digital technology and the speed of change in technological innovation (Gest, 2019). Organisations must change to stay current and agile in order to respond to market demand and customers' expectations.

The failure rate of major change initiatives is low, ranging from 54% to 80%. Scholarly research suggests that only a small percentage of the root causes attributed to failure are of a technical nature. The majority are non-technical, human and process related (Pankratz and Basten, 2013). The frequency of change programs companies undertake remains high. The implication of failed programs on companies transcends financials and is multithreaded including financial losses, opportunity costs, wasted resources, diminished morale, hampered innovation, and change fatigue.

There are two types of change: incremental and transformational (also referred to as Fundamental). Incremental occurs during the day to day operations of the business. This type of change is typically localized to a particular department, technology, or function. It does not require substantial shift in the operating model and does *not* cause lasting disruption in the organisation's business model. On the other hand, transformational changes are deep and broad. Implications can extend to all parts of the organisation, product and services, operating model, systems, processes and people. Transformation change has lasting effect on the organisation. There are mechanisms for implementing transformation change step-by-step in order to mitigate risk. Businesses prefer this approach to implementing transformational change than a 'big bang', notwithstanding potential impact on increased costs and longer implementation times.

Current change models seem theoretical and seldom work as they are presented. Change is difficult and varies based on context (drivers for change, scope, time, cost, culture, risk appetite). Organisation adapt the change models to work in their often complex environment.

Change models seem to deal well with the formal, overt, aspects of change such as performance management, decision, scheduling, and training. The informal aspects reflecting behaviour, cultures, values and belief systems, and how people think and act is often omitted. These are referred to as social and human aspects of change in the context of this study.

Change models provide insufficient guidance on how to deal with the informal aspects of the organisation. There is an implicit assumption that somebody will deal with the informal aspects of the organisation. Often that is not the case contributing to the high rate of failure. The present study explored the informal aspects of the organisation leading to a set of themes that can be integrated into change models and processes.

Change leaders often confuse engagement and communication causing stakeholders disengagement. Metaphorically, engagement is considered a 'contact sport' while communication happens at a distance. Engagement is about actively and deliberately involving stakeholders in the change process. Communication is about delivering relevant messages to target audience promoting organisational cohesion. It is possible to have communication without engagement. Conversely, engagement cannot happen without communication. The theme 'Understanding' explained in chapters 4 and 5 encapsulates both engagement and communication.

Stakeholders' engagement is critical to successful change, whether incremental or transformational. Catering for the formal aspects of organisation such as training, communication, roles and responsibilities, and remuneration, is not sufficient to engage stakeholders and enable successful change. Instead, elevating the informal aspects, such as culture and sub-culture and complementing with cohesive communication strategy are steps likely to improve stakeholders' engagement. Culture is a powerful tool that can be leveraged to rally support, boost engagement and enable successful change. It is important to identify aspects of the organisational culture which employees feel proud about no matter what their role and building that into the change program.

Research overview and summary of outcomes

The introduction chapter provided an overview of the research discourse.

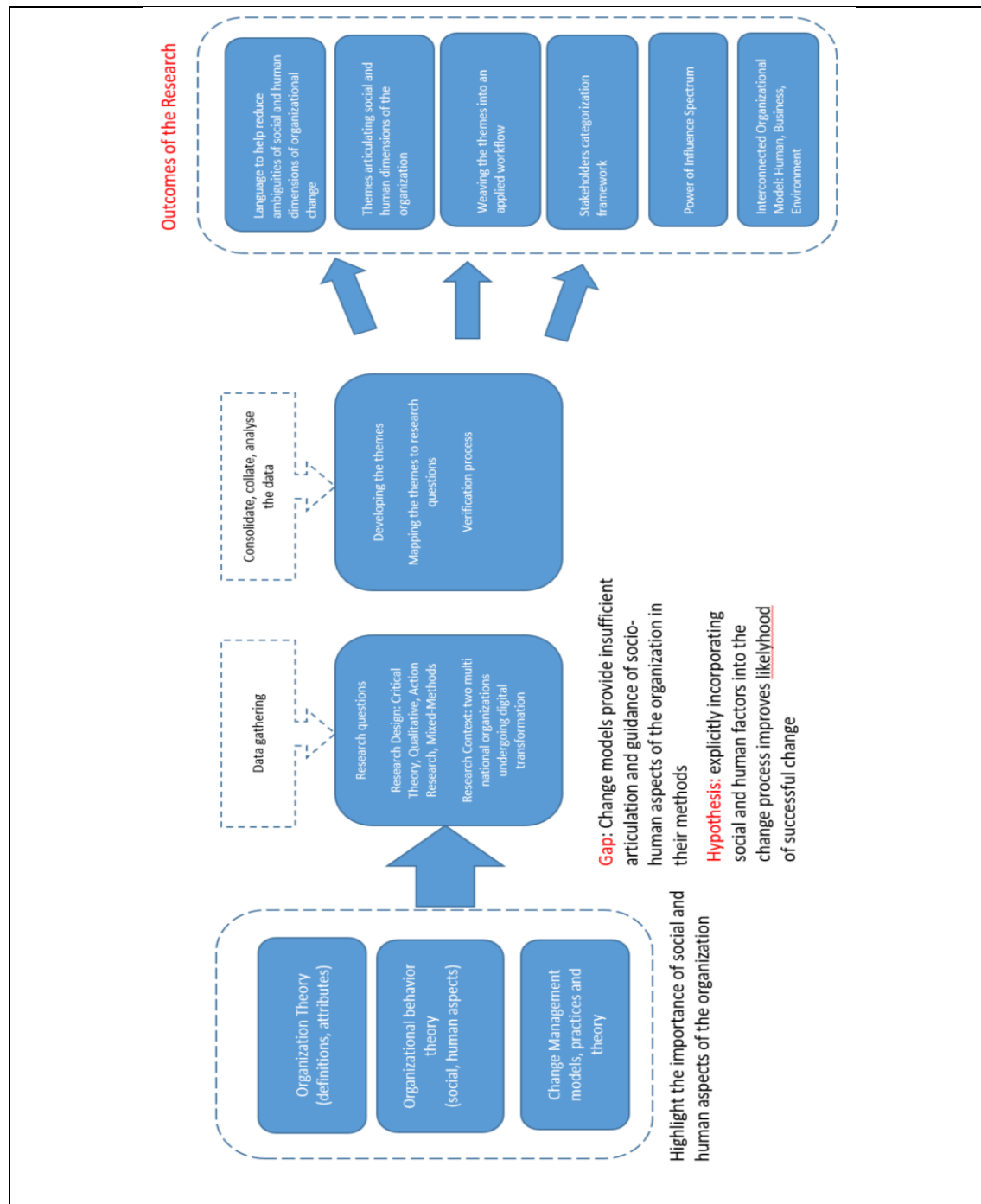


Figure 6.1 Summary of the research discourse and the outcomes

This section provides a similar view leading to the outcomes of the study. The following section describes each of the outcomes in detail and proposes possible mechanism for

utilizing the outcomes to support organisational change. The social and human aspects of the organisation are central to the outcomes and to this study.

Outcomes of the study

The novel outcomes of this study aim to serve both scholarly academic pursuits as well as practitioners. The outcomes are not limited to the individual themes where each of them may be applied individually to satisfy particular context. The weaving of the themes into constructs and workflow facilitates their practical application during the change process. The definition for terms of ‘social’ and ‘human’ aspects of organisational change emerged as an important component to promote consistency in utilizing the terms during the change process. There are six outcomes resulting from this study as described in Table 6.1 and detailed the previous chapter.

Outcome	Description
1	Language, definitions of ‘social’ and ‘human’ aspects of organisational change
2	A set of themes supporting social and human dimensions of change
3	Weaving of the themes into a practical workflow
4	The stakeholder categorisation framework
5	The power of influence spectrum
6	Interconnected organisational model: Human, Business, and Environment

Table 6.1 Summary of the Outcomes

Figure 5.6 in the previous chapter illustrates the interplay of the outcomes including interventions that a change context may require in order to remedy change blockers.

Relevance of the outcomes

The study explores change models’ omission of social and human aspects [of the organisation] with the aim of developing extensions to improve organisational change success rate. Digital transformation projects are broad and deep in scope leading to a high

degree of complexity across multiple organisational dimensions. However, studies attribute high rate of failure of digital transformation and change programs to the covert (social and human) aspects of the organisation. Evidence shows that high rates of failure lead to financial and non-financial losses at the organisational and have a broader macro-economic impact. Change models are not meeting users expectations and exploring gaps and proposing possible solutions has the potential of savings unnecessary costs and raising confidence and economic prosperity. Scholarly literature and change models emphasize the importance of 'people' but neither provides sufficient guidance to interpret, classify, and take fit-for-purpose actions that are congruent with that level of importance. This in turn raises significant gap in both literature and practice.

This aims and outcomes of this study, outlined in Table 6.1 and described in detail in Chapter 5, propose solutions to the identified gaps. Furthermore, the outcomes provide useful definitions for the phrases 'social' and 'human', without affinity to a particular sector or organisation. The outcomes of the study offer change leaders a mechanism to implement a more successful organisational change.

Mapping themes and outcomes to research questions

Research question	Major theme	Outcome
How can change processes and models can incorporate social and human aspects of the organisation more explicitly?		<p>Outcome-3: Weaving of the themes into a practical workflow</p> <p>Outcome-4: The stakeholders categorisation framework</p> <p>Outcome-5: the Power of influence spectrum</p> <p>Outcome-6: Interconnected organisational model</p>
How do organisations interpret the terms 'social' and 'human'?		Outcome-1: Language, definitions of 'social' and 'human' aspects of organisational change
What does 'explicit' articulation of social and human aspects in the context of organisational change look like? What are the elements?	Understanding the change (What)	Outcome-2: A set of themes supporting social and human dimensions of change
	Readiness	
	Methodological (How)	
	Recognition of the covert aspect of the organisational change	
	Stakeholder classification	
	Power of Influence	
	Types of resistance	
	Shifting sentiment	
Interventions		
How will these features fit into and extend change models and processes?	<p>Individually</p> <p>Collectively (Outcome-3)</p>	

Table 6.2 Themes and outcomes mapped to research questions

Validity of the outcomes

The issue of validity in scholarly research hinges the research methodology and the approach to analysing the data collected during the process of inquiry.

The Research Methodology of this thesis, as described in Chapter 3, provides justification for the choice of research paradigm, research methodology, and research methods.

Constant vigilance was applied throughout the study in order to maintain balance, as an Action Researcher, and remain true to the spirit and principles of Action Research. For the data analysis, a combined Phenomenological and Thematic Analysis approaches were followed. Collecting verbal data, a process of interviewing participants for their natural description of the questions pertinent to this study. Then, reading the data for understanding at a macro level and breaking the data into parts (in Giorgi's terms, meaning units) and themes and subthemes (King, 2012). Finally, organizing and expressing the data from a disciplinary perspective (bracketing or categorizing) and synthesizing or summarizing the data. Three separate, one-to-one, interviews were conducted with research participants to verify the outcomes. Research participants were senior professionals involved in digital transformation programs for their perspective companies. Therefore, their perspectives are relevant. There was consensus among the interviewees on two points important to the study:

- 1) Interviewees were able to correlate the study outcomes to feedback which they provided and the synthesised feedback of other research participants that was shared with them, anonymously.
- 2) Interviewees expressed positive reaction at the potential utilization of the proposed extensions in the context of digital transformation (organisational change) programs. For example, existing definition of 'human' and 'social' vary widely and tend to have industry and organisational affinity. The definitions proposed by this study are more 'neutral' and create opportunities to be utilized in their own context. In addition, the proposed workflow (Outcome 3) seemed to generate interest as well because it provided step-by-step approach to addressing people-related issues during the change process.

Action Research tensions

Two primary research methods underpinned data collection during the discourse of the study, semi-structured interviews and focus-groups sessions. My role was an action researcher as well as a change leader in both organisations providing the context of this study. This created tension that required diligence and careful treading to remain consistent with the principles of action research while simultaneously meeting my obligations as a change leader. For example, during the focus-groups, there were instances where participants' responses were motivated and driven by a subtle bias according to their areas of expertise. The researcher observed a pattern of decision-making based on affinity with the technology in which the participants had skills. Such subtleties are more likely to be observed when the researcher is deeply embedded in the context of the organisation, understands its cultures, values, and is familiar with people's readiness in relation to the required change. While contributing to greater validity by addressing Moore (2018)'s concern that researchers and external consultants often lack understanding of the covert aspect of the organisation, therefore missing such subtleties that directly contribute to decision-making (which in turn impact the direction of the change program). Furthermore, the tension was paramount in the researcher's desire to intervene and redirect the participants' dialogue in a way that minimizes such bias. However, in such situations, the researcher maintained neutral stance and observed the decision making process in its natural habitat (consistent with naturalist approach to data collection). The researcher exercised judgment in order to maintain research validity while allowing for relevant data to emerge.

Contribution to theory and practice

This study aimed to address a gap present in change models and practices that is viewed by many scholars as an important root cause of failure for implementing technology enabled change. The hypothesis articulated in Table 1.1 states that the omission of deliberate consideration of the social and human aspects of the organisation during the change process is a significant root cause of failure. This hypothesis is supported by current scholarly literature, comparative review of 15 industry change models, as well as findings

that emerged in this study. Collectively, they provided evidence that the omission of the social and human aspects is a key contributing factor to the low success rate of implementing change. Furthermore, the present study validated Moore's (2018) concern about researchers' and consultants' limited knowledge of the change context due to lack of proximity. For example, researchers and consultants may miss important nuances that may impact their interpretation of observations and data. In this study, the researcher was embedded in the context of the change process and therefore was able to better relate to the individuals involved and detect subtleties that would have otherwise been missed. This proximity provides stronger relevance to the findings and outcomes of the study.

The six outcomes constitute an important contribution to both theory and practice. Practitioners can benefit by applying the workflow model (Outcome-3) in practical setting. Or, they can choose to explore the themes individually and adapt to their own context. In addition, practitioners can combine themes, for example, Outcomes 4 and 5, and use as a tool to improve their understanding of the stakeholders. Similarly, scholars can build on the findings and outcomes to extend their scholarly knowledge in this and related domains. For example, Outcome 1 proposes workable definitions for the terms 'social' and 'human' that are not specific to industry or context, thereby, while providing scope, they provide flexibility of application. Outcome 6 provides a novel perspective of the organisation that connects the environment, the actions that the organisation needs to accomplish (business, technical and application), with the social and human aspect of the organisation. The interplay of the three dimensions provides scholars with a different, yet improved perspective of viewing the organisation in relation to the social and human aspects. Finally, scholars can also build on the outcomes of this study by exploring the opportunities for future research presented in the next section.

Opportunities for future research

This study expands the scholarly research and knowledge in implementing technology enabled organisational change by proposing extensions to change models that emphasise the social and the human aspects. Also, the study presents workable definitions for the phrases 'social' and 'human' in the context of change that are sector and industry agnostic.

The definition distinguishes between the two phrases in terms of scope and attributes and creates opportunities to build-on and to critique.

Opportunities for future scholarly research include assessing the usefulness of the proposed extensions, and exploring approaches to validate the practicalities of the themes and outcomes in supporting successful change. In addition, a related issue is the ownership of social and human aspects of change. Organisations often make a common mistake of deferring these issues to the Human Resources department, because the concerns are people related. However, according to research participants and scholarly findings, this would be a mistake because such issues transcend the scope of Human Resources function. Similarly, the Business, Enterprise Architecture, and the Technology functions, each independently, may be overwhelmed by assuming ownership of these aspects of change. Further opportunity of scholarly research is to explore sound organisational structures consisting of a blend of cross-functional expertise to better serve organisational change. Further research include exploring:

- *The practical implications of incorporating these extensions on individuals and on the team/group/organisation (micro and macro implications)*
- *How the proposed extensions impact the complexity and practicality of the change models and the change process. What works better, to utilize individual components of the proposed changes as discrete entities or apply the components collectively*
- *Develop a maturity model based on the social and human themes to enable organisations to put greater focus on components that accelerate adoption and change*
- *What side effects are created by the inclusion of the socio-human factor in the various change models and practices and what is the optimum proportion between socio-human and technical artefacts that leads to maximum productivity and successful change?*
- *What are the dimensions of the social and human factor' most relevant to enabling successful change?*

Reflection

Scholarly study can be a complex endeavour requiring patience, tenacity, vigilance, and originality. While in the mist of conducting the research, one is immersed in the day-to-day activities the scholarly process requires. However, valuable learning and developing is taking place, both consciously and sub-consciously. Reflection and introspection helps one develop and grow on a professional as well as personal levels. Knowledge becomes actionable.

Reflecting on my motivation to undertake this scholarly endeavour, not only did I achieve my scholarly objective of gaining deeper understanding of the subject matter, enabling successful organizational change, I also improved greatly my understanding of how we, humans, make decisions. This journey helped me become more appreciative and more sensitive to individual's motivations and drivers that impact their decision-making, which in turn, can hinder or accelerate the change process.

Reflecting on the subject matter of the study, technology enable organisational change, also known as digital transformation, the decision made by individuals and teams are influenced and sometimes driven by their own perceptions, skills, knowledge, and survival. Part of the reason why change models, despite their technical elegance, are less effective than what their creators had hoped, is that they miss these nuances. But why would these fundamental, and to certain extent obvious, factors be missed? Pondering the question, a number of reasons surface. For example, the adoption of the models depends on the user's ability to understand the model and take structured action. Technical aspects of change lend themselves to structured actions, human and social aspects do not. The latter are more opaque and harder to quantify and that is precisely the reason change models place greater emphasis on the technical aspects of change.

For purposes of this study, being an action researcher enabled me to get close to the change context and the individuals involved in the change process. This allowed me an unfiltered view of the actions, decision-making, and reactions of individuals and teams, which in turn enabled me to observe subtleties and nuances and collect relevant data that lead to the outcomes of this study. My experience validated Moore's (2018) statement that external

consultants and researchers often produce ineffective models due to lack of knowledge of the internal context and culture. Immersion in the research context proved to be most helpful for purposes of this study.

Finally, on a more personal note, as I reflected on my scholarly journey, I learned that decisions I make in the context of my professional life follow a similar pattern to decisions I make in my personal life. The decision-making pattern is guided by the interplay of my own values, experiences, aspirations, concerns, and of course knowledge. Incorporating such parameter into change models and processes is likely to support greater adoption and a more successful change.

Summary

This study is about incorporating social and human dimensions in change models to support organisational change. The study expands scholarly research and knowledge in organisational change by proposing extensions to change models that places emphasis on the social and human aspects of the organisation. The research rigor guided by the Critical Theory and Action Research principles, and the proximity of the researcher to the research context, create a robust foundation that boosts the validity of the study. The significance of the outcomes, which have been verified by subject matter experts with close proximity to complex digital transformation programs, creates opportunities to augment existing change models by addressing the gaps related to the social and human dimensions of change.

Collectively, the proximity of the researcher to the context of the study and the verification of the outcomes by subject matter experts provides robust evidence of the potential usefulness and relevance. Furthermore, this approach addresses Moore's (2018) concern about gaps in change models that result from external consultants or academics due to the lack of visibility and proper understanding of the company's culture, politics, and the 'covert' aspects of the organisation. Robust validation of the outcomes is outside the scope

of the current study due to time and resource constraints. Opportunities for future scholarly research include assessing the usefulness of the proposed extensions, and exploring approaches to validate the claims made herein and the practicalities of the themes and outcomes to support successful change.

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Appendix (1) Interview questions

Research questions	
Overarching question	Overarching question: how can change processes and models incorporate the social and human aspects of the organisation more explicitly?
Research sub questions	
RQ1	What does 'explicit' articulation of social and human aspects in the context of organisational change look like? What are the elements?
1.	a. What industry change management model do you use? Has it been adapted/modified to your own context? (yes, No) b. What attributes/features were most important in making the selection?
2.	Do you use 'home grown' change management process?
3.	If yes, what were the reason for choosing a home-grown approach rather than use an already existing change model?
4.	Does the change model or process you use provide adequate guidance to supporting 'people'?
5.	On a scale of 1-5, how happy are you with the level of guidance provided?
6.	What would you like to see incorporated into the change model so that it incorporates more seamlessly the individual and the group needs?
7.	What can be added to enrich the guidance about 'people'?
RQ2	How do organisations interpret the terms 'social' and 'human'
8.	How does the change leaders detect biases and minimize its impact?
9.	What does the company do to ensure individual employees understands the change process and the impact their role brings?
10.	What do change leaders do to reach and motivate individual employee?
RQ4	How will these features fit into and extend change models and processes?
11.	Reflecting on your own change process, where in the change model would you incorporate these extensions?

In the context of this study, the following definitions have been adopted for the phrases 'human' and 'social'

Human: attributes, characteristics, and dimensions (technical or otherwise) of change relevant to the individual employee, regardless of the level of hierarchy. Examples of attributes:

- **Technical:** roles and responsibilities, Knowledge and Competencies, Understanding and Readiness
- **Non-technical:** Values/needs/motivation, biases/preferences, quality of relationships

Each of the attributes can be mapped to the organisational layers: Application, Business, and Technology

Social: refers to attributes and concerns beyond the individual employee, could be a team, a group, or the entire organisation. Social can have micro and macro perspectives, so long as the issues and concerns transcend the individual. For example, language, cultures, and subcultures, decision making and level of bureaucracy, organisational politics/conflict resolution, cross-group collaboration and orchestration

Appendix (2) Established Change Models

- Structural Inertia Model
- Kurt Lewin's Equilibrium Model
- System's Approach
- Open Systems Planning
- Macro Process Model
- Constant Adaptation Model
- Kubler – Ross Model
- Gleicher's formula
- ADKAR model
- Change Management Continuum Model
- John Kotter's Transformation Process
- POMC Model
- Transformational Leadership
- Cultural Indicator Tree Model
- Appreciative enquiry

Appendix (3) Confidentiality agreement

Dear {Name of Signer}:

I am conducting a PhD research to explore the human aspects of change. While I will have access to confidential information, I continue to be bound, legally and ethically, by the existing non-disclosure agreement and its terms and conditions.

Participant name	
Title	
Signature	
Date	

Researcher: Naser Ziadeh

Signature

Date

Appendix (4): Research questions and sub-questions

Research questions	
Overarching question	How can change processes and models can incorporate social and human aspects of the organisation more explicitly?

Research sub questions	
1	How do organisations interpret the terms 'social' and 'human'?
2	What does 'explicit' articulation of social and human aspects in the context of organisational change look like? What are the elements?
3	How will these features fit into and extend change models and processes?

Consolidated summary of research questions and responses

Appendix (5) Summary of root causes of failure

The following table summarises the researcher's interpretation of Pankratz and Basten's (2013) finding for root causes of failure for implementing IT projects. For purposes of this study, digital transformation implies a technology enabled organisational change implementing through projects.

Category	Root cause
Conditions present at the start of the project	Lack of clear responsibility for IT and others involved in the change
	Climate of mistrust within the organisation (where the change is being implemented)
	Unclear strategic goals
Key stakeholders decisions that have a significant impact on the direction of the project	Lack of proper governance
	Lack of experience and knowledge (Readiness)
	Replacement of the delivery entity (employee, contractor)
Planning	Unclear project goals
	False, incorrect, or inaccurate business case
	Insufficient time dedicated and or spent on planning
Management of the project	Inadequate or incomplete requirement
	Insufficient understanding of the development approach by team members
	Conflict and inefficient resources
Lack of adoption	People are untrained or insufficiently trained
	Insufficient stakeholder involvement
	Users/stakeholders are reluctant to adopting a change (new IT system) that changes their daily routine
	Stakeholders (end users) lack motivation to use new system (low morale)
	Resistance due to redistribution of power
	Champions have limited influence without authority
	Disregarding different perceptions of stakeholders
	Miss aligned expectations
Attitude	The change (IT project) receive insufficient attention by senior management

	Prior successes leading to overconfidence by change leaders; unwillingness to examine current course of action
External factors	New regulatory requirement imposing pressure on stakeholders and change leaders
	Key staff/stakeholders changes leading to unplanned disruptions

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